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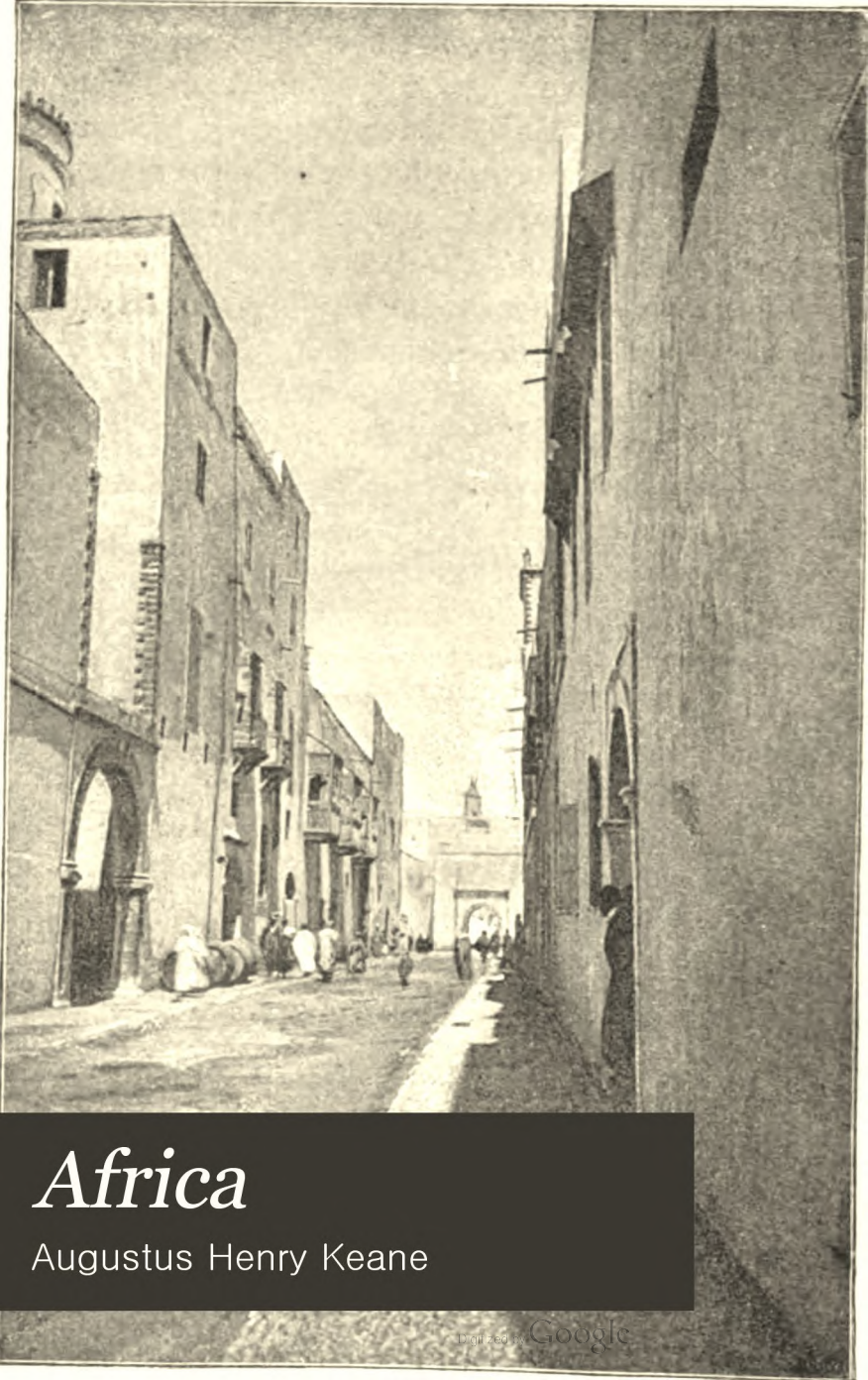

Africa

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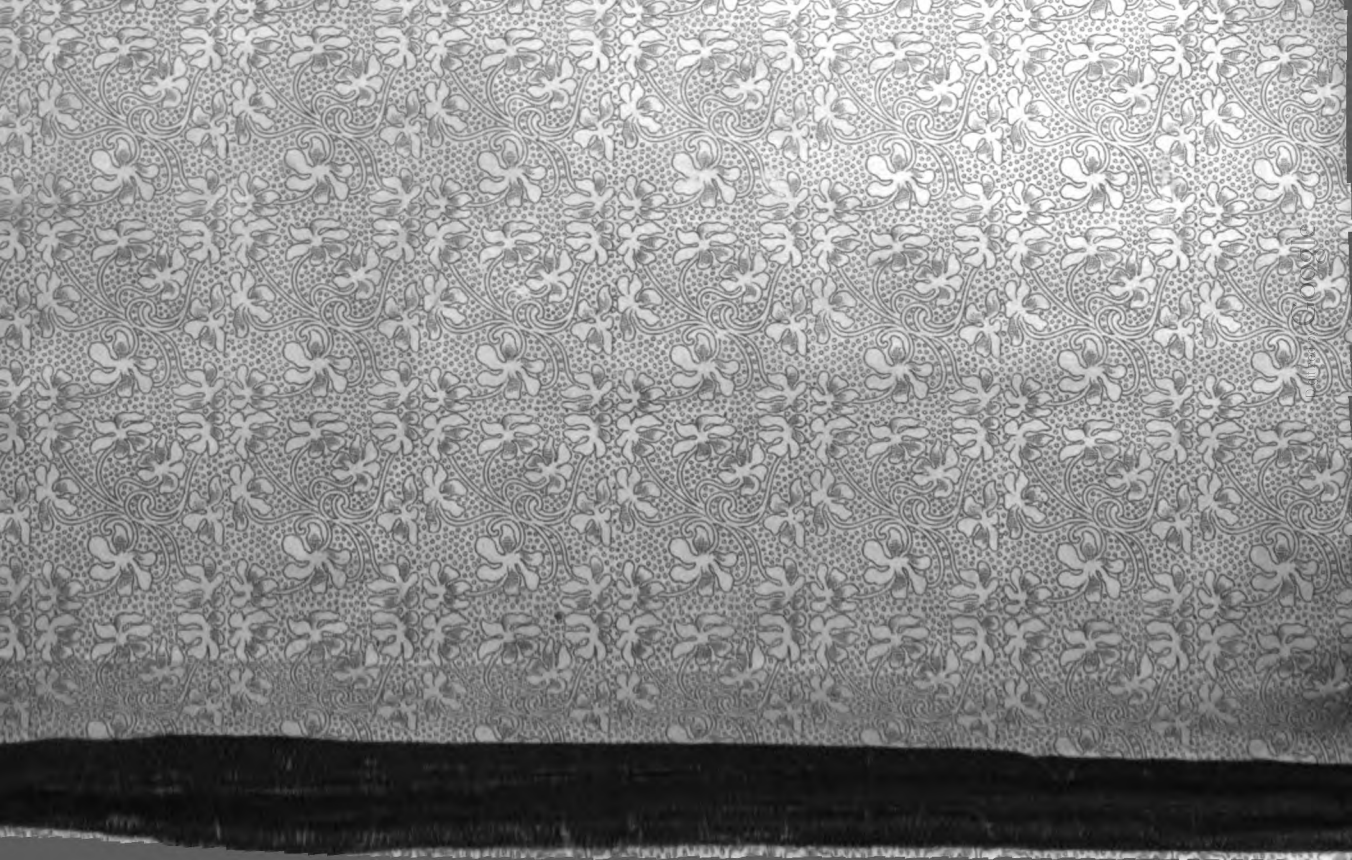

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STANFORD'S COMPENDIUM

OF

GEOGRAPHY AND TRAVEL

(NEW ISSUE)

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STANFORD'S

COMPENDIUM OF GEOGRAPHY AND TRAVEL

(NEW ISSUE)

AFRICA

VOL. I.

NORTH AFRICA

BY

A. H. KEANE, F.R.G.S.

AUTHOR OF 'ASIA' IN SAME SERIES; 'EASTERN GEOGRAPHY,' ETC. ETC.

MAPS AND ILLUSTRATIONS

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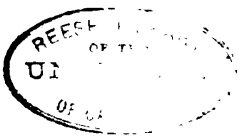

PREFACE

In the new issue of this series the single volume formerly thought sufficient for the treatment of African geography is replaced by two, each somewhat larger than that work. Yet the more than doubled space has seemed scarcely adequate to a proper exposition of the facts, both of a geographical and political order, which have accumulated with surprising rapidity since the leading Powers resolved, a few years ago, to transform this continent to a political dependency of Europe. Occurrences of far-reaching consequence have followed in such swift succession that in the preparation of this work the chief difficulty has been to keep pace with the shifting scenes. In some instances many carefully-prepared pages have had to be greatly modified, and even re-written, owing to the unexpected turn taken by events in various parts of the continent.

From the contents it will be seen that a somewhat wider scope is here given to the subject of geography than has hitherto been usual. Such an enlargement, however, is

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not only in harmony with the broader views now generally entertained by the leading exponents of geographical science, but may perhaps be regarded as specially desirable in the case of a region where everything is new, and where information on closely-allied subjects may be welcome to students unable to consult the innumerable books of travel, scientific periodicals, and memoirs in which this information is dispersed. Hence the space here given to history, political questions, and ethnology, without detriment, it is hoped, to more strictly geographical topics, such as the physical features, hydrography, and natural history of the continent.

Of the original work by the late Keith Johnston nothing remains except a few passages, which appear as ordinary quotations, and some of the Ethnological Appendix, which is absorbed with much fresh matter in the body of the work.

A. H. KEANE.

79 BROADHURST GARDENS, N.W.,
December 1894.

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NORTH AFRICA

CHAPTER I

INTRODUCTORY

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Africa a Land of Contrasts

CA, hitherto known as the "Dark Continent," must eforth be spoken of rather as the "Continent of rasts." After a six months' march through an t impenetrable tangle of sunless woodlands, the Pasha Relief Expedition, under Stanley, suddenly ges on a broad grassy plateau, which, with its clumps

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of trees, and flocks and herds, presents the aspect of a park-like English landscape. After weeks of tedious journeying through a debatable region of land and water to Meshra-er-Rek, at the head of the steam navigation on the Bahr-el-Ghazal branch of the White Nile, Dr. William Junker in a few hours' march reaches an arid, waterless plain, where his followers already begin to feel the pangs of thirst.

And so we have everywhere the sharpest contrasts between rich alluvial tracts such as those of Lower Egypt and the sandy or stony wastes of the Libyan or Nubian deserts; between low-lying malarious coastlands like those of the Zambesi and Niger deltas and the breezy, invigorating uplands of Transvaal and Mashonaland; between magnificent waterways such as those of the Congo basin, presenting thousands of miles of navigable arteries, and vast fluvial valleys either absolutely dry like the Igharghar and Messawara of central Sahara, or only flushed periodically like the Khor Baraka of Upper Nubia; between extensive areas of inland drainage like Chad in the north, and Ngami in the south, shifting their levels and volumes with the seasons, and, on the other hand, the vast equatorial lakes which send their overflow seawards through some of the largest rivers on the globe.

The normal climatic relations appear to be reversed in the Kilimanjaro, and especially the Ruwenzori, highlands, which almost on the very equator rise to an arctic region of perpetual snows and fogs; and again in many parts of the Sahara, where within the twenty-four hours the temperature ranges from 120° Fahr. in the shade during the day to freezing-point at night.

If possible still more striking contrasts are presented by the African races themselves, amongst whom are found

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the well-proportioned and comparatively fair Hamites of Eastern Sudan, with regular European features, and the black populations of Upper Guinea and the White Nile Valley, displaying all the characteristics of the repulsive Negro type in an exaggerated degree. Elsewhere tall dark peoples such as the Monbottus of the Welle, and others of the Aruwimi, Semliki, and Kassai basins, all considerably above the average European height, dwell in close contact with Akka, Wambutti, Batwa, and other dwarfish races, many of whom have a mean height of not more than four feet three inches, and are certainly the smallest members of the human family.

Contrasts between North and South Africa

Despite a certain general uniformity, due partly to the prevailing plateau formation and partly to the pre-eminently tropical position of the continent, its northern and southern divisions nevertheless present sufficient contrasts in their main physical features, their biological conditions and historic evolution, to constitute two geographically distinct regions. The contrast, however, is not sufficiently marked to allow of any rigid parting-line being laid down between these two divisions. Such a line, though to a large extent conventional, is at the same time roughly indicated by such factors as the deep indentation at the head of the Gulf of Guinea on the west or Atlantic side, to which corresponds on the opposite coast the so-called "Horn of Africa," projecting at Cape Guardafui far into the Indian Ocean. The line drawn between these two points will lie at a mean distance of about 7° of latitude to the north of the equator, and will have a slightly oblique direction, rising from 5° to about 10° north latitude, and leaving much

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more land to the northern than to the southern division.

Now a glance at the map will at once show that these two sections are disposed in opposite directions, in fact, at right angles one to the other, the northern running longitudinally east and west, the southern north and south. Again, North Africa, as here defined, forms a somewhat solid mass of nearly uniform width, whereas South Africa tapers continually towards the Austral seas, while both extend about the same distance beyond their respective tropics. The result is that the area of the former is considerably greater than that of the latter—6,500,000 as compared with 4,000,000 square miles—and has also a relatively larger extent of land situated beyond the torrid zone.

The Northern and Southern Deserts and Plateaux

But this advantage is more than balanced by the relatively as well as absolutely far greater size of the Sahara or northern desert than of the Kalahari or southern desert. At some points all the space between the Sudan and the Mediterranean on the one hand, and between the Atlantic and the Red Sea on the other, is practically a *Sahrā*, that is a "waste," or "desert," as the term signifies in Arabic.[1] Including the Libyan and Nubian Deserts, it occupies a total area of little less than 3,000,000 square miles; whereas the Kalahari, which is by no means an absolute waste, is mainly confined to

[1] This term صحراء Sahrā means primarily an uninhabitable waste or wilderness, and is applied in a pre-eminent sense to the "Great Desert" of North Africa. It is a dissyllabic word, though usually made trisyllabic in English (*Sahāra*) with a long vowel inserted which has no existence at all in the original.

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the Hygap basin in the south-west corner of the continent, and, taken in its widest sense, covers a space of little over 275,000 square miles.[1]

Perhaps a still more important difference between the northern and southern divisions of the continent is presented by their respective reliefs, or mean altitudes, above sea-level. The whole of Africa is usually regarded as a vast plateau, an "inverted plate," with one, in some places two or even more rims or scarpments facing seawards, the whole standing at an average elevation of over 2000 feet above the surrounding waters. But this picture conveys a very inadequate idea of the actual conditions, which would be better understood if the "plate" be supposed broken into two unequal pieces, placed at two different levels one to the other.

Then the larger or northern fragment will stand little more than 1300, the smaller or southern as much as 3000 or 3500, feet above the sea. The position and extent of the fracture is very distinctly indicated, at least at one point close to the imaginary line above drawn between North and South Africa. This point lies about the course of the Somerset Nile, which flows from Lake Victoria to Lake Albert Nyanza, and which in the short space of eighty-five or ninety miles descends through the Ripon and Murchison Falls from 3800 to 2400 feet, the respective levels of the two lakes, making a total fall of no less than 1400 feet.

This fall of 1400 feet may be taken as roughly

[1] "Even the dreaded Kalahari Desert itself, included in the Concession [to the British South Africa Company], has been whitewashed. There is no doubt that this desert region is not nearly so extensive as it was at one time believed to be. Large areas are known to be covered with bush and other vegetation. Attempts, more or less successful, have been made to establish farming and cattle-rearing, and in time this so-called desert may sustain a fair population."—*Times*, October 15, 1889.

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indicating the difference in the mean relief of the southern tableland and northern plains. The same result is arrived at by taking into consideration the whole course of the Nile Valley, this being the one great African river which traverses both plateaux, and which consequently best serves to reveal their several altitudes. The Shimiyu, its farthest southern headwater, which descends from the vicinity of Lake Manyara to the south-east corner of Victoria Nyanza, flows at a mean elevation of considerably over 4000 feet. The White Nile at Dufli, where it may be said to enter the northern section of the Continent, is still at an altitude of 2100 feet; but at Khartum, where it is joined by the Blue Nile from Abyssinia, it has already fallen to 1210 feet, which is rather under the average for the whole of North Africa; thence to the Mediterranean the slope is somewhat rapid through Nubia, the region of the cataracts, but very gradual for the rest of its course through Upper and Lower Egypt.

Other determinations, such as those of Timbuktu on the verge of the Sahara and Sudan (820 feet), and Lake Chad in Central Sudan (850), compared with those of Lake Dilolo near the sources of the Zambesi (4740), the Kalahari Desert (3900), and Bushman Flat south of the Orange River (3600), bring out the important fact that the southern stands at a mean altitude of nearly 1500 feet above the northern division of the Continent.

The Northern and Southern Hydrographic Systems

Another sharp contrast, still in favour of the south, is presented by their respective hydrographic systems. Apart from the shallow depression of Lake Chad, all the great African lakes—Victoria, Albert and Albert Edward Nyanzas, Nyassa, Tanganyika, and Bangweolo—lie well

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within the frontiers of South Africa, which, compared with the north, may be described as a well-watered region. Of the four great rivers, one (the Nile) flows partly, and two (the Congo and Zambesi) flow altogether within its limits, so that the Niger alone belongs entirely to the north. It is also noteworthy that the Congo, whose volume is elsewhere exceeded only by that of the Amazons, has a discharge probably equal to that of all other African rivers taken collectively, while the extent of its navigable waters is certainly much greater.

North of the equator there is not a single perennial navigable stream except the Nile on the periphery of the Continent from the Senegal on the Atlantic to the Juba on the Indian Ocean; while in the south, besides the great arteries, the Ogoway, Coanza, Limpopo, Pongwe, Rovuma, and some others are at least accessible to small craft for some distance inland. In 1884 Captain Chaddock ascended the Limpopo in the steamer *Maud*, as far as Manjoba's Kraal, near the Transvaal frontier.

The Northern and Southern Populations

Lastly, the ethnical relations are perhaps, on the whole, more favourable in the south than in the north for the future prospects of Africa. The northern division is chiefly occupied by three distinct and often antagonistic racial elements—the pure and mixed *Negro* populations of Sudan; the *Hamitic* Berbers, Egyptians and Ethiopians, mostly fanatical Mohammedans; and the *Semitic* Arabs and Abyssinians, the former also Mohammedans and the chief agents of the slave trade, the latter a rude barbaric people professing a corrupt form of Christianity.

The Negro populations themselves are divided into innumerable independent groups, speaking hundreds of

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distinct languages, which, beyond a vague general resemblance in their morphology, bear little or no affinity to each other. Taking it in its widest sense as stretching across the Continent from the Atlantic to the Red Sea, the Beled es-Sudan is a region of linguistic confusion, comparable to that of the Caucasus in Asia, or of Oregon, the Anahuac plateau and the Amazons region in the New World.

In the south the conditions are totally different, and in this respect the contrast between the two regions is complete. Excluding the small Hottentot and Bushman groups of the extreme south-west, the whole of South Africa from about the Cameroons in the extreme north-west, the Aruwimi basin in the centre, and the Tana River in the north-east, is inhabited by the so-called "Bantu" negroid populations, which so far as language is concerned may be said to be absolutely homogeneous. Even the specimens lately obtained by Stanley, Wolf, and Wissmann, of the dialects spoken by the Batwas and other pigmy tribes, show that if these dwarfish peoples possess independent languages of their own, they are at least also familiar with the Bantu tongues of their taller neighbours.

This Bantu stock language, represented by a large number of idioms far more closely related than, for instance, the various members of the Aryan family, thus holds exclusive possession of nearly all South Africa. In this respect at least the parting-line here laid down between the two regions has its justification in a great philological fact; for the "divide" between the homogeneous southern and heterogeneous northern linguistic areas very nearly coincides with the frontiers of that two-fold division. All to the north is chaos, all to the south, so to say, law and order.

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Geographical Research

How greatly this uniformity of speech has facilitated the work of geographical exploration in recent times need not here be enlarged upon. Men like Livingstone, Stanley, Selous, and other pioneers have at every step felt their progress facilitated by the extraordinary resemblance of the Bantu dialects throughout the whole of this wide domain, from the Swahili of the Zanzibar Coast to the Bunda of Angola, and from the Mpongwe of the Gaboon to the Sesuto of Cape Colony. The same great factor cannot fail, if properly turned to account, to forward the best material and social interests of the Bantu populations in the future, at least to the same extent that it has promoted those of geographical knowledge in the past.

Till about the middle of the present century this knowledge, so far as regards inter-tropical South Africa, may be described as almost a blank. To any one taking an intelligent interest in the growth of geographical research, nothing can be more instructive or entertaining than a comparative study of a chronological series of good maps illustrating the progress of discovery in this region during the last forty or fifty years. Before that period the farthest point reached on the west side were the Yellala Falls of the Lower Congo about 120 miles from its mouth, which had arrested Captain Tuckey's ill-starred expedition of 1816. On the east side nobody had got beyond Mounts Kenia and Kilimanjaro, visited by Krapf and Rebmann in 1848-9, and lying within a comparatively short distance of the Indian Ocean. Even in the extreme south, where the Dutch and English had been settled for generations, and where the Boers had already made their great "trek" beyond the Vaal, nothing

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was known of the lands or peoples stretching north of the Bechuanas who had already been visited by Lichtenstein so early as 1802-5.

Portuguese Pretensions

Doubtless at a much earlier period many Portuguese adventurers had penetrated to considerable distances inland, especially from their stations on the Mozambique coast. They had even brought back vague reports regarding a shadowy potentate, whom they styled "Emperor of Monomotapa," and with whom they afterwards claimed to have made treaties, basing their pretensions to political supremacy in the region between the Zambesi and the Limpopo on the faith of those documents. But, although there may have been powerful chiefs in the interior then as now, such treaties had no existence, nor was there ever an empire of "Monomotapa." This term is simply a corruption of the Bantu expression "Muene Motapa," meaning "august lord," and applicable indifferently to any native ruler sufficiently strong to found an evanescent "empire."

The Portuguese statements themselves are sufficient proof of the extremely vague character of their information, and it may be confidently asserted that no geographical exploration, properly so called, was ever made in the interior of South Africa by any Lusitanian travellers till quite recent times. Perhaps an exception should be made in favour of José de Lacerda e Almeida, who in 1798 reached the region of the great lakes, setting out from Mozambique. But he perished on his return journey, and with him were lost most of his scientific papers. Some forty-five years later, Graça, another Portuguese traveller or trader, appears to have reached

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the Upper Kassai Valley in the Congo basin, and certain "pombeiros," or caravan leaders, even crossed the Continent from west to east in 1806. But none of these men were explorers in any intelligent sense of the word; they prepared no charts or itineraries of their routes; they were incapable of taking any astronomic observations; their excursions, undertaken for purely commercial purposes, mainly in connection with the ivory and slave trades, added absolutely nothing to our knowledge of the interior.

Hence no authentic names of mountains, rivers, plateaux or peoples occur anywhere between Lake Chad and Bechuanaland, north and south, or between "Zanguebar" and Angola, east and west, on any maps of Africa issued before the middle of this century. The whole of this enormous space, comprising many millions of square miles accessible from several convenient points along the seaboard, still continued to be wrapped in dense mystery, until light began to stream in from several different points soon after the year 1850. Since then progress has been continuous, and so rapid that within the ensuing forty years all important problems connected with the orography, general relief and hydrography of South Africa, taking the expression in its widest sense, have been completely solved. Much, doubtless, remains yet to be done, especially in the forest region between the Middle Congo and the great equatorial lakes, in Somali, Galla and Kaffa lands, that is, generally between the Upper Nile (Bahr el-Jebel) and the Indian Ocean, and in the vast region stretching from the Ubangi affluent of the Congo westwards to the Gulf of Guinea. But much of this territory extends northwards beyond the extreme limits of South Africa, and, speaking broadly, it may now be said that the still unexplored parts are mainly confined to

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the borderlands between the two main divisions of the Continent.

The Pioneers of Geographical Exploration

Thus, within about a single generation, nearly the whole of South and great part of North Africa have been revealed to science, a rapidity of conquest comparable to that displayed by the great Spanish captains soon after the discovery of the New World. But here the analogy ceases. While the track of the Conquistadores was traced in blood, attended by rapine and widespread ruin, and followed by the overthrow of cultures almost on a level with their own, the itineraries of the pioneers of African exploration have been mainly bloodless, their progress has led the way for improved social relations, the cessation of chronic tribal warfare and of cannibalism, the extinction of sanguinary rites connected either with ancestral worship or with witchcraft; lastly, the gradual suppression of the slave trade, oldest and direst plague-spot of the Continent. They have been philanthropists in the truest sense of the term, harbingers of a new and happier era already dawning for the multitudinous African populations.

The foremost names on this proud muster-roll of peaceful heroes, devoting their lives or best energies to the cause of science and humanity, have been men of British stock. So true is this that the exploration of South Africa may fairly be regarded as one of the brightest chapters in the proud records of the Anglo-Saxon race. At the head of the list, by right of seniority as well as on other grounds, stands the name of David Livingstone, with whose discovery of Lake Ngami in 1849 the systematic work of South African research may be said to have begun. He soon after reached the Zambesi,

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which river he ascended several hundred miles to Lake Dilolo, crossing thence to the west coast at Loanda, in 1853. Then, retracing his steps, he struck the same river at the point where he had previously reached it, and, following its course seawards, beheld for the first time the stupendous Victoria Falls, and emerged at Quilimane on the east coast in 1856. From this basis of the Zambesi valley the illustrious traveller prosecuted his researches, chiefly northwards, for the next eighteen years, more than once disappearing for a time from the gaze of the civilised world, and at last ending his days, in 1873, on the southern shores of Lake Bangweolo, amid the very scenes of his life-long labours, so that of him, as of the architect of St. Paul's, it might truly be said, *Si monumentum requiris, circumspice.* The large chapter in the history of African research thus brought to a close comprised, besides a great portion of the region between the Orange and the Zambesi, the Zambesi catchment basin itself, with Lake Nyassa and its Shiré emissary; most of the Upper Congo Valley from the Chambesi, its farthest south-eastern headstream, to Nyangwe in Manyuema Land; a survey of Lake Tanganyika and of its northern affluent, the Rusizé, made jointly with Stanley in 1871; the Rovuma River; and much of the lacustrine districts about Lakes Moero, Bangweolo and Nyassa.

Meanwhile the problem was being attacked with equal success and with dazzling results on the east side, first by Burton and Speke, who, advancing from Zanzibar, reached the central plateau and discovered Lake Tanganyika in 1857-58; then by Speke and Grant, who, advancing from the same direction, but trending northwards through Unyamwezi and Karagwe, became the fortunate discoverers of Victoria Nyanza, Queen of African lakes and largest sheet of fresh water in the Eastern Hemisphere.

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and completed this famous exploit by continuing their northern journey down the Nile Valley (1860-62); lastly, by Baker (Sir Samuel), who, penetrating from the opposite direction, added another considerable lacustrine basin, the Albert Nyanza, to the map of equatorial Africa.

The way was thus prepared for H. M. Stanley's ever memorable expedition of 1875-77, which also started from Zanzibar, henceforth the headquarters of most journeys to the interior. The results of this daring enterprise, scarcely surpassed in the annals of geographical research, included the discovery of the Shimiyu, farthest southern head-water of the Nile; the circumnavigation of Victoria Nyanza; the discovery of a lake at first supposed to be a southern extension of the Albert Nyanza, but afterwards found by Stanley himself to be a separate basin (Albert Edward Nyanza); the discovery of the Alexandra Nyanza, last and least of the equatorial lakes properly so called; a careful survey of the upper reaches of the Lukuga emissary of Lake Tanganyika; lastly, the descent of the Lualaba (Upper Congo) from Nyangwe, Livingstone's farthest, to its mouth on the Atlantic, thus revealing to the outer world a fluvial basin second only to the Amazons in volume and extent of navigable waters.

But brilliant as were the actual results, far more important were the indirect consequences of this expedition for the future development of the Continent. The navigation of the great artery of tropical Africa, with a clear waterway of nearly a thousand miles between Stanley Falls and Stanley Pool, must be regarded as the turning point in the destinies of the teeming Bantu populations, whose very existence had hitherto been scarcely suspected by the western nations. The more this boundless region of steppe lands and primeval forests is opened up, the more it becomes evident that the old must give way to

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a new and better order of things. The spread of Arab ascendency, based on the slave trade and on slavery as a domestic institution, has already been arrested, and must ultimately yield entirely to European influences of a higher order.

Livingstone had been the first explorer to cross the Continent from west to east (1856); but Stanley's expedition, which proceeded in the opposite direction, had been anticipated by Commander Cameron, who crossed from Zanzibar to Benguela in 1873-75. After leaving Nyangwe, his route lay for the most part through new ground, and thus threw much light especially on Rua, Lunda and the other regions watered by the numerous southern affluents of the Congo. The same region, as well as parts of the Zambesi basin, was afterwards surveyed more in detail by Wissmann and Pogge (1881-82); by Arnot, who, during the years 1881-84, covered the whole ground from Natal to Benguela; by Serpa Pinto, whose journey from Benguela to Natal (1877-79) was rivalled by that of his fellow-countrymen Capello and Ivens, who crossed from Mossamedes to the Zambesi delta in 1884-85. These two expeditions represent the most useful work yet accomplished by the Portuguese in the interior of the Continent. But it should not be forgotten that the whole Continental periphery, from Cape Palmas to Cape Guardafui, was first surveyed by the early Portuguese navigators.

North of the Congo the names most prominently associated with geographical research are those of Du Chaillu, Oscar Lenz, and De Brazza in the Gaboon and Ogoway basins; Grenfell and Van Gele, both of whom ascended the Ubangi affluent of the Congo as far as the falls (1885-86 and 1888); Dr. W. Junker, who, in 1883, penetrated westwards along the Welle Valley to

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Abdallah within seventy miles of the Ubangi Falls, thus proving that the Welle-Makua (Schweinfurth's Welle) must flow, not through the Shari to Lake Chad, as had been supposed, but through the Ubangi to the Congo; Joseph Thomson, who first traversed Massai Land on his route from the east coast to Lake Victoria in 1883-84; Count Teleki, who extended our knowledge of the same region northwards to Lake Rudolf (Samburu); lastly, H. M. Stanley, who conducted the Emin Pasha Relief Expedition of 1887-89 up the Congo and its Aruwimi affluent, and thence through the equatorial lake region to Zanzibar, discovering the Ruwenzori highlands and Semliki Valley, and determining the true form and position of Lakes Albert and Albert Edward. In the northern section of the continent the chief pioneers were Bruce, George Browne, Mungo Park, Denham and Clapperton, the brothers Lander, Caillié, Barth, Schweinfurth, Rohlfs, Nachtigal, Binger, d'Abbadie, Duveyrier, C. M. Macdonald, Dybowski and Maistre, whose joint labours have left little to be gleaned by future explorers in the Saharan, Sudanese, White Nile, and Abyssinian regions.

Much useful work has also been carried out by a host of other explorers, by whose researches the main itineraries of the pioneers in this field have been greatly enlarged and supplemented, and rich materials thus placed at the disposal of cartographers for completing the map of Africa. Such are H. H. Johnston in the Cameroons and Kilimanjaro districts; Dr. G. A. Fischer in Massai Land; Dr. Ludwig Wolf in the Kassai basin; Compiègne, Marche and Walker in the Ogoway basin; Dr. Holub, Mr. Selous, W. M. Kerr, Anderson, Joseph Thomson, and others in the Zambesi Valley, Matabili, and Mashona Lands; Consul O'Neill in Mozambique;

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Mr. Hore in Lake Tanganyika; Rev. Duff Macdonald and other Scotch missionaries in the Nyassa and Shiré regions; E. L. James in East Sudan and Somali Land; Mauch in Transvaal; Galton and Andersson in Damara and Namaqua Lands; Stairs in Katanga.

Political and Social Results of the Discoveries

The political has advanced even more rapidly than the geographical conquest of Africa. The latter is still unfinished; the former, although not seriously undertaken till after Stanley's expedition down the Congo, has already so far progressed that the whole of the southern and nearly all the northern division of the Continent are virtually European dependencies. Marocco and Liberia in the north-west, and Wadai with Baghirmi in Central Sudan, are still autonomous Mohammedan States, while most of East or Egyptian Sudan continues to be misruled by the false Mahdis since the great revolt of 1882. But elsewhere the Arab power, which is everywhere the champion of Islam and of the slave trade, and which but recently threatened to overrun the Continent, is already broken. Arrested or driven back from their outposts at Stanley Falls and on the Upper Congo, at Lake Nyassa and in Uganda in the Nile basin, and henceforth deprived of any prestige or countenance they may have hitherto received from the Sultans of Sokoto and Zanzibar, both now British vassals, the Arabs cannot hope long to hold their ground, much less to widen the range of their baneful influences in opposition to the voice of Europe, for once united in the cause of humanity. The future historian of human progress will clearly see what is now but dimly perceived, that the greatest events in the dark records of the African populations have all occurred during the latter half of the

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nineteenth century. The new era heralded by these events was ushered in by the brilliant geographical discoveries of the Livingstones, Spekes, Grants, and Stanleys; they were followed by what may be called the "political settlement" of the Continent by the European states, effected by the peaceful means of mutual concessions, and it may be hoped in such a way as to remove beforehand all grounds of future warfare; they were so to say consolidated by the International Anti-Slavery Congress of Brussels, through which the civilised world has declared with sufficient unanimity that the slave trade, which has been the curse of its victims and agents alike since the very dawn of history, shall no longer be tolerated throughout the length and breadth of the land.

The Partition of Africa

How completely Africa has almost within the last decade became a European dependency may be judged from the broad statement that, with the few above-mentioned reservations, the whole Continent is at present either actually occupied, or administered, or claimed as under their protection, or else within their respective spheres of influence, by various European Powers. Large sections of the protected lands are really administered by chartered trading companies, which enjoy almost sovereign rights, and are responsible to the home Government.[1]

[1] The policy of granting charters to powerful commercial associations has been criticised both in the press and Parliament of England; but no better means have been suggested for substituting legitimate trade in a large way for the traffic in slaves which is now being everywhere checked. The rapid development of such legitimate commerce lies far beyond the resources of individual enterprise, and if it be not rapidly developed, the suppression of the slave trade must be followed by evils of the worst character. The natural growth of the population, no longer kept under by

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Such are the extensive possessions of the British Niger District Protectorate, including the Niger Territories of Sokoto and Gando under the Royal Niger Company; the British East African possessions, which now comprise a great part of Massai Land and Uganda, still partly under the British East Africa Company; the Middle Zambesi and Nyassa regions, which with Ngami, North Bechuana, Matabili, Mashona, and Barotse Lands, form the magnificent domain of the amalgamated British South Africa and African Lakes Companies. Other regions, such as the Cape and Natal, constitute self-governing colonies in the enjoyment of representative institutions; others, like Sierra Leone and British Bechuanaland, are Crown Colonies, whilst the vast Congo basin has hitherto been administered under International guarantees by the King of the Belgians. Lastly, the two Dutch territories of Transvaal (South African Republic) and the Orange Free State occupy a somewhat unique political position, being nominally autonomous, while practically forming part of the British South African system, with which their destinies are inseparably linked.

In the subjoined Table are comprised, for convenience of reference, all the regions of Africa either actually held

the raids of the slave traders, must cause a further depreciation in the value of human life, and, in the absence of regular employment, the increasing number of idle hands must bring about a corresponding increase in the practice of witchcraft and of cannibalism in the extensive regions where anthropophagy is still rife. Hence, after the abolition of the slave trade, these practices must continue to flourish until the native chiefs discover by experience that their subjects are more valuable as producers than as food for the market or as victims of the witch-doctor. In the present transitional state of the social relations, the regeneration of Africa lies to a large extent in the hands of properly-organised chartered companies powerful and enterprising enough to run railways through the country, and to launch steamers on the navigable inland waters. In this sense the Congo Free State itself may be regarded as a huge trading association chartered by the Berlin Congress in the name of humanity.

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or claimed under various titles by various European States. The partition of the Continent was practically completed by the conventions entered into by Great Britain with Germany, France, Italy, and Portugal during the years 1890-94 for the purpose of delimiting the present and future spheres of action of the four most interested Powers; consequently, what has been called the "amicable distribution of *rôles*," as embodied in this table, presents a certain finality, at least so far as regards the actual boundaries and areas of the several awards. The forms of administration must necessarily change with the changed conditions, according as the country is yearly brought more and more within the scope of civilising influences. But the extent of the territories assigned to each of the contracting states is definitely settled by these important international treaties, the main object of which has been "that future strife may be prevented now."

Doubtless the expression "sphere of influence," on which so much depends, might at first sight seem sufficiently vague to sow the seeds of, rather than to prevent, such "future strife." But its meaning, as understood by the British Government, has been made clear enough, though in negative terms, by Lord Knutsford, Secretary of State for the Colonies, in his reply to a deputation in 1890 from the South African section of the London Chamber of Commerce. "Sphere of action," he remarked, "is a term I do not wish to define now; but it amounts to this: We should not allow the Portuguese, Germans, or any foreign nation or republic to settle down and annex that territory." The other interested states will naturally interpret it in the same way, and the Conventions will then probably be found a sufficient guarantee for the future peaceful development of the Continent.

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Perhaps a more pregnant source of future discord lurks in the term "Hinterland," which embodies a new principle recently introduced by German diplomacy. This word, the nearest English equivalent of which is "backlands," is intended to cover the region extending inland from any given strip of seaboard already held by a European state. Thus Germany having occupied the Zanzibar coastlands, claims as within her sphere of influence all the territory stretching thence westwards, to Lake Tanganyika, and the claim has been acknowledged. In the same way Portugal actually claimed as her "Hinterland" the whole of the Continent lying between her possessions on the east and west coasts; but here her interests clashed with those of England, which had meantime extended her South African dominion to the Zambesi, Nyassa, and Barotse Lands. The result was a compromise giving a large extent of territory to Portugal on the west side, but leaving to England her new acquisitions all the way to Tanganyika. Thus is made evident the inconvenience of making this ill-considered principle a ground for appropriating territory to which no legitimate claim can otherwise be established. It has already created trouble in the region of Central Sudan between Germany, France, and England, and between the two latter powers in the Upper Nile region, where England's claim to an Uganda Hinterland is contested by France (1894).

Table of European Possessions in Africa

Here the populations, and to a large extent even the areas, are for the most part merely rough approximations. Nevertheless this table will convey a tolerably accurate idea of the relative importance of the various territories hitherto assigned to the various European Powers, so far

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at least as can be determined by the elements of extent and population :—

Possessions.	Dates of Acquisition.	Area in square miles.	Population.	Form of Government.
GREAT BRITAIN				
West African Colonies :—				
1. Gold Coast	1861	46,000	1,910,000	Crown Colony.
2. Lagos and Yoruba	1861	30,000	3,000,000	,, ,,
3. Gambia	1831	2,700	50,000	,, ,,
4. Sierra Leone	1787	15,000	275,000	,, ,,
Niger Protectorate : —				
1. Niger territories ; Sokoto, Gando, West Central Sudan generally from the Benue River to the northern limits of Sokoto	1886	400,000	14,500,000	Royal Niger Company, originally (1882) National Africa Company.
2. Oil Rivers District : seaboard from Lagos to the Rio del Rey	1884	50,000	3,000,000	Crown Colony.
Cape Colony with Griqualand West, Griqualand, Tembuland, Pondoland, and Walfish Bay	1806, 1877 1894	226,000	1,730,000	Responsible.
Natal	1838	21,000	544,000	Responsible.
Zulu and Tonga Lands	1887	10,000	173,000	Protectorate attached to Natal.
Basutoland	1871	10,000	220,000	Crown Colony (since 1884) with Resident Commissioner.
British Bechuanaland Protectorate	1884	72,000	53,000	Crown Colony.
Bechuanaland and Ngamiland (Khama's country)	1888, 1890	100,000	80,000	Protectorate.
Matabili and Mashona Lands	1890-1893	100,000	500,000	Administered by the British South Africa Company.
Nyassaland, with Shiré River and North Zambesiland to Lake Tanganyika and eastwards to "Stevenson's Road"	1889, 1890	250,000	1,500,000	Protectorate and Sphere of Influence under the British South Africa Company.

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Possessions.	Dates of Acquisition.	Area in square miles.	Population.	Form of Government.
GREAT BRITAIN—*continued.*				
Barotseland, North Zambesia	1890	225,000	500,000	Protectorate under the British So. Africa Company in virtue of concession from Barotse chief.
British East Africa :—				
North Zanzibar Coastlands with "Hinterlands," Massailand, Uganda, Somerset Nile, Albertine Nile (Semliki River, with Lakes Albert and Albert Edward), westwards to the Congo Free State	1886, 1890	1,055,000	12,700,000	Protectorates and Spheres of Influence administered by British East Africa Company.
Zanzibar, with Pemba and other islands	1890	1,000	250,000	Protectorate administered by Sultan of Zanzibar.
North Somali Coast, with "Hinterland" and Socotra Island	1876, 1886	40,000	200,000	Sphere of Influence and Protectorate attached to Aden.
Atlantic Islands :—				
Ascension, St. Helena, Tristan d'Acunha	1651, 1815, 1818	125	5,000	Crown Colonies.
Islands, Indian Ocean :—				
Mauritius, Rodriguez, Seychelles, Diego Garcia, etc.	1810	1,030	400,000	,, ,,
Transvaal (South African Republic) and Swaziland	1881	122,000	810,000	Autonomous under British suzerainty.
Orange Free State . .	1854	42,000	150,000	Autonomous member of the British South African political system.
Total British African Possessions	—	2,818,000	39,852,000	—

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Possessions.	Dates of Acquisition.	Area in square miles.	Population.	Form of Government.
FRANCE				
Algeria	1830	260,000	3,910,000	Representative.
Tunis	1881	45,000	1,500,000	Protectorate administered by the Bey.
Senegambia	1637	140,000	200,000	Representative.
French Sudan	1888, 1890	500,000	5,000,000	Protectorate.
Gaboon, and Congo Region	1843 1884	320,000	6,000,000	Colony and Sphere of Influence.
Guinea Coast with Dahomey	1893	50,000	600,000	Colony and Protectorate.
West Sahara from Algeria southwards to Sokoto	1890	1,500,000	1,000,000	Sphere of Influence; held by independent Tuareg (Berber) Nomad tribes.
Obock and Sibati	1860	8,000	70,000	Colony and Protectorate.
Madagascar	1887	230,000	3,500,000	Protectorate, mainly administered by Queen of the Hovas.
Mayotte and Nossi-Bé	1841, 1843	200	20,000	Colony.
Comoro Islands	1886	800	65,000	Protectorate administered by Sultan.
Réunion	1649	800	165,000	Colony with Representation.
Total French African Possessions		3,074,850	22,030,000	
PORTUGAL				
Upper Guinea Territories	1821	1,650	800,000	Colony.
West African Possessions:—				
Lower Congo Territory, Angola, Benguela, Mossamedes, with "Hinterland" eastwards to Congo Free State, and British Zambesia	1484, 1890	520,000	4,000,000	Colonies, Protectorates, and Sphere of Influence.

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Possessions.	Dates of Acquisition.	Area in square miles.	Population.	Form of Government.
PORTUGAL—*continued.*				
East African Possessions:— Mozambique, Sofala, Delagoa Bay, from Rovuma River southwards to Amatongaland, with Zumbo enclave and "Hinterland" westwards to Transvaal and British Possessions	1488, 1545, 1890	310,000	1,600,000	Colony under Governor-General, Protectorates, and Sphere of Influence.
Cape Verde and Madeira Islands	1456	1,820	245,000	Colonies.
Prince's and St. Thomas Islands	1471	450	22,000	Colony.
Total Portuguese African Possessions	—	833,920	6,667,000	
GERMANY				
Upper Guinea Territories:— Togoland, Porto, Seguro, etc.	1884	16,000	1,000,000	Imperial Commissioner.
Cameroons, with "Hinterland" northwards to British Niger Protectorate, eastwards to Adamawa	1885, 1890	130,000	2,600,000	Imperial Commissioner, Protectorates, and Sphere of Influence.
German South-West Africa: Ovampoland, Damaraland, Great Namaqualand, and Kaokoland, with "Hinterland" to British Zambesia and Ngamiland	1885, 1890	323,000	120,000	German S. W. Africa Co., under Imperial Commissioner, Protectorates, and Sphere of Influence.
German East Africa:— Zanzibar mainland, Usagora, Unyamwezi, and South Massailand, with "Hinterland" westwards to Lakes Victoria, Tanganyika, and Stevenson's Road, northwards to British East Africa, southwards to Portuguese East Africa (Rovuma River)	1886, 1890	354,000	2,000,000	German East Africa Company, under Imperial Commissioner, Protectorates, and Sphere of Influence.
Total German African Possessions	—	823,000	5,720,000	—

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Possessions.	Dates of Acquisition.	Area in square miles.	Population.	Form of Government.
ITALY				
Massawah and dependencies, Assab, Dahlak Islands, etc.	1886, 1889	4,000	260,000	Military Colony.
Habab and Bogos Territories	1889	18,000	200,000	Protectorates.
Danakil (Afar) Territory, with Aussa	1886	34,000	200,000	,,
Somaliland . . .	1888	300,000	300,000	,,
Beni-Amer and Hadendoa Territories (Kassala?) .	1890	40,000	100,000	,,
Abyssinia and Shoa, with Kaffaland and Gallaland	1889	200,000	5,500,000	Protectorates, not recognised by "Emperor of Ethiopia."
Total Italian African Possessions	—	596,000	6,560,000	—
SPAIN				
West Saharan Territory:—				
Rio de Oro, Aorar, Ifin, with "Hinterland" eastwards to French Sahara	1885	210,000	100,000	Attached to Canary Islands, Sphere of Influence.
Presidios north-coast Marocco	1650	50	15,000	Military stations.
Rivers Muni and Campo, Corisco, and Elobey Islands, South Gaboon (disputed by France)	1884	50,000	500,000	Unoccupied.
Canary Islands . .	1495	2,900	290,000	Representative.
Fernando Po, and Annobon	1778	850	70,000	—
Total Spanish African Possessions	—	263,000	825,000	
Congo Free State . .	1877, 1890	900,000	14,000,000	International Commission, administered by King of the Belgians.

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Possessions.	Dates of Acquisition.	Area in square miles.	Population.	Form of Government.
		TURKEY		
Tripoli, Barca, Fezzan .	1500	398,000	1,000,000	Administered by Pasha (Governor-General).
Egypt	1500	374,000	6,818,000	Administered by Hereditary Prince (Khedive), aided by British military occupation since 1884.
Egyptian (Eastern) Sudan: Nubia, Kordofan, Darfur, White Nile, and Equatorial Provinces	1820, 1870, 1874	900,000	10,000,000	Pasha (Governor-General), but mostly revolted under Mahdi since 1882.
Total Turkish African Possessions	—	1,672,000	17,818,000	—
Total European African Possessions	—	10,948,850	113,462,000	—
Independent and unappropriated :— Morocco, Wadai, and unknown regions	—	1,000,000	25,000,000	—
Total Africa . .	1894	11,980,570	138,462,000	—

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CHAPTER II

THE ATLAS REGION—MAROCCO, ALGERIA, TUNISIA

Name, Extent, Political Divisions—Progress of Geographical Research—The Atlas Orographic System—The Sahara Border Ranges—The Little or Anti-Atlas—Terrace Formations, Atlas Scenery—Secondary Orographic Systems in Marocco—Geology of the Atlas Ranges; Mineral Resources — Natural Features of Algeria: Tell, Steppe, and Desert—The Algerian Sahara—Dried-up Watercourses: The Igharghar—Artificial Irrigation; Artesian Wells—Physical Features of Tunisia—Tunisian Seaboard: Islands and Inlets—Rivers of the Atlas Regions — Climate of the Atlas Regions — Flora, Fauna—Inhabitants of the Atlas Regions—Berbers and Moors—The Jews, Negroes, and Dwarfs—History and Present Condition of Marocco; The Slave Trade—History of Algeria and Tunis—Topography: Chief Towns of Marocco — Economic Condition of Marocco: Natural Resources, Government—Chief Towns of Algeria—Economic Condition of Algeria: Natural Resources, Government, Prospects—Chief Towns of Tunis—Economic Condition of Tunisia: Prospects, Government.

Name, Extent, Political Divisions

No part of the African Continent is more clearly defined by its natural outlines than the north-western section between the desert and the Mediterranean, which stands out so distinctly from the rest of the mainland, that it received from the early Arab geographers the name of Jezirat-el-Maghreb, that is, the "Western Island." For the ancients also it was a "Western Land," the term

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Mauritania, by which most of this region was known to them, being derived from a native word *mahur*, *maur*, the "west," whence the Mahurîm of the Phœnicians, and the Mauri of the Greeks and Romans. Later the expression "Barbary States," which had reference to the indigenous Berber populations, came into general use, and is not yet quite obsolete. But in recent times all these collective designations have been largely displaced by the original term Atlas, which has persisted throughout the historic period, and which carries the mind back to the classic mythologies and to Plato's legendary Atlantis. Atlas, which is thus for ever associated with the neighbouring ocean, and with the fabulous Titan bearing the world on his broad shoulders, has been traced to the Berber word Adrar, "mountain," of which it may be a modified, or perhaps an archaic form. Adrar itself still survives in Marocco, where the main range bears the name of Idraren (Deren), the "Mountains," or more fully Adrar-n' Deren, the "Mountain of Mountains," recalling Strabo's statement that "the mountain which the Greeks name Atlas the Barbarians [Berbers] call Dyrin" (Book xvii.)

A glance at any good physical map of the Continent will show this upland region rising in the form of an irregular rectangle above the surrounding waters which encompass its rocky shores on three sides, while it falls somewhat less precipitously down to the boundless sea of the sandy desert. Thus limited northwards by the Mediterranean, west and east by the Atlantic and the Gulf of Cabes, the "Mauritanian quadrilateral," as it has been called, stretches from Capes Juby and Nun opposite the Canary Islands in the direction from south-west to north-east for a distance of over 1500 miles to Cape Bon over against Sicily. Between the Mediterranean

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and the Sahara the highlands, plateaux, and border ranges collectively forming the Atlas orographic system have a mean breadth of nearly 200 miles, giving to the whole region a total area of about 450,000 square miles, with a population approximately estimated at from 10,000,000 to 11,000,000. Politically it comprises three separate divisions, the Sultanate or Empire of Marocco in the west, the French colony of Algeria in the middle, and the French protectorate of Tunisia in the east, with areas and populations as under:—

	Area in sq. miles.	Population.
Marocco . . .	220,000	5,000,000 (?)
Algeria . . .	184,000	3,910,000 (1891)
Tunisia . . .	45,000	1,500,000 (est.)
Total . .	449,000	10,410,000

Progress of Geographical Research

Notwithstanding their proximity to Europe, and although known to the Ancients from the remotest times, visited by the early Phœnician navigators, partly colonised by the Carthaginians and even to a large extent reduced by the Romans, the Mauritanian uplands remained till the middle of the present century practically as unknown to the western world as the neighbouring Saharan wilderness. Previous to the French occupation of Algeria, and even for many years after that event, the greatest confusion continued to prevail regarding the extent of the Atlas highlands, their physical constitution, nomenclature, and general disposition. Pliny had already spoken in an obscure way about an Atlas Major and an Atlas Minor; vague allusions were also made to an Anti-Atlas, and the first French settlers in the Algerian Tell were long under the impression that the Maroccan system was continued eastwards to Tunis by

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two well-defined ranges, the Great and Little Atlas, skirting the Algerian plateau on the south and north sides respectively. But with the progress of the French conquest, steadily advancing from the shores of the Mediterranean to the verge of the desert, the true character of the central uplands was gradually revealed, while the scientific exploration of the Maghreb-el-Aksa, or "Extreme West," was begun by the memorable botanical expedition of Sir Joseph Hooker and Mr. Ball in 1871. The main range of the Atlas proper, first surmounted by the Roman General, Suetonius Paulinus, about 42 A.D., had again been crossed or skirted at various points by Laing in 1822, Caillié in 1828, and Oscar Lenz in 1880. Many of the central and eastern sections had also been visited by Duveyrier in 1860 and Rohlfs in 1864, while partial ascents of the Great Atlas were made in 1830 by Washington, whose Jebel Miltsin, however, long supposed to be the culminating point of the whole range, has not since been identified by Drummond Hay in 1844, by Richardson in 1860, by Beaumier in 1868, by Maw in 1872, or Crema in 1882. But all these short excursions, usually limited to one or two special points, were eclipsed by the famous expedition of De Foucauld, who in 1883 made his way in the disguise of a Jew across the hitherto unvisited districts between Mequinez and Demnat, crossed the main range by a new pass, for the first time explored a great part of the Anti-Atlas, and returned by the Muluya valley to Algeria. Since then the only important journeys to the Great Atlas have been those of Boulnois in 1887, and Joseph Thomson with Harold Crighton-Browne in 1888. Thomson's expedition especially has contributed largely to a more accurate knowledge of the south-western section of the main range from Demnat,

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east of the city of Marocco, to the extremity of the system at Zawia near Cape Ghir on the Atlantic coast.

The Atlas Orographic System

In ordinary language the term Atlas is usually restricted to the highlands comprised within the state of Marocco; but there can be no doubt that French geographers are right in extending the name to the whole of the upland region lying between the Atlantic and the Sicilian waters. It is not pretended that the land is traversed in its entire length by a distinct and unbroken mountain range from Cape Ghir to Cape Bon, but only that it is completely occupied by ranges, detached ridges, escarpments, and intervening tablelands, which collectively form part of a continuous mountain system, presenting a certain physical unity in its general disposition, geological constitution, and main biological features. The system itself runs south-west and north-east parallel with the Sierra Nevada and other chains in the Iberian Peninsula; and before their continuity was broken by the creation of the Strait of Gibraltar, all these ranges belonged to the same physical area, rising in nearly parallel ridges above the elevated plateau which formerly stretched uninterruptedly from the Atlas to the southern slopes of the Pyrenees.

The southern or African section of this upland region forms rather a system of mountains and tablelands with their escarpments than a chain properly so called. At least two perfectly contrasted divisions may be distinguished, the western, which is confined to Marocco, and the eastern, which belongs to Algeria, and penetrates far into Tunisia. The former alone presents the aspect of an unbroken mountain rampart, with a well-defined

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north-easterly trend, and a long line of lofty crests maintaining a great altitude for hundreds of miles, and forming a divide between the streams flowing north and north-west to the Mediterranean and Atlantic and south-east towards the Sahara. But in the eastern or Algerian division the Maroccan range, which properly bears the distinctive name of the Great Atlas, is neither continued as a single chain, nor does it ramify into two border ranges, as was supposed by the early French colonists, who spoke of the Northern or "Little Atlas" skirting the Mediterranean seaboard, and of the Southern or "Great Atlas" continuing the Maroccan system along the verge of the desert. In Algeria the western section becomes, on the contrary, transformed to a broad plateau, whose northern and southern escarpments are separated by a space of from 90 to 100 miles. The northern escarpment, which when seen from sea-level presents the appearance of a coast range, falls towards the Mediterranean in a series of picturesque and fertile valleys, forming the so-called "Tell," in every respect one of the most favoured regions of the Mediterranean basin.

As the land rises rapidly from sea-level to a considerable altitude the approach to the interior becomes in some places extremely difficult. Parallel and close to the coast runs the broken line of escarpments now commonly called the coast ranges (Montagnes du Littoral), though consisting rather of a series of detached ridges such as the Jebels Ujda and Tessala, the Dahra (5184 feet), the Blidah (5380), the picturesque Jurjura highlands between Algiers and Bougie, and the Great Babor (6463) rising above the Gulf of Bougie between Bougie and Constantine.

To the whole of this hilly coast region, from about the meridian of Algiers to the neighbourhood of the

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Tunisian frontier, French writers now usually apply the term Kabylia, from the Berber Kabyles or "tribes" by which it is inhabited. A distinction is even drawn between a Great and a Little Kabylia, the latter being commonly restricted to the northern escarpments of the Babor and Bibân ranges, though great uncertainty continues to prevail regarding the use of these expressions. Great Kabylia is understood to comprise more especially that portion of the Jurjura uplands which is enclosed by the rivers Sahel and Isser. The prominence given in recent times to this word is unfortunate, and has added not a little to the confusion of the local geographical nomenclature. It never had any territorial value, while it is rejected as an ethnical designation by the indigenous Berber population, to whom it has been applied in a somewhat contemptuous sense by the Arab intruders. In a general way these Mohammedan conquerors spoke of all the non-Arab peoples driven from the plains to the uplands simply as *Kabila* or "tribes," whatever their origin or tribal organisation.

Immediately south of "Kabylia" run the less elevated parallel chains which properly form the southern limits of the Tell, and which some French writers have called the *Atlas Moyen* or "Middle Atlas." Here the chief summits, going east, are those of Tlemcen (6017 feet), the Saida range, the mass of Warsenis encircled on three sides by the Shelif river (6600), the Dira-Wennugha heights (6109), and the mountains of Setif which are now traversed by the railway running from Constantine west to the Sahel basin.

Above the left bank of the Sahel rises the Jebel Jurjura, one of the best-defined ranges in Algeria, with an extreme altitude of about 7650 feet. "Seen from the north, it presents an imposing appearance, being here

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GREAT ATLAS FROM LOWER VALLEY OF AIT MASSEN.

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skirted throughout its whole length by a deep wooded and cultivated valley, which forms a pleasant foreground to its rugged and snowy peaks. In this direction the snows are more abundant than on the opposite slope, and in the depressions traces are even seen of avalanches. At some former geological epoch glaciers filled the gorges of the Haizer and Lalla Khedrija slopes, and a large terminal moraine is still visible in the upper valley of the Wad Aissi. Of all the Algerian uplands, the Jurjura highlands abound most in running waters, rich vegetation, cool and healthy valleys, sheltered at once from parching southern and cold northern winds."[1]

The Sahara Border Ranges

The southern escarpments of the Algerian plateau, to which the French have given the name of the *Chaîne Saharienne* or "Sahara Border Range," run parallel with the coast ranges in the normal direction from south-west to north-east. But so far from being an extension of the Great Atlas, they fall at many points in long gentle slopes down to the level of the Sahara. Nevertheless, they are dominated by a series of detached ridges and lofty mountain masses, such as the Ksur range in the west, culminating in the Jebel Mzi (7320 feet), followed at considerable breaks by the Amour and Aures groups. The Jebel Amour,[2] whose highest peak is the Tuila Makna (6340), forms the divide between the Mediterranean and Igharghar basins. In the Jebel Aures group, the Mons Aurasius of the Ancients, the Algerian uplands attain their greatest altitude; here the

[1] Keane's *Reclus*, xi. p. 207.

[2] Both these terms, *Jebel* in Arabic and *Amur* in Berber, have the same meaning of "Mountain," or "Mountain Range."

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loftiest summit of Mount Sheliya rises above the Haracta depression to a height of 7700 feet, thus overtopping by about 50 feet the highest peak of the Jebel Jurjura.

Southwards the Sahara Border Range falls somewhat abruptly in some places from a mean elevation of nearly 6000 feet, while at its eastern extremity the incline is still more precipitous. Here are situated the gorge of El Kantara ("The Bridge") at the western foot of the lofty Aures range, and the town of Biskra, a day's journey farther south, respectively not more than 1697 and 410 feet above sea-level. The railway, running from Philippeville on the Mediterranean southwards in the direction of the Sahara, passes through Constantine and Batna down to El Kantara and Biskra, its present southern terminus. This is the section which, it is hoped, may eventually be carried along the Igharghar depression across the Sahara to the Ahaggar plateau and thence through Asben to Lake Chad.

Still further east the great central plateau, with its periodically flooded saline *shotts*, again contracts and merges in a number of low narrow ridges, which ramify in various directions through Tunisia, terminating north-eastwards at Cape Bon opposite Sicily, and disappearing south-eastwards about the head of the Gulf of Cabes.

Such are the broad outlines of this vast upland system, which extends from the Atlantic to the Mediterranean in a straight line nearly 1600 miles, of which about 750 are comprised in the Great Atlas and Anti-Atlas of of Marocco, 550 in the central Algerian plateaux, and over 200 in Tunisia. By far the most elevated section is the Great Atlas Range, which alone rises above the line of perpetual snows, and must consequently in this latitude have a mean height of at least 11,000 feet. That of the Algerian tablcland ranges from 3500 to

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4000 feet, with an absolute height of not more than 7700 feet. But in the central knot of the Great Atlas between Fez and Tafilelt, one of the chief passes was crossed by Gerhard Rohlfs at an elevation of 6835 feet, and farther south the Tagherat Pass was found by Ball to stand at about 12,000 feet above the sea. This observer's estimate of over 13,000 feet for most of the peaks in the south-western section was fully confirmed by Thomson, who scaled the Jebel Ogdimt (12,734 feet) south of Marossa, and the Tizi Likumpt (13,151), a little north-east of the Tizi Nzaowt (13,500). Looking from the summit of the Tizi Likumpt in the direction of the south-west, Thomson was much struck by the imposing peak of Tamjurt, which towered 1500 to 2000 feet above the whole chain, and which in his opinion "will prove to be the highest peak in the entire range of the Atlas (14,500 feet ?)."[1]

The Little or Anti-Atlas

At present the term "Little Atlas," which since the days of Pliny has found no safe resting-place, has been banished from the geography of Algeria, and has taken refuge in Marocco, where it is used by some French writers as an alternative expression for the Anti-Atlas. This chain runs nearly parallel with the Great Atlas, from which it is separated only by the upper valley of the Draa, and lower down by that of the Sûs. It is pierced at intervals by deep river gorges, and here and there connected by short transverse ridges with the main range. But the Anti-Atlas, lying in an almost inaccessible region towards the verge of the desert, is less known than almost any other part of the Atlas system. Its

[1] *Proc. Roy. Geo. Soc.* 1889, p. 14.

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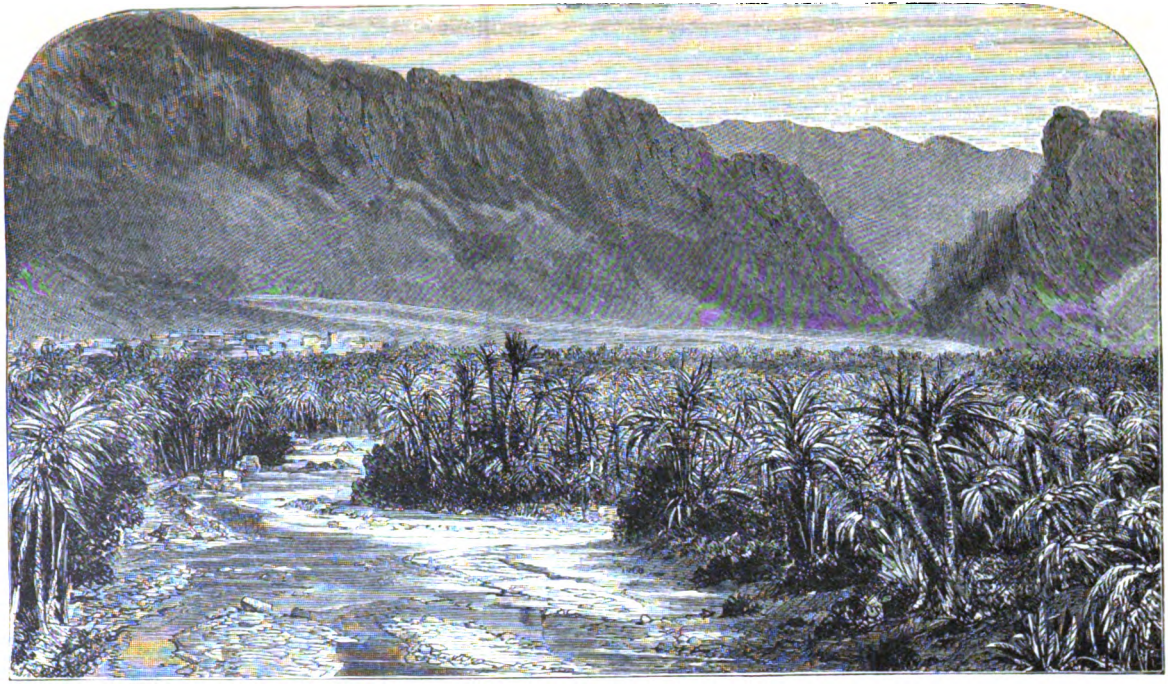

EL KANTARA—THE GATE OF THE SAHARA.

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somewhat regular crest has never been accurately measured, estimates as to its mean height ranging from 5000 (Rohlfs) to 10,000 feet (Ball and Hooker). Towards the source of the Sûs it forms a group of bare rocks diversified with verdant upland valleys, and connected with the Great Atlas near the snowy Jebel Sirwan, one of the loftiest crests in the whole range (14,000 feet?). Here is the divide between the Draa and Sûs basins, east of which the Jebel Shagherun, as this section of the Little Atlas is called, gradually approaches the main range, with which it is completely merged near the Jebel Aiashin or Magran (about 11,500 feet), south of the elevated Muluya plain.

From the Jebel Ogdimt, Thomson obtained a fine prospect of the Anti-Atlas, "whose table-like top formed an almost straight line on the horizon. East, west, and north, a bewildering assemblage of snow-streaked peaks, sharp barren ridges, gorges and glens, rocky and desolate above, grove-fringed and terraced below, met the eye, making description in the limits assigned me impossible" (*ib.*)

Terrace Formations—Atlas Scenery

The terraced formation here spoken of is a prevailing feature throughout the whole of the Atlas system, and in the Algerian Tell the steep scarps of the slopes rising in succession from the coast to the level of the plateau, and all trending in the same north-easterly direction, project in the form of headlands beyond the normal shore-line; thus are developed bays and inlets along the seaboard, all disposed in the same way, and all alike sheltered from the north-westerly gales. Such are, going east, the Bay of Algiers, the Gulfs of Bougie, Stora, and Bona, followed

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in Tunisia, where the same formation continues, by the magnificent inlets of Biserta Bay and the Gulf of Tunis, the former rapidly becoming a great stronghold of French naval power in the Mediterranean. Cape Bon itself, last and most conspicuous of these promontories, encloses the Gulf of Hammamet on the north, and appears to be continued through the rocky islet of Pantellaria seawards, in the direction of the Sicilian coast. This island, however, is of volcanic origin, and belongs geologically, as well as politically, to the European world.

To the same terraced disposition is due much of the effect produced by the magnificent scenery characteristic of the slopes rising somewhat abruptly above the great plain of Marocco. Here the Demnat district, watered by several head-streams of the Um er-Rebiah, is of surpassing loveliness. "Words fail me," writes Mr. Thomson, "to describe the charming valley in the centre of which the picturesque little town of Demnat stands. Probably in the whole length and breadth of the Atlas range there is not another spot to equal it in all the varied charms which go to make a landscape attractive. We enter by a tortuous gorge clad with callitris and juniper trees, and lanes hedged in by a glorious profusion of wild-rose, honeysuckle, bramble, and pomegranate, lead us into splendid groves of olive and vines, while step-like on the hill-sides terrace above terrace displays a wealth of colour in bright-hued flowers, squares of green grass, or crops of fast-ripening barley. Irrigation canals spread themselves in a perfect network over the entire valley, everywhere diffusing fertility, and raising the pleasant sound of rushing water. In the centre of this beautiful valley, on a projecting spur of the mountain, and overlooking the stream far below, the town of Demnat stands enthroned—cooled, even in the depths of an

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African summer, by fresh breezes from the mountains beyond" (*ib.*)

A little east of this place lies the wonderful natural bridge of Iminifiri, from which, as from the mouth of a vast limestone cave, issues the wild torrent of the Wad Demnat. As the visitor penetrates under a superb arch hung with stalactites, and flanked with walls disposed like clustered pillars, the fancied cavern disappears, leaving nothing but the marvellous overhanging archway spanning the mountain gorge at a height of over 100 feet. The structure, which is utilised by the inhabitants both as a bridge and an aqueduct, owes its formation to the lime deposited by an upper stream, "which from falling as a cascade on the east side of the glen, has been gradually pushed forward by the growth of tufa till the latter touched the opposite side, and the bridge was complete" (Thomson, *ib.*)

Secondary Orographic Systems in Marocco

West of the Great Atlas a few secondary chains, unconnected geologically with the main system, run either in the direction of the sea, or else close to and parallel with the coast. Such are the Jebel Hadid or "Iron Mountains," which form a short coast range extending from near Mogador northwards to the Wad Tensift, and at some points rising to a height of over 3000 feet. Other less elevated but very jagged ridges skirting the north side of the great plain of Marocco as far as the Um er-Rebiah are known, as the Jebelet or "Little Mountains," in contradistinction to the Jebel Tilj or "Snow Mountains," as the main range is locally called. Farther north the snow-clad Jebel Aiashin forms a central knot, whence lateral ridges branch off in all

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directions between the various river valleys. In the extreme north of Marocco, the rugged Sanheja Hills, which are only indirectly connected with the Atlas proper, develop a long crescent with its extremities facing north and west, between Cape Tres Forcas on the Mediterranean, and the Sebu plains below El Arish on the Atlantic. Between this chain and the sea extends the so-called Rif or coast range, terminating at Ceuta, and culminating in the Beni Hassan group west of Tetuan (6570 feet). The Beni Hassan hills are continued southwards by the Mezejel, the Jebel el-Kmas and the Zarzar, commanding the holy city of Wezzan, and northwards by the Jebels Hauz and Belliunesh, the Septem Fratres or "Seven Brothers" of the Romans, and the Sierra de Bullones of the Spaniards. This mass sends eastwards the narrow promontory ending at Ceuta, and northwards the Jebel Musa, that is, the Abyla of the ancients, which was one of the pillars of Hercules, rising 2700 feet over against the rock of Gibraltar.

Geology of the Atlas Ranges—Mineral Resources

Although the geological constitution of the Atlas highlands has been studied only at a few isolated points, sufficient is known to conclude that sandstones and limestones are the prevailing sedimentary rocks. Very ancient red, grey, and black shales also occur, while at the base of the mountains east of the city of Marocco Thomson noticed a continuous boss or dyke of basalt, extending from Demnat to the Wad Nyfis, though here and there masked by the limestones and shales which form the mass of the lower ranges. The central range is largely composed of porphyritic masses, and the Jebel Tiza forms a superb porphyry dome. But farther north

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porphyry is replaced by granite in most of the valleys sloping towards the desert. Recently erupted volcanic matter is seldom met, though the sedimentary rocks have in many places been subjected to great disturbances, as in the Nyfis valley, where a pocket of red sandstone has assumed an almost vertical position, "as if a section of cretaceous rocks had been caught and squeezed between two folds of the rock" (Thomson). Numerous traces of ice action were also noticed by Maw, and the existence of ancient glaciers seems to be attested by much débris in the nature of frontal and lateral moraines.

The vague reports of vast mineral treasures in the Atlas uplands have scarcely been confirmed by recent exploration. Nevertheless gold occurs in several places, associated in the form of pellets with calcareous spar, quartz, and copper ores. Auriferous sands are washed down by the streams in the Sûs district, and traces of gold are seen in the Nûn valley, and near Tanahert. The Wad Nun has also silver mines, and the same precious metal has been met near Tedla in the main range. Rich copper deposits are known to exist in many places, and especially in the Sûs valley, where an almost inexhaustible mine was formerly worked, supplying the raw material for nearly all the copper-ware required by the Sultan's household. Iron also is widely diffused throughout the western ranges, occurring both in the native state, and in extensive ferruginous masses, especially in the Jebel Hadid, where the ancient iron workings form "a series of excavations on the top of the mountain in much broken rock, evidently the result of volcanic disturbance. In the fissures and cavities formed in the focus of eruption, hot springs had probably deposited the hydrous oxides of iron which now fill them" (Thomson).

Mention is also made of other metals, such as anti-

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mony and antimonial galena in the Tedla Mountains; sulphur near the capital and in the district between Fez and Mequinez; argentiferous lead in the neighbourhood of Tetuan; rock-salt and coal in many places, though all search for the latter is interdicted by the Government. The arable soil is largely formed of clays and sands resting on limestone beds; and in some localities the earth is so charged with red ochre, that a ruddy tinge is communicated to the produce of the land, and even to the wool of the native sheep. Owing to this phenomenon a district near Safi is known as the *Beled el-Ahmar* or "Red Country."

Natural Features of Algeria: Tell, Steppe, and Desert

In Algeria, that is, the middle section of the Atlas regions, three natural zones may be clearly distinguished —the northern *Tell*, the central plateaux or steppes, and the southern slopes merging imperceptibly in the desert. The Tell, which has nothing to do with the Latin *tellus*, "arable land," but is the Arabic word for "height," "eminence," as in the Egyptian Tel-el-Kebir, begins on the Mediterranean coast, and stretches through a series of rugged terraces up to the steppe region, above which it rises here and there in low, irregular ridges. This is by far the most productive part of Algeria, yielding rich crops of corn, rice, tobacco, cotton, pulse (pease and beans), and even wine in favoured districts; in a word, it is a land in every way suited for permanent occupation by European settlers.

Here also are found extensive wooded tracts with numerous valuable species, such as cedars and several varieties of the oak, diversified with rich pasture lands. Many streams also, locally called Wady or Wad (Wed),

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traverse the Tell, which has altogether an area of about 54,000 square miles, with a mean breadth rather less than 50 miles, but wider towards the west than on the east. Here are naturally concentrated most of the European settlements, as well as all the large towns of Algeria.

Beyond this Algerian Middle Range, as it might be called, follows the central zone of tablelands (*la région des plateaux*), a zone of scanty vegetation standing at a mean height of 3800 feet above the sea and interspersed with a long series of brackish lakes or saline marshes, here called *Sebkha* (plural *Sbakhi*, "marshes") or *Shott* (plural *Shtût*, "shores"). This monotonous region stretches from the spurs of the Great Atlas in the eastern part of Marocco almost uninterruptedly north-eastwards to Tunisia. The Shott-el-Gharbi, or "western Shott," on the Marocco frontier, is followed by the Shott-esh-Shergwi, or "eastern Shott," 140 miles long, at the southern foot of Mount Saida; the Zahrez-Gharbi and Zahrez-Shergwi; the Shott-el-Hodna, and beyond Batna towards the Tunis frontier the Tarf and other lagoons of the Haracta depression.

Most of these salt lagoons of the Algerian plateaux form at present so many isolated closed basins, but were formerly connected in a continuous sheet of water which probably sent its overflow through the Shelif northwards to the Mediterranean. Some of the sebkhas are extremely saline, the Tarf containing as much as 27 per cent of salt, being the highest possible degree of saturation. According to some estimates the Zahrez group contains as much as 600 million tons of salt, and whenever the projected trans-Saharian railway is constructed, the Sudanese populations will doubtless draw their supplies largely from this source.

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The somewhat arid Algerian steppes possess but few running waters, and even these become dry as soon as the rainy season is over. Corn grows only in some favoured spots; but after the winter season the land clothes itself with dwarf aromatic herbs and tall grasses, which supply an abundance of fodder for the cattle reared by the inhabitants of these regions. The herds are watered at the stagnant pools which are left by the rains in the rocky cavities of the ground, and which, owing to the uncertainty of the supply, are called *ghedir*, or "traitors," by the Arabs. In the western parts of this dreary wilderness little is seen except drifting sands, forming a natural frontier between Algeria and Marocco.

The Algerian Sahara

Even before the late partition of Africa, by which the French Hinterland was extended from the Mauritanian uplands to Sudan, the section of the Sahara which was claimed by France, and which formed the third great division of Algeria, comprised an area considerably more extensive than the two other zones of coastlands and plateaux taken together. The line separating the elevated tablelands from the desert proper is marked along the border range by a number of points called by the Arabs Fûm es-Sahrā, that is, "Mouths of the Sahara," and follows an irregular parallel in the interior corresponding with the Mediterranean coast-line. The fantastic descriptions of old writers, who represented the Sahara as a uniform waste of bare sands, without variation of level, and unrelieved by any change in its generally dreary aspect, without water or vegetation, a wilderness in which the traveller must perish of thirst if he escaped the attacks of wild beasts or wilder nomads, have long been

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known to be inaccurate. Numerous journeys and expeditions, undertaken either to reduce the turbulent native tribes or in the cause of trade and science, have given us a tolerably correct idea at least of the Algerian section of the great desert. Certain inhabited districts of the northern Sahara, writes General Daumas, are termed *Fiafi;* others, either temporarily inhabited or capable of being permanently reclaimed and settled, take the name of *Kifar*, that is, "abandoned," while the absolutely uninhabitable parts are called *Falat.*

These three names correspond to so many special features of the Sahara. Fiafi is the oasis round a cluster of springs or wells, to which all living things are drawn in search of water, food and shelter from sun and simûm under the grateful shade of palms and fruit trees. Kifar is the plain country, generally sandy and bare, but which, after it is quickened by the winter rains, puts on a mantle of spring herbs; hither at this season the nomad tribes encamped round the oases, come to pasture their flocks. Falat is the vast barren and naked country, the boundless sea of sands, which, like the ocean itself, is subject to fitful moods of calm or storm, but which may still be traversed by those fleets of the desert called caravans.

Thus the Sahara presents not one but many aspects: here a stretch of rolling dunes, there hills and ravines, marshes on the dried-up beds of old watercourses; in one place villages and populous settlements, in another alternating sands and herbage, visited periodically by stock-breeding nomads. From the bordering chain of mountains there descend during the rainy season countless torrents, the channels of which, soon dried up by the sun's heat, are transformed for most of the year to a network of arid ravines. The centres of population are sometimes separated by perfectly barren wastes of several

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days' march across; but in many directions the perennial springs, occurring at intervals, serve as *étapes* or camping-grounds along the lines of traffic. The surface of the land is also diversified by the so-called *gara* (plural *gûr*), masses of hard rock standing either on the open wind-swept plain or in a torrent bed, or rising in the middle of a sebkha. In some places these gûr are disposed in long, nearly regular and parallel chains, though the masses themselves vary greatly in form, some being cone-shaped, others triangular or roughly cubical. These chains of varying height are separated by intervening sandy valleys often filled with large dunes, which increase little by little in height. All winds help to form dunes in the Sahara, but that from the east is the most potent agent in causing the sands to drift (Largeau).

Dried-up Watercourses: The Igharghar

Besides the ravines and torrent beds which descend southward into the Algerian Sahara from the border range of the plateaux, two great wadys or dried-up watercourses enter the territory from the far south, and form marked features of the country. By far the larger of these is the Wady Igharghar, which has its origin in the land of the Tuaregs on the Ahaggar plateau about the latitude of the Tropic of Cancer. The Igharghar, one of the great rivers by which the Sahara was formerly traversed in various directions, has an almost due northerly course of over 750 miles to its outlet in the Shott Melghir (Melrhir).[1] The Melghir, with its southern

[1] In the Berber language the liquid *r* is uttered from the throat, giving it a guttural sound like the Northumbrian burr; hence the variant spelling *rh*, *gh* in so many geographical names in the Berber domain: Melghir, Melrhir, Melghighi; Rhadames, Ghadames; Rhir, Ghir, Righ; Sonrhai, Songhai, etc.

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extension, the Shott Merwan, belongs to a system of shotts which is to be carefully distinguished from those of the elevated Algerian plateaux. It forms the first link in a chain of marshes or shallow lagoons which extend eastwards along the southern base of the Sahara Border Range to the neighbourhood of the Gulf of Cabes, and the largest of which is the Shott Jerid. All except Jerid [1] lie below the level of the sea, with which, however, they have not been connected, at least in recent geological times. At the same time it seems probable that at a somewhat remote epoch the Gulf of Cabes really comprised not only the Tunisian but also the Algerian depressions westwards to the Shott Merwan, from which it has since been separated, partly by the upheaval of the coastlands, partly by the general desiccation of the Sahara region. Thus the Igharghar, after ceasing to communicate with the Mediterranean, continued to discharge into the closed basin of the south Algerian and Tunisian Shotts, until it became gradually transformed to a dry watercourse. Its very name, which in Berber means "running waters," shows that the change is of comparatively recent date, and there are other reasons for believing that the bed of the Igharghar was still flooded, at least periodically, within the last 2000 years.

The flooding of the Sahara itself has of late years been spoken of as a feasible project, and many have supposed that all the shotts might easily be transformed to a great inland sea. It might perhaps be possible to

[1] The Shott Jerid, which with its eastern extension, the Shott el-Fejej, covers an area of several hundred square miles, has with much probability been identified with the *Palus Tritonis* of the Ancients. It lies some 60 feet *above* the sea, with which it seems to have formerly communicated through the now nearly dry little coast stream, the Wady Akartit (Cabes), probably the *Tritonis flumen* of Ptolemy.

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restore the Gulf of Cabes to its former limits, that is, to extend it westwards along the southern foot of the Border Range nearly to the meridian of Biskra, most of the land from the coast to this point lying at or below sea-level. The Tunisian and South Algerian Shotts would thus become merged in the Mediterranean waters, and an area of from 3000 to 4000 square miles added to that marine basin. But the scheme proposed by M. Rudaire could not affect the Algerian steppe lagoons nor the Algerian Sahara proper, all of which stand far above the level of the Mediterranean.

The other dry watercourse which passes through the Algerian Sahara from the south is the Wady Miya, which has its origin on the northern slope of the Twat plateau; it descends thence south-westwards to the Igharghar, which it joins about 60 miles above the Shott Melghir. Thus at one time these two wadys formed branches of the same hydrographic system, through which a great part of the northern Sahara sent its surface waters to the Mediterranean at the Gulf of Cabes. Some idea of the vast extent of this vanished fluvial basin may be formed from the size of its chief artery, the Igharghar, whose channel expands in some places to a width of four or even six miles. Although in many parts almost effaced by drifting sands its bed is still followed by the native caravans, while water still flows beneath the bed of its chief tributary, the Wady Miya. The current becomes more copious towards the confluence, where the aspect of a surface stream is still suggested by a continuous chain of springs, pools, and lagoons, some of which are flooded throughout the year.

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Artificial Irrigation—Artesian Wells

Even before the arrival of the French the local populations were fully aware of the presence of underground reservoirs in this district, and with their rude appliances they had sunk wells, which in some places continued to flow for fifty or a hundred years. In recent years the French engineers have continued the process with vastly improved methods, and large tracts of the Algerian Sahara have thus already been transformed to green oases. There appears to be practically no limit to the quantity of water procurable by Artesian wells, and by their means much of the region extending from Biskra as far south as Tugurt has been brought under cultivation and planted with date palms. The so-called Bahr Tahtani, or "Lower River," which flows beneath the channel of the Wady Righ, was reached at a depth of about 100 feet, and from this source the Tamerna oasis, north of Tugurt, now draws a perennial stream estimated at nearly 2400 gallons per minute. The Sidi Amrân oasis in the same district is fed by a still more copious well yielding 3000 gallons per minute, and these wells, which have an average depth of from 220 to 240 feet, will doubtless continue to give excellent returns if carried due south from Tugurt along the Igharghar valley, or south-west along the course of the Miya. In this way extensive zones of productive land may be recovered from the sandy wastes, in one direction as far as the Ahaggar plateau, in another all the way to the Twat oasis. This oasis, hitherto supposed to belong politically to Marocco, is now claimed by France, as part of her hinterland, though the best justification of her claim will certainly be the development of the hydraulic works, which promise to connect the disputed territory with Algeria

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by a continuous belt of fertile land. In these regions the engineer will be found a more potent, as well as a more beneficent, conjuror than the sword.

Physical Features of Tunisia

Although its main outlines are determined by the general character of the Atlas system, Tunisia presents some special characteristics distinguishing it geographically from the rest of the Atlas regions. This seat of the Carthaginian power, which at one time threatened to transform Europe itself into a western Phœnicia, must be regarded from the physical standpoint as a hilly peninsula projecting from the Algerian plateaux and escarpments north-eastwards in the direction of Sicily. The traveller making his way from La Calle on the Mediterranean, along the purely conventional frontier towards Algeria southwards to the Shott-el-Gharsa, would find himself at the end of his journey exactly at the same level as when he started. His line of route would follow the neck of the rugged promontory, whose true peninsular character would become evident by the slight subsidence of the Sahel or narrow strip of coast-land at present separating the Gulf of Cabes from the Tunisian Shotts. The territory stretching from this marshy depression southwards to the equally conventional Tripolitana frontier, is little more than an eastern extension of the Algerian Sahara, which here takes the name of El Erg, and which south of Cabes almost reaches the Mediterranean seaboard.

The peninsular region proper, that is, all the land enclosed south by the Shotts, north and east by the Mediterranean, forms a natural extension of the Algerian plateaux and escarpments, in which the border ranges

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are less elevated and far less continuous, being for the most part broken into isolated masses, and scarcely anywhere retaining the aspect of distinct chains. As shown by the course of the Mejerda and other running waters, the land has a general north-easterly tilt, its mean elevation diminishing in the same direction, although the highest summits, ranging from 4000 to 5000 feet, are distributed irregularly over the whole surface. Thus the Jebel Berberu (4900 feet) and the Ras Si Ali bu-Mussin (5000), culminating points of the whole region, rise towards the geographical centre of the peninsula, while other lofty summits, such as the Jebels Jugar and Zaghwân (4480), lie not in the west but in the extreme east, not far from the Gulf of Hammamet. Zaghwân is the historical eminence whence Carthage drew its supply of water, and which, during the Roman sway, gave the name of Zeugitana to the north-eastern seaboard. The persistence of such names throughout the historic period is a characteristic of Berber geographical nomenclature. Another district which, in quite recent times, has acquired some historic interest, is the short but elevated coast range occupying the north-west corner of Tunisia, and forming a continuation of the Algerian Tell. This group of rugged heights and fertile upland valleys has already received the name of the Khûmir (Khrûmir) mountains, from the Berber tribe of that name, whose frontier raids, real or fabricated for the purpose, led to the French occupation of Tunis in 1881.

Tunisia, like Algeria, has its central zone of arid steppes, though both relatively and absolutely far less extensive and almost entirely destitute of flooded saline depressions. Here they take the name of *hamâda*, like the stony wastes of the Sahara, the largest of these upland plateaux being the Sidi Yahia, north of Tebessa,

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and the Kessera, whose table-shaped summit contains a small sebkha.

Tunisian Seaboard: Islands and Inlets

Tunisia differs also from the rest of the Atlas region in the general aspect of its seaboard, which is far more diversified by open bays and even deep inlets penetrating for some distance into the interior. In this respect it is perhaps the most favoured region of the whole continent, and the facilities afforded, especially by the Syrtis Minor (Gulf of Cabes), for reaching the southern scarp of the Mauritanian plateaux, have certainly had a marked influence on its historic evolution. The navigation of the Syrtes was no doubt much dreaded by the Ancients owing to the dangerous winds and currents setting towards the treacherous quicksands which lined the shoaling beach. But the head of the Syrtis Minor could easily be reached by land from the great cities of the north; and it is noteworthy that the coastlands traversed by this route bore the name of *Emporiae*, being one of the chief granaries whence great quantities of corn were exported to Rome.

The Syrtis is guarded at its entrance by the only two considerable islands fringing its seaboard, Kerkenna (Cercinitis, Cercina) in the north, facing the present port of Sfakes, and Jeraba or Jerba (Girba, Meninx) in the south, nearly due east from the town of Cabes. Both appear to be fragments of the mainland detached by the corrosive action of the waves. The Ancients speak of Cercina as a single island; but it now forms a group of two, having probably been decomposed by the marine currents during the historic period. Jerba, which is separated from the mainland only by a narrow fordable

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passage, is supposed to be the land of the "Lotus-eaters" visited by Ulysses. At present it is a land of dates and olives, the latter tree attaining its greatest size in this island. The passage between Jerba and the opposite coast has a depth of scarcely more than two feet, and was formerly crossed by a noble Roman viaduct, the remains of which are still visible. Its memory is also preserved by two forts, the *Borj el-Kantara,* or "Castle of the Bridge," at the Jerba end, and the *Borj el-Bâb,* or "Castle of the Gate," standing on the old foundations in the very centre of the strait.

North of the Gulf of Cabes follow the Gulf of Hammamet, and round the headland of Cape Bon (Ras Addar) the Gulf of Tunis and Biserta Bay, waters which are intimately associated with the past glories and disasters of Carthage. The headland at Monastir enclosing Hammamet (*Sinus Neapolitanus*) on the south side, bears the very name of "Africa," projecting between the *Turris Hannibalis* and the ancient Phœnician city of Hadrumetum. It is now proposed to build a railway from the town of Hammamet across the promontory of Cape Bon (*Hermæum Promontorium*) to the city of Tunis, whence a short line already runs north-east to the ruins of Carthage under the headland of Cape Carthage. Thus are inseparably intermingled the old and the new in this northernmost corner of Africa, which has never ceased to be an active centre of human interest from before the dawn of history.

The old inlets of the Bay of Tunis, forming the double ports of Carthage, as well as the Cape of Tunis, have long ceased to be navigable, or even connected with the high sea. But in Biserta Bay, a little farther north-west, the French have discovered probably the safest and most commodious haven on the southern shores of the

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Mediterranean. Here stood the ancient city of *Hippo Zarytus*, said to be so named from its position on a system of artificial canals giving access from the bay to a navigable inner basin. This inner basin still exists, and forms a circular land-locked expanse, completely sheltered from the northern winds by the lofty headland

THE SITE OF CARTHAGE.

of the Ras el-Abiad, that is, the Candidum Promontorium or "White Cape" of the Ancients. The Lake of Biserta, as it is now called, has an area of about 60 square miles, with a depth varying from 10 or 12 feet round the margin to 40 and 50 in the central parts. It is connected farther inland with the Eskel basin, a shallow brackish lagoon, which is fed by the Wad-el-Tin, and

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which, during the floods, covers a space of nearly 90 square miles. But the long channel through which the Lake of Biserta communicates with the sea is too narrow at its northern entrance to admit large vessels: and until it is widened and deepened in some parts by the works now in progress, this spacious basin will not be available either as a naval station or harbour of refuge.

Rivers of the Atlas Regions

Both the climate and the general relief of the land are unfavourable to the development of large watercourses in Mauritania. Where the rainfall might suffice to nourish copious streams, their valleys are contracted by the proximity of the great ranges, and of the escarpments of the plateaux to the seaboard; where the slopes and plains might afford ample space for large fluvial systems, the rainfall is deficient. Hence not a single navigable stream reaches the coast, either on the Atlantic or on the Mediterranean slope; while all the rivers flowing towards the interior are necessarily mere wadys, dry for the greater part of the year, and even during the wet season running out in the low-lying sebkhas, or the sands of the desert.

In Tunis and Algeria the larger streams mostly have their rise on the central plateaux, so that in order to reach the Mediterranean they have to find an outlet through the passes and gorges of the Algerian middle and coast ranges. The consequence is that many, such as the Tunisian Mejerda and the Algerian Sheliff, flow for a considerable distance in channels parallel with the sea-coast. All these watercourses, though large and swollen during the winter rains, shrink to a small thread

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of water in summer, or even disappear altogether for a time.

The Mejerda, which has retained its name for thousands of years, being the Magarath of the Carthaginians, and the Bagradas of the Romans, is by far the most important of the Tunisian rivers. The Milleg, its furthest head-stream, descends from the southern slopes of the Jebel Guelma, near Tebessa, within the Algerian frontier, to its junction with the upper Mejerda proper, which also rises in Algeria, but on the northern slope of the same Jebel Guelma. Below the confluence the main stream flows through the winding gorges of the chalk hills at Mtarif, where it is crossed no less than nine times by the railway between Algiers and Tunis. After traversing the fertile corn and vine-growing plains below Mejez el-Bâb, the Mejerda comes within 12 miles of the capital, and then somewhat abruptly turns north-east to the lagoon of Bu-Shater (the ancient Utica), beyond which it falls through two mouths into the Porto Farina, a *bahira* or little marine inlet communicating with the sea through a narrow passage. In Carthaginian and Roman times this bahira extended 3 or 4 miles farther inland, right up to the walls of Utica; and at a still more remote epoch, the inner lagoon itself formed part of this Gulf of Utica, which has been gradually silted up by the abundant alluvial matter washed down by the Mejerda. Thus the chief waterway of Tunisia has in the course of ages almost completely cut itself off from the sea, for the narrow channel connecting the bahira with the Mediterranean, midway between Hippo and Carthage, is now accessible only to small fishing smacks. The Mejerda has a course of 300 miles, and drains an area of about 10,000 square miles, discharging from 30,000 to 35,000 cubic feet during the floods. At other times its

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bed contains very little water; and that, as in the time of Silius Italicus, is so turbid and brackish as to be scarcely potable.[1]

About 80,000 square miles of Algeria belongs to the Mediterranean slope, the chief river basins going westwards being the Seybouse near the Tunisian frontier, the Sheliff in the centre, and the Tafna, some of whose tributaries rise within the territory of Marocco. The Seybouse, whose main upper course, the Sherf, intermingles its head-waters with those of the Mejerda, flows in a northerly direction to the Gulf of Bona. Although accessible only to rowing boats, it has the most constant discharge of any river in Algeria. Like the Mejerda, it sends down a large quantity of sediment, which has gradually transformed to a fertile plain the marine inlet now traversed by its lower course. All that remains of this southern extension of the Gulf of Bona is the shallow Fetzara lagoon, which in Roman times still communicated with the coast through an emissary flowing east to the mouth of the Ubus (Lower Seybouse) at the Numidian city of Hippo Regius.

Although far from a copious stream, the Sheliff, that is, the Chinalaph of the Ancients, is the longest and most ramifying watercourse reaching the Mediterranean between Egypt and Marocco. Of its two chief upper branches, both dry for a great part of the year, the Wad Namus rises on the northern slopes of the Jebel Amur, and traverses the arid central plateaux for a distance of nearly 180 miles, while the Nahr Wassal joins its left bank after an easterly course of 110 miles from Tiaret through the Sersu plateau. Below the confluence the main stream, after piercing the northern scarp of the plateau through the wooded Boghar gorges, trends round

[1] *Turbidus arentes lento pede sulcat arenas Bagrada.*

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to the west, and maintains this direction parallel with the coast between the Warsenis and Dahra ranges for the rest of its course to the sea. From its farthest sources near Aflu in the heart of the Jebel Amur, to its mouth seven miles north of Mostaganem, the Sheliff has a total length of 420 miles, with a drainage area of several thousand square miles; yet it is at no time navigable for the smallest craft, and during the dry season shrinks to a mere rivulet, almost lost in its sandy bed. It serves, however, to fertilise large tracts, especially in the Orleansville district, where the Barrage and other recent irrigation works have brought many thousand acres of rich alluvial soil under cultivation.

In Marocco the drainage is partly to the Mediterranean through the Moluya and a few insignificant coast streams, partly to the desert through the Wady Gir, but mainly to the Atlantic through the Sebu, the Bu-Regreg, the Um er-Rebiah, the Tensift, Sûs, Asaka (Aksaba) and Draa. After the freshets caused by the melting of the snows in spring, most of these rivers decrease rapidly, losing volume as they approach the sea, and becoming fordable throughout the greater part of their lower course. This is partly due to the excessive evaporation and infiltration in their sandy beds, partly also to the large quantity of water drawn off for irrigation purposes, especially during their passage across the great treeless plain of Marocco. Hence it has been estimated that all the rivers of this region, taken collectively, have a total ocean discharge of less than 8000 cubic feet per second (Hooker and Ball). Their mouths are also closed by impassable sand-bars, so that even the Sebu, most copious of all, is useless for navigation. The Sebu, that is, the Subur of the Romans, is called by Pliny the "magnificent," and appears to have been, next to the Nile, the most

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voluminous river of North Africa known to the Ancients. Since that period it must have diminished greatly in size, for at present it flows from the Fez uplands to the coast at Mehedia above Rabat in a narrow channel from 100 to 350 yards wide, with an average depth of not more than 10 feet.

Like the Sebu, the Moluya (the Molokhat, Mulucha, and Malva of the Ancients) is an historical river, which was taken by the Romans as the frontier between the provinces of Mauritania Tingitana and Mauritania Cæsariensis, west and east. Later it still served as the boundary between the Barbary States of Fez and Algeria down to the time of the French occupation, when the political frontier was shifted eastwards so as to leave the whole basin of the Moluya to Marocco. The Moluya descends from the Aïashin highlands in a northerly course to the Mediterranean opposite the Zafrin (Zaffarine) islets, which serve to form at its mouth a natural harbour completely sheltered from the fury of the north-east winds.

The basin of the Draa, which may be taken as the extreme southern limit of Marocco towards the south and south-east, lies mainly beyond the Anti-Atlas within the limits of the Sahara. Hence, despite its vast extent, probably larger than all the other fluvial basins of Marocco combined, the Draa is essentially a wady, which seldom reaches the Atlantic, even during the melting of the Atlas snows. It is most copious in its upper course, where it is joined by the Dades, and where it pierces the Jebel Shagerûn (Saghreru) through a series of romantic gorges. Beyond this point it enters the desert, flowing first south and then west to the Debaia depression, where its sluggish current, exhausted by evaporation and irrigation works, expands into an extensive shallow lagoon

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PALMS ON THE TENSIFT.

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flooded only during the wet season. Beyond this marshy plain the Draa is at present a pure wady, which occasionally sends a little water to the coast opposite the Canary Islands. But like the Sebu, it appears to have been formerly a copious river, which flowed between wooded banks, frequented by numerous herds of elephants, and which discharged a perennial stream into a broad and deep estuary infested by crocodiles and hippopotami along its lower and middle course.

Thus the hydrographic systems of the Atlas regions, from the Mejerda to the Draa, everywhere bear witness to the process of desiccation, which has evidently been going on throughout the whole of North Africa since prehistoric times. The same phenomenon is even more eloquently attested by the present condition of the Wad Ghir, through which all the surface waters on the southern slopes of the Atlas uplands east of the Draa basin were formerly drained southwards in the direction of Sudan. But so little water is now sent down to the Ghir and its north-eastern branch, the Wad Saura, that recent explorers have failed to determine with certainty the true character of the vast fluvial system which at one time probably extended across the Sahara to the left bank of the Niger, but which south of Tafilelt and the Gourara Sebkha is now mainly obliterated by the sands of the desert. Thus the Wad Zis (Guers), which descends from the main divide of the Great Atlas, is completely absorbed by the irrigating rills of the Tafilelt oasis, so that it is no longer possible to determine its former course beyond that district. It may have trended south-west to the Draa, or in an independent channel south to the Niger, but more probably reached that river through the Messawara, as the Saharan section of the Ghir-Saura system has been named. But the course of

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the Messawara itself is somewhat conjectural, and much further exploration of this little-known region will be needed before it can be regarded with certainty as a northern affluent of the Niger.

Climate of the Atlas Regions

If in the intermittent character of its watercourses Mauritania seems to form part of the arid zone of Saharan and Arabian khors and wadys, in its climate it still belongs to that portion of South-Western Europe with which it was at one time physically connected. Except in some of the marshy depressions of the plateaux and lowlands, there is a complete absence of the distinctive African malarious fevers, which in the north-west scarcely anywhere range farther north than the Senegal and Niger basins. Hence, although intensely hot in summer (in the city of Marocco Thomson recorded "in the shade during the day from 100° to 112° F." in July), the climate, like that of the Iberian Peninsula, is very dry and salubrious, and the Atlas regions, taken as a whole, are well suited for European settlement. The indigenous Berber populations are of the same Caucasic stock as the European Aryans themselves, and have here been acclimatised for thousands of years. They were followed by other Caucasians, such as the Phœnicians, who before the dawn of history founded permanent colonies on the shores of Numidia, Zeugitana, and the Atlantic seaboard, probably as far south as the Canary Islands; the Romans, who established themselves without difficulty in every part of the Tell, and who attained the full average of human life, as shown by the ages recorded on the numerous monuments scattered over the land; the Northern Vandals, who are supposed by some ethnologists to have left traces of

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their presence in the blue eyes and florid complexion of many Berber tribes in the interior; lastly, in recent times, thriving French, Spanish, and other South European settlers, who increase and multiply sometimes more rapidly than in their native lands. Thus in Mauritania the question of European immigration, so far as affected by considerations of climate, has already been favourably solved by the experience of ages.

In Marocco observers have distinguished as many as five climatic zones, which are themselves subject to local modifications: (1) the seaboard with mild winters, and the summer heats tempered by marine breezes and by the rampart of the Great Atlas intercepting the hot winds from the desert. Here the trade winds prevail throughout the greater part of the year, with the usual result that the climate is remarkably equable, the temperature ranging scarcely more than 10° F. throughout the year, from 61° F. in February, the coldest month, at Mogador on the Atlantic coast, to 71° or 72° in August, the hottest month; (2) the first foothills and terraces along the northern flank of the main range, with cool summers due to their proximity to the surrounding marine waters, and cold snowy and frosty winters due to their altitude and the neighbourhood of the snow-capped crests of the Great Atlas; (3) the inland plains, and especially the Great Plain of Marocco, formerly a marine bed, encircled by lofty mountain ranges, and consequently subject to stifling summer heats and to torrential winter rains; (4) the higher terraces and summits of the Great and Anti-Atlas, which retain their snows for the greater part of the year, and have consequently an almost Alpine climate, at least on the slopes facing northwards; (5) the sandy and almost waterless Maroccan Sahara, where the

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oases are often flooded with heavy rains in winter, followed by intense summer heats.

The mean annual temperature is scarcely more than 64° F. on all the northern slopes, where copious rains begin to fall towards the end of October, and where a short spring is succeeded by an early and dry summer, setting in about March; a period of long drought ensues, lasting till the return of the winter rains. But in general the rainfall is more abundant and better distributed in Marocco than in Algeria. In the northern districts a little moisture is brought even by the east winds, which are usually very dry.

On the Algerian and Tunisian Sahel ("coastlands") there are strictly speaking only two seasons, that of the winter rains lasting from October to March, and the dry summer from April to September. The rainfall diminishes gradually from west to east along the south Mediterranean seaboard, being highest in Marocco, half encircled by marine waters, and lowest in Egypt, which meteorologically forms part of the Libyan and Arabian deserts. But in Algeria, owing to local causes, and especially to the westward expansion of the arid central steppe lands, this order is reversed at least on the coast, where the mean annual precipitation rises from 16 inches in the western city of Oran to 32 inches in Algiers, and 48 or 50 inches in Bona, near the Tunisian frontier. Here the mean temperature ranges from about 50° F. in winter to 75° F. in summer. But these heats are tempered on the coast, where a refreshing sea breeze sets inland during the summer months from about nine in the morning till the afternoon, when the south and south-west winds acquire the ascendant. These south winds, which are often accompanied by swarms of locusts, as in the year 1892, also at times assume the character of the Egyptian

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khamsin, spreading like a hot blast from a furnace over the whole land, and causing an instantaneous sense of lassitude in men and animals. Under the name of *sirocco* it crosses the Mediterranean to Sicily, Italy, and other regions, where its debilitating effects are felt in a mitigated form.

On the whole the climate both of Algeria and Tunis is healthy, always excepting the marshy districts on the coast and the low-lying oases in the south. Europeans arriving in winter may with ordinary precautions easily adapt themselves to the new environment, while certain parts of the Tell and coastlands may even be recommended to invalids. The city of Algiers, like some places on the Marocco coast, is now regarded as a health resort, suited especially for consumptive patients.

Flora, Fauna

In many respects the Atlas regions form part of the South European botanical zone. Here, as there, flourish the olive, laurel, orange, citron, almond, and fig-tree, the myrtle, pine, white poplar, aloe, oleander, cork, and other varieties of the oak. But the Mauritanian climate being warmer and the atmosphere softer than on the opposite shores of the Mediterranean, there is an intermingling of tropical and sub-tropical forms on the northern slopes of the plateaux, while the tropical elements largely predominate in the southern oases, where the date-palm acquires its greatest perfection, and takes the place of wheat and barley as the staple food of the inhabitants. Besides cereals, pulse, onions, asparagus, potatoes, carrots, and other vegetables are now largely cultivated throughout the Algerian Tell, and the exportation of market-garden produce, both in the fresh and dried state,

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already forms a chief source of wealth for the European settlers.

On the elevated plateaux of Algeria the dominant vegetation is herbaceous, and here vast tracts are covered with alfa-grass (*Stipa tenacissima*), vast quantities of which are exported, chiefly to England, and manufactured into paper. The surrounding escarpments are in many places covered with scrubby and prickly plants, such as the Barbary fig (*Cactus opuntia*), the aloe, dwarf palm (*Chamærops humilis*), the thorny cytisus, juniper, various species of agave and cactus, the lentisk (*Pistacia Lentiscus*), which yields the mastic resin of commerce.

Forest vegetation, properly so called, has largely disappeared from Tunis and Algeria, where the now treeless Jurjura uplands were formerly clothed with impenetrable woodlands. Some forest tracts, however, are still preserved in the Kabyle highlands, and generally in the hilly districts still inhabited by the Berbers. But wherever the Arabs have penetrated, most of the forests have been destroyed. The pastoral Bedouins seek in the spontaneous growths of the land only those plants that serve for the nutriment of their herds and flocks; everything else is neglected, or cleared, chiefly by fire, to make room for their grazing-grounds. Nevertheless 3,500,000 acres, or rather more than one-tenth of the land in the Algerian Tell, are still under timber. The peculiar charm of Algerian coast scenery noticed by all observers is mainly due to the intense green of the foliage, combined with a limpid atmosphere and cloudless skies. "In Algeria, emerald-green vegetation, as rich as that of Great Britain and Ireland, is to be seen, not under the grey veil of northern skies, but beneath a sub-tropical dome, whose azure seems 'glazed,' as the painters would say, with a glaze of liquid opals; and this green is not marred—indeed, it is only made

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more pronounced—by a sprinkling here and there of the dull foliage of the eucalyptus, introduced for climatological reasons from Australia. In fact, the blending of the beauties of one zone with the beauties of another is carried further still. From these tall hedgerows festooned with trailing flowers of every hue and perfume—hedgerows which seem to grow of a richer colour and breath as the evening approaches—from every rich alley of gorgeous leaves and glittering flowers, where cactus, woodbine, clematis, passion-flower, and wild rose are but a few of the garlands that mingle their colours until the pedestrian's senses become mingled too—come the familiar voices of the same goldfinches, linnets, and blackbirds that we associate with the dingles of England, who join the nightingale in a fugue of joy, welcoming the sunset as an expected wonder, just as in England they welcome it."[1]

In Marocco, where the uplands are still mainly held by indigenous Berber populations, the extent of land under timber is much greater. Here the slopes and terraces of the Great Atlas are clothed with a magnificent forest vegetation, which in some of the better-irrigated districts even spreads over the plains. Notwithstanding the memorable explorations of Hooker and Ball, this rich botanical region is still far from completely surveyed, though its more characteristic features have been determined with sufficient accuracy. In general it shows most affinity to the neighbouring Iberian flora, while rather more than one-tenth of the species are indigenous, with no known congeners elsewhere. In the northern districts the prevailing forms are the cork and evergreen oaks, the sanobar, or odoriferous fir (*Sappinus*), the carob (*Ceratonia siliqua*), the arbutus, cedar, acacia, and thuya (*Arbor vitæ*).

[1] *Athenæum*, 4th June 1892.

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Farther south follow the more tropical mimosa, eleodendron, various gummiferous plants and palms, including the date, which ranges as far north as Tangiers, without however yielding fruit. Amongst the more characteristic growths are a nopal, which nourishes the kermes, an insect of the cochineal family, yielding a scarlet dye of unrivalled brilliancy; the ironwood (*Argania Sideroxylon*), a hard and hardy tree met south of the river Tensift, where it flourishes in the most arid and barren districts, apparently needing no moisture, yet yielding an oleaginous berry eagerly devoured by many animals; lastly henna, from the leaves of which is obtained an orange dye used by the native and Jewish women for colouring their nails. The olive, walnut, almond, cotton, and vine grow wild, but, like tobacco and the sugar-cane, are neglected or carelessly cultivated by the indolent natives. Fennel, capers, colocynth, the jujube, mulberry, carob, and many other useful plants also grow spontaneously, and with the least attention durra (sorghum), barley, wheat, maize, rice, lentils, hemp, flax, saffron, sesame, millet, anis, and coriander yield excellent returns. In a word, Marocco, in the immense variety of its native flora, resembles the Cape botanical zone at the other extremity of the continent.

But in its fauna far more than its flora Mauritania belongs to the African world. Here still survive the lion, the panther, the bear, the wild boar, the jackal, and the hyena. The last two are very numerous, but are so useful as scavengers, or devourers of carrion, that in Algeria they are protected by local edicts. Among other larger wild animals, antelopes, gazelles, and the mouflon or wild sheep are the most characteristic. Side by side with these are the more serviceable domestic animals—the horse, mule, camel, horned cattle, sheep,

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and goats. Ichneumons, lizards, tortoises, and leeches are met in great numbers, the chameleon less frequently. Among the birds are the eagle, falcon, and vulture, the thrush, the swallow, which helps to diminish the plague of locusts, and the starling, flocks of which at some periods of the year are so large as to obscure the sun in passing. The cuckoo spends the winter in North Africa; pigeons, partridges, and quails are plentiful, as are also the heron, pelican, and swan, besides ducks and grebe, the plumage of the latter forming a valuable article of commerce. The stork, which arrives in the Algerian Tell about the middle of January and leaves in the beginning of August, builds on the terraces of the houses, the belfries of the churches, or the minarets of the mosques, and like the Egyptian ibis is everywhere protected, and almost reverenced, as the great destroyer of locusts, frogs, lizards, and snakes.

Both in Marocco and Algeria locusts are still the terror of the husbandman. There are several species, the most dreaded being the red dry variety which comes from the desert in May, and deposits myriads of eggs hatched out in June and July. At times they swarm in such multitudes that the combined efforts of the peasants, the civilians, and military, aided by flocks of locust-eating birds, seem scarcely to diminish their numbers. But such visitations are rare, and in ordinary years they are kept down by the stork, the "farmer's providence." On the Setif plateau the curious spectacle has been seen of many thousand storks drawn up in line of battle and attacking a living wall of locusts (Reclus).

Inhabitants of the Atlas Regions

Everywhere in North Africa, restricting this expression to the region between Sudan and the Mediterranean, the

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indigenous population belongs to the Hamitic division of the Caucasic race. But it is now placed beyond reasonable doubt that the Hamites themselves were preceded, first by men of the Stone Ages, traces of whose presence have been found in the Kufra oases and even in the Nile valley, and later by peoples akin to the Iberians, Silurians, and other primitive populations of South and West Europe. The southern shores of the Mediterranean, from Tripolitana to Marocco, are strewn with numerous monolithic monuments, which are analogous to the cromlechs, dolmens, and menhirs of Andalusia, Gaul, and Britain, and which it is reasonable to suppose were erected by the same prehistoric race.[1] In Europe this primitive race was swept away or absorbed by the more recent Keltic and other intruders of Aryan speech; in the Atlas regions the monolith-builders were similarly merged in the more recent Berber intruders, of Hamitic speech. Later still the Berbers were in their turn encroached upon by the remotely allied Phœnician Semites, who founded Carthage and numerous other settlements along the seaboard, but who nowhere penetrated very far inland. The Phœnicians were followed by the Romans, who established themselves especially in the Algerian Tell, and in the province of "Africa" (Tunisia), a name which under their dominion was gradually extended to the whole continent. But neither the Romans, nor their successors the Teutonic Vandals,

[1] These remains occur in great variety of form, and in vast numbers, as many as ten thousand, chiefly of the menhir type, having been enumerated in the Mejana steppe alone. All kinds of megalithic structures are found—cromlechs or circles of stones like Stonehenge, cairns, underground cells excavated in the solid rock, barrows topped with huge slabs, cupped stones, mounds in the form of step pyramids, sacrificial altars, even porticoes or gateways like those of the Jebel Msid in Tripolitana, formed by two square posts, 10 feet high, standing on a common pedestal and supporting a huge superimposed block.

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seriously modified the ethnical conditions, although the fair complexions and blue eyes of many Berber tribes in the Aures uplands and other parts of Mauritania have by some writers been attributed to contact with these invaders.

Berbers and Moors

Thus the Mauritanian regions continued to be practically an exclusively Berber domain until the arrival of the Semitic Arabs, who began to penetrate westwards as early as the first and second centuries of the new era. Then came the Moslem irruption of the seventh century, followed four hundred years later by the great Hilali immigration, resulting in the assimilation of the Berber populations to the Arabs in religion, speech, and usages, as far west as Tunis, except in a few isolated places, such as the Siwa oasis and the island Jerba, where the Tamashek (Berber) language is still spoken. In the Atlas regions also, the Arabs almost everywhere assumed the political and social ascendency in the large centres of population, driving the Berbers to the uplands, and occupying the coastlands, and especially the towns along the seaboard from Tunis to Mogador. But in many places the two races became amalgamated, and the process of assimilation, already noticed by Ibn Khaldun in the fourteenth century, has often resulted in the complete obliteration of their distinctive physical differences. These differences were at no time very great, for the Semites and Hamites are not only themselves two divisions of the Caucasic stock, but they also appear to be offshoots from a common Hamito-Semitic branch of that stock differentiated in comparatively recent times. Their common origin is still revealed both in their more salient physical traits and in the fundamental unity of

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their respective languages. Fifty years ago Professor F. W. Newman, the "patriarch of Berber philology," proclaimed this doctrine, and the tendency of recent investigation has been to confirm his views regarding the substantial unity of the Semitic and Hamitic races and languages.

Nevertheless the two races may still be readily dis-

BERBER VILLAGE.

tinguished wherever interminglings have not taken place. The Berbers, who probably represent the fair Libyan people depicted under the name of Tamahu (Tamhu) on the early Egyptian monuments,[1] still hold their ground on

[1] This word still exists under various dialectic forms, such as Tamahâg, Tamahûg, Tamashek, Tamazigt, applied collectively to the Tuareg and Berber languages of the Sahara and Mauritania. The form *T-amazig-t*, when stripped of its feminine prefix and postfix *t*, is seen to be identical with the *Maxyes* of Herodotus, which still survives in the Amzigh (Imazighen) or "Freemen," the most general name of the Mauritanian Berbers.

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most of the Mauritanian uplands, and at least three-fourths of the Atlas populations, or about 8,000,000 altogether, may claim to be the direct descendants of the oldest white race of which there is any historical record.

Many are scarcely darker than the average South European, while some are as fair as the inhabitants of North France. Compared with the European and the Arab, the Berber presents differences of features and expressions; but the type is everywhere substantially the same. The face is perhaps less elongated than that of the Arab, the nose is shorter and more depressed at the root, the cheek and jaw bones larger. Although the eyes and hair are usually black, grey and even blue eyes and light-coloured hair are by no means rare. "Many of the Kabyles have a fair complexion and light hair, resembling the peasantry of North Europe rather than the inhabitants of Africa."[1] These traits have often been attributed to contact with the Vandals or the Roman colonists; but the *Periplus* of Scylax already mentions a people of fair complexion on the shores of the Lesser Syrtis, and the Tamahu are figured on the Egyptian temples (1300-1500 B.C.), with a rosy skin, blue eyes, and red or flaxen hair. Even amongst the Tuaregs of the Sahara, light hair is common enough, and is regarded by the women as a mark of beauty. Another racial characteristic is the great disparity in the size of the sexes, the men being often almost abnormally larger than the women.

Morally the Berber resembles the Arab in his sense of personal dignity and love of freedom, but differs from him in his greater attachment to the home, his laborious habits, more settled life and consequent preference for husbandry over pastoral pursuits. He is also of a more kindly disposition, less fanatical, and on the whole, per-

[1] M. Shaler, quoted by Vivien de Saint-Martin.

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haps, more intellectual. While most of the Arabs were still rude, untutored nomads, many of the Numidian and Mauritanian ancestors of the modern Berbers lived in settled agricultural and pastoral communities, and already possessed a knowledge of letters derived from their Carthaginian neighbours. The Tafinagh [1] writing system, first made known by Dr. Oudney in 1822, occurs in numerous rock inscriptions scattered over North Africa, and consists of thirty-five letters closely resembling the Phœnician forms found on Carthaginian monuments. But this system has long been obsolete in Mauritania, where educated Berbers now use the Arabic alphabet, which is not well suited for representing the sounds of the Hamitic languages.

In ancient times the most general name of the Atlas populations appears to have been *Mahur*, that is "Highlanders," whence the Roman *Mauri*, and *Mauri-tania*, "Mauri-land." But in the course of ages this word Mauri has undergone strange vicissitudes. Under the various forms, Moro, Morisco, Moor, it came to be applied in a vague way to all the natives of North Africa, and then more particularly to the Negroes or blacks (compare "Blackamoor"), who were popularly supposed to be the exclusive inhabitants of the African continent. Thus Othello, the hero of the Venetian legend, was necessarily assumed to be black, because he was a Moro, and Estevan, one of the pioneer explorers of New Mexico in the sixteenth century, is described in contemporary documents as a "negro," [2] although a native of Atimur in Marocco, and therefore far more probably an Arab or a Berber. According to present usage the term Moor has been

[1] That is: Ta Finagh, "The Phœnician" (Punic or Carthaginian).

[2] "Estaven, le negre"; "Estebanillo negro," etc.; expressions which probably mean nothing more than "Stephen the Moor."

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transferred from the Negro, not to the Berbers, to whom it originally belonged, but to the Arabs, or more particularly to the mixed Arabo-Berber urban populations of the Atlas regions. It is noteworthy that the same usage has extended to the far East, where the mixed Arab communities of the Malabar coast and Ceylon are also called Moors. Hence at present in North Africa the Moors, with whom are included the "Andalus," that is, the Andalusian Moriscos expelled from Spain in the fifteenth century, represent the more cultured and politically dominant element, residing in towns, and generally assimilated in speech, religion, and national feeling to the Arab invaders of the seventh and eleventh centuries. They have entirely abandoned the tribal organisation, and live in large social communities at various phases of civilisation, from the rude and barbaric peoples of Fez and Marakesh to the more courteous and refined citizens of Algiers, Constantine, and Tunis.

The Imazighen or Atlas Berbers form three great geographical and historical divisions—the *Akbaïl* or *Kabyles*, that is "Tribesmen," in North Algeria and North Marocco, as far south as about the latitude of Fez; the *Shellala* or *Shulluhs* (*Shluhs*) of the upland Atlas valleys; and the *Haratin*, or "Black" Berbers of the southern slopes, so called on account of their darker complexion, due partly to the warmer climate and partly to a strain of Negro blood. All, however, are recognised as true Imazighen, and like the Arab nomads all are still in the tribal state. As many as a thousand or eleven hundred clans or septs have been enumerated in Algeria alone, and these minute family groups are still maintained within the larger national confederations, such as the Shawïas, Zenagas, and Mzabs of Algeria, some of whom form powerful social and political organisations,

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with branches ramifying over the whole of Mauritania, and extending across the Sahara to the Niger and Senegal rivers. The Senegal, which may be regarded as the ethnological parting line between the Hamitic and Negro races in North-West Africa, is said to take its name from the widespread Zenaga (Sanheja) family, from which the Sanheja river of Algeria is certainly named. The proper patronymic of the Berber tribes is *Aït*, as in Aït-Iraten, Aït-Sedrat, corresponding to the Arab *Ibn*, *Ben*, *Beni*, "son," and *Aulâd*, *Ulâd*, *Uled*, "progeny"; but from long association with their Semitic neighbours the Berbers have here and there adopted the Arab forms, and the Ulâd Abdi of the Aures uplands, and the Beni-Hassan of north-west Marocco, as well as the great Beni Mzab nation of the Algerian Sahara, are true Imazighen, despite their Arabic patronymics.[1] The members of the several tribal groups are assumed to be all connected by the ties of blood; hence these groups may be regarded as so many large families, which are continually breaking into fragments, and again cohering, according to their temporary interests, political, religious, and other influences.

In Algeria all serious opposition to French rule ceased after the reduction of the Beni Mzabs in 1850. In Tunisia also, where most of the Berber tribes have adopted the Arabic language, no resistance was offered to the French protectorate even by the Khumirs, whose border raids had been put forward as the ostensible pretext for the occupation of that country. But the relations are very different in Marocco, where the hill tribes have never been thoroughly subdued. Even the Riff people of the north coast live in a state of chronic

[1] So many of the English settlers in Ireland, *Hiberniores ipsis Hibernicis*, substituted the Gadhælic *Mac* for the Saxon *Son* or Norman *Fitz*; hence the anomalous *MacWilliam* for *Williamson* or *Fitzwilliam*.

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revolt against the Sultan's authority, and in 1892 Tangier itself was threatened by the Anghera (Anjera) tribe, who occupy the extreme north-west corner of that State. When recently called upon to pay the taxes, the powerful Beni M'Sara, whose territory lies farther south in the Wazan district, replied, "Tell that lord of yours, that if he wants our taxes he can come for them, and we will make sure he gets them, in silver coins too, for we will roll each peseta into a bullet, and deliver it to him ourselves." Most of these tribes in the north-west, such as the Anghera, Al Fahs, Beni M'Sor, Beni Dir, Wad Dras, and Ghruneh, now speak Arabic and pass for Arabs, claiming even to be Shorfa.[1] But the type is clearly Berber, and these hillmen are described by Walter B. Harris as "for the most part fair, with blue eyes and yellow beards, perfectly built, and exceedingly handsome men."[2]

Amongst the Berbers the women enjoy a much higher social standing than do their Arab sisters, though the statements often made by travellers that the latter are mere drudges, rest altogether on superficial observation. Monogamy is everywhere the rule amongst both races, and instances of wealthy Arabs keeping up a harem are extremely rare, while no Berber, whatever his social position, ever marries more than one wife. Matrimonial alliances are generally arranged by the parents or relatives on both sides, though love matches are far from rare. This is due to the fact that all women and girls go about unveiled, giving the wooer ample opportunity of becoming personally acquainted with his future spouse. In case of separation, if the divorce is sought by the wife, the money must be returned that the husband may have paid

[1] *Sherif*, plural *Shorfa*, is the title assumed by all Arabs who are supposed to be descendants of the Prophet.

[2] *Proceedings of the Royal Geographical Society*, 1889, p. 490.

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his father-in-law for the wedding outfit, but not when she is put away without reason.

Although the Berbers are Mohammedans, some of the precepts of the Koran are neglected; circumcision is not regarded as indispensable, especially by many of the tribes in Marocco, and here also the wild boar is eaten by the Riff people. All Berbers reckon by solar months, for which they have retained the names derived from the early Christians. This method of calculating time has even been adopted by the Arabs dwelling south of the Atlas.

Domestic life is quite patriarchal, and extraordinary importance is attached to the various degrees of kinship in the family and the clan. Neither the Arabs nor the Berbers, however, possess special family names in the modern European sense, a common name being borne only by the whole sept or tribe. To this generic name every one adds for himself that of his father, often even that of his grandfather or great-grandfather. Amongst the Arabs both male and female names are taken almost exclusively from the Bible or the Koran; but the Berbers still continue to use old heathen names, such as Buko, Rokho, Atta, though of course Arabic names occur most frequently.

The children receive no particular education, though every *char* (village built of houses), every *dwar* (tent village), and every *ksor* (village in an oasis) has its *Thaleb* or *Fakí*, who conducts the school work. Instruction, however, is mainly restricted to reading and writing, and learning by heart those chapters of the Koran which are required for the religious services.

Tobacco and hashish (the tops of the hemp plant) are universally used, but in moderation, and opium smoking is little practised beyond the towns and the Twat oasis. But all the more universal is the use of wine, especially

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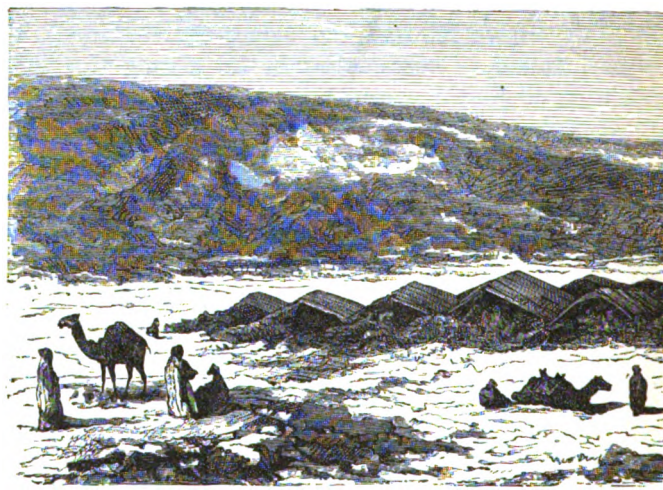
in Marocco, where the vine flourishes vigorously. Rohlfs draws a graphic picture of the excesses that prevail during the vintage season, when wine is most freely indulged in. Altogether the inhabitants of Marocco are distinguished by a lack of noble sentiments and a degree of coarseness amongst the Moors and most of the tribes



MAROCCO DWARS.

on the northern slopes of the Atlas, sinking to downright brutality.

De Amicis gives us an interesting account of the Maroccan dwars or tent villages. They generally comprise ten, fifteen, or at most twenty families, as a rule connected by the ties of kindred, but each with its own tent. These tents are disposed in two parallel rows [1] at

[1] The arrangement appears to have been originally rather in concentric circles than in rows, as indicated by the Arabic word *dwâr* itself, which is the plural form of *daûr*, a ring or circle. It may be mentioned that amongst the Arab nomads of the Atlas regions the dwar forms the unit

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intervals of about thirty paces, in such a way as to form in the centre a square open on both sides. They all closely resemble each other, consisting of a large piece of black or chocolate-coloured stuff, woven either of camels' hair or of the dwarf-palm fibre, and supported by two strong stakes, with a cross-piece to form the roof. Their shape still closely resembles that of the dwellings of Jugurtha's Numidians, compared by Sallust to a boat turned upside down. In winter they are pegged quite down to the ground to keep out wind and rain; but in summer a tolerably wide open space is left to admit the air, in which case there is an outer enclosure formed of rushes, reeds, and bramble bushes. None of them exceed 8 feet in height or 33 feet in length. A partition of rushes divides the interior into two chambers, in one of which sleep the parents, in the other the children and the rest of the household. The furniture is of the simplest, but usually includes a round Venetian mirror, a reed tripod for washing, two heavy stones for grinding the corn, and a primitive spinning-wheel. A brood hen is generally enthroned in a corner all to herself.

or starting-point of the social organisation, constituting, not an administrative division, but simply a group of families. Several dwars form a *ferka* or "fraction" ruled by a sheikh, and several ferkas constitute the *ârsh* or tribe, whose head is the *kaïd*, "chief" or "governor," not to be confused with the *qâdhi*, "judge," "magistrate." Above the kaïd is the great kaïd or *agha*, and in Algeria the *great kaïdât* or *aghadât* forms in some districts a circumscription under a *bash-agha* ("head agha"), or *khalifa*. Thus the political organisation is essentially patriarchal and monarchical, so to say, the authority being always centred in a chief or head, at least in all groups larger than the dwar. On the other hand, it is essentially democratic amongst the Berbers, with whom the authority resides rather in the general assembly of the village or commune (*taddert* or *tufik*). Several villages form the *kabîl*, or tribe, whose *amîn*, or head, is always appointed by election. Several tribes form a *thakebilt*, or confederacy, such as that of the *Zwawas* (hence the French *Zouave*), which has no recognised supreme head.

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Knives and forks are still unknown luxuries, nor is even the spoon yet universally adopted. The men eat apart from the rest of the family. The general drink is water, and flesh is eaten only on special occasions, and even then but sparingly. But hospitality is almost everywhere observed throughout the Atlas regions without ostentation or ceremony, but rather as a matter of course. The chief exception is the treacherous Riff people, who were formerly much-dreaded corsairs, and who still bear the reputation of being "perfectly untrustworthy and therefore most unlike the Arab mountain tribes, who, when once they have said 'Mahababec' (you are welcome), will die in one's defence" (W. B. Harris, *loc. cit.*) In most dwars, and in almost every char, there are some houses or tents called *Dar* and *Jitûn ed-Diaf*, set apart for the exclusive use of travellers, who are, of course, freely "interviewed" by their hosts, the natives knowing no reserve in this respect.

In Marocco there is no aristocracy in our sense of the word. The most distinguished classes are the already mentioned *Shorfa* (*Shurfa*, *Shirfa*), who all claim to be descendants of Mohammed, though often not even Arabs at all. They are entitled to the addition of *Sidi* or *Muley* to their names, terms answering to our Mr. or Esquire. The present Maroccan dynasty belongs to this class, whence the current expression "His Sherifian Majesty." Yet Sidi Mohammed, father of the now reigning Muley Hassan, was almost a full-blood Negro, incapable of clearly articulating the Maghrebi, or western dialect of Arabic, spoken in Mauritania. The rank of Sherif is not inherited through the female line, but whatever be the position of a Sherif's wife, the issue are all Shorfa. This is true even of Christians and Jewesses, who may retain their religion, and of Negresses, who are

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obliged to embrace Islamism. The Shorfa are everywhere a privileged class, who in Algeria and Tunisia formerly enjoyed the right, which they still exercise in Marocco, of insulting others with impunity. A retort would be an offence against the person of the Prophet, and is accordingly regarded as an outrage against religion. Even the so-called Marabouts or "Saints" and their issue are in Marocco held in much less consideration than the Shorfa.

The Jews, Negroes, and Dwarfs

Besides the French, Spanish, Maltese, and other comparatively recent intruders, who are chiefly confined to Algeria and Tunisia, the most numerous foreign elements are the Jews and the Negroes. The Jews, who in Marocco are still confined in the towns to the mellah, or special Jewish quarter, have either migrated to the Atlas regions direct from Palestine and Egypt, or else are descended, like many of the Moors themselves, from those banished from the Iberian Peninsula in the fourteenth and fifteenth centuries (1381, 1492, 1496). The latter still generally speak Spanish, at least in Marocco, while the language of the former is either Arabic or Berber according to the districts in which they are settled. As in Europe, they gravitate chiefly towards the large towns, numbering altogether about 200,000, of whom one-half are attributed to Marocco, the rest in nearly equal proportions to Algeria and Tunis. In their dress and some other respects the Tunisian Jews differ greatly from those of Algeria and Marocco. The plumpness especially of the women, the violently contrasted colours of their garments, the assurance based on tradition that the ancient Jews wore exactly the same attire, all combine to produce the greatest astonishment in strangers at first

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sight of this motley costume. In point of morals also they occupy even a lower position than the Franks, who are far from models of virtue and honesty. The Jews, both of Tunis and Algeria, have, however, made considerable progress in social and material respects, especially since they have been permitted to reside beyond the limits of the *hara* (Ghetto) to which they were formerly confined.

Since the French occupation, followed by the total suppression of the slave trade, the black element is disappearing from the eastern parts of Mauritania. But Negroes still continue to be imported into Marocco from various parts of Sudan. According to Rohlfs the Hausa, Songhay, and Bambara tribes are here most numerously represented. Extensive interminglings have taken place both with the Moors and Berbers, as is evident from the distinct Negro strain observed, especially amongst the rural communities south of the Great Atlas range. There are in Marocco altogether probably about 50,000 full-blood Negroes, and this element of the population continues to be constantly renewed by fresh importations from Central Africa.

Recent visitors to Marocco have reported the existence of certain dwarfish communities in the more inaccessible parts of the Atlas uplands, and more particularly in the Draa basin on the verge of the desert. Mr. Walter H. Harris, a member of Sir Euan Smith's mission to Fez, was informed by a Sherif from Tafilelt that dwarf tribes were "very numerous" in this region; but the only European who claims to have actually seen any of them is the German trader, E. G. Dönnenberg of Tangier, who states that in 1891 he saw in Marakesh "from half a dozen to a dozen dwarfs, one of whom was accompanied by a dwarf wife. They were about four feet high, robust

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and well made, and certainly not Moors or Berbers whose growth had been stunted by rickets, as they differed altogether from the other inhabitants of Marocco in physical appearance." This is all the information at present available on a subject which has given rise to much controversy amongst European ethnologists.

History and Present Condition of Marocco—The Slave Trade

After the Roman conquest of Carthaginian Africa, the regions corresponding to the present Tunisia and East Algeria were organised as the two administrative provinces of Africa and Numidia, while the fiercer and more indomitable tribes of Mauritania long continued to be ruled by their own independent chiefs. Here reigned the historical king Bocchus, who purchased the protection of the Romans by betraying his son-in-law Jugurtha into the hands of Sylla in the year 106 B.C. The nominal autonomy thus obtained lasted for about half a century, that is, down to the expedition of Suetonius Paulinus across the Great Atlas in 42 A.D., after which the whole of Maghreb el-Aksa ("The Far West"), as the Arabs call it, was incorporated in the Roman Empire and divided into the two provinces of Mauritania Cæsariensis (West Algeria) and Mauritania Tingitana (Marocco). Thenceforth the Atlas regions continued to share the destinies of the empire, passing from the Romans to the Vandals towards the close of the fifth century, and from them to the Byzantine Greeks in the reign of Justinian. Then followed the first great Arab invasion of the seventh century, by which European and Christian were replaced by Semitic and Moslem influences.

But the Arab intruders were divided into too many

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turbulent and rival factions to attempt any serious consolidation of their power in Mauritania till the latter part of the eighth century, when Edris, expelled with other descendants of Ali from Arabia, acquired such an ascendency over both Arabs and Berbers of the Great Atlas that he was proclaimed sovereign of Maghreb under the half-religious half-political title of Imâm. In 808 the seat of government was removed from Tangier to the new city of Fez, where the *Edrisite* dynasty maintained itself for nearly 200 years. It was overthrown in 994 by the powerful Berber nation of the Zenatas, whose capital was Ujda on the Algerian frontier. The *Zenatides* were followed in 1074 by the Morabethûn, another Berber nation known in history as the *Almoravides*.

The accession of this dynasty (1074-1118) was a memorable event in the checkered records of Maghreb. It brought about a shifting of the political centre of gravity from the north to the south, for the Morabethûn belonged to the southern branch of the Berber race, comprising the Lemtunas and Ghezzulas or Jedalas, that is, the ancient Gætulians, whose domain extends across the Western Sahara to Sudan, but who are now better known by their Arabic name Tawárik (Tuareg). Their capital was Marâkesh (founded 1062), which has ever since alternated with Fez as the seat of government, and from which Maghreb itself takes its present name of Marocco or Morocco. Although fixing their residence in the south, the Almoravides extended their sway over the whole of Mauritania, and even beyond the Mediterranean over the south of Spain. After the sanguinary battle of Zalaca (1086) they reigned simultaneously in Marakash and Cordova under the title of Amîr el-Mûmenin ("Prince of the Believers"), and this is still the official title of the Maroccan sultans. A sort of religious revival brought

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about the rise of the *Almohades* dynasty, which was founded by the reformer El-Mehdi (the *Mahdi* or "Guided"), and which ruled with great splendour from 1118 to 1248 over half of Spain and most of Maghreb, or simply Al Gharb ("The West"), as Mauritania is now commonly designated. The Almohades, combining worldly wisdom with religious fervour, built the stronghold of Gibraltar,[1] embellished and strengthened Seville, erected the famous Kasbah at Marakesh, and carried out other great works at the old capitals of Fez and Ujda, at Rabat, Mazemma, and elsewhere. They were replaced by the dynasty of the *Merinides*, set up by the Arab-speaking Berber nation of the Beni-Merin, who transferred their residence to Fez (New Fez rebuilt about 1290 near the old city), and who reigned from 1248 to 1480. Then the supreme power passed successively to the *Beni-Wâtas* (1480-1550), and to the *Darâwides* (1550-1648), immediate precursors of the now ruling *Filâlides* or *Alides*. Under the Beni-Wâtas the Christian States of Spain and Portugal were weakened, and Marocco correspondingly strengthened by the expulsion of the brave and vigorous Moriscos (Arabo-Berber Moors) and the learned and enlightened Jews, hundreds of thousands of whom found new homes amongst the kindred peoples south of the Straits of Gibraltar. The result of this unwise policy was seen on the sanguinary field of Ksar el-Kebir (1578), which, by the total destruction of the

[1] That is, Jebel Tarik, or "Tarik's Hill," so named in memory of the warrior who headed the hosts of Hamites and Semites that overran and conquered most of the Iberian Peninsula in the eighth century. These are generally spoken of as "Arabs," but the majority were probably Berbers, and Tarik himself was a Nefusi Berber of the Jebel Nefusa in Tripolitana. So also was Tarifa, who was the first to cross the Strait of Gibraltar in 1709 at the head of 400 Berbers and 100 Arabs. The great invasion followed the next year under Tarik who is often confused with Tarifa.

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Portuguese army under King Sebastian, avenged the fall of Grenada, and put an end to the attempts of the Christian powers to plant the cross above the crescent on the North African seaboard. After this epoch-making victory, the "Prince of Believers" carried his triumphant arms across the Sahara to the banks of the Niger, overthrowing the ancient empire of the Songhay Negroes and occupying their capital Timbuktu. Spain alone still retained a few points on the north coast of Marocco, the so-called Presidios ("Garrisons") of Ceuta, Tetuan, Peñon de Velez, Alhucemas, Nekor, Melilla, and the neighbouring Jafarîn (Zafferine) islets. Most of these places she still holds and jealously guards, as so many pledges of her future political ascendency in Mauritania.

The civil strife and dynastic rivalries that prevailed under the feeble Darâwides prepared the way for the accession of Moulai Akhmet, founder of the present dynasty, who had come originally from Hejaz in Arabia, and who claimed to be a Sherîf, twenty-first in lineal descent from Ali, Mohammed's nephew and son-in-law. He settled in the Tafilalet (Tafilelt) oasis, where he was proclaimed Sultan about the year 1620. From this circumstance the present dynasty of the *Alides*, established in 1648 by his son Moulai Reshîd in Marakesh, is known also as that of the *Filâlides*. It was Moulai Reshid's successor, Moulai Ismaïl, that resumed possession of Larash and Tangier (which had been occupied by the English), and gave to the Maroccan empire its present limits. During Ismaïl's long reign of fifty-five years (1672-1727) the State rose to an unwonted pitch of splendour and prosperity; but after his death there ensued a series of disastrous civil and tribal wars, followed by a chronic state of anarchy and misrule, which

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still persists, and which has brought the Sultanate of Marocco to the very verge of dissolution. "Within sight of an English port, and within hail of English ships as they pass by to our empire in the East, there is a land where the ways of life are the same to-day as they were a thousand years ago, a land wherein government is oppression, wherein law is tyranny, wherein justice is bought and sold, wherein it is a terror to be rich and a danger to be poor, wherein man may still be the slave of man and woman is no more than a creature of lust—a reproach to Europe, a disgrace to the century, an outrage on humanity, a blight on religion! That land is Marocco. . . . It is a tale that is every day repeated, a voice of suffering going up hourly to the Powers of the world, calling on them to forget the secret hopes and petty jealousies whereof Marocco is a cause, to think no more of any scramble for territory when the fated day of that doomed land is come, and only to look to it and see that he who fills the throne of Abderrahman shall be the last to sit there" (Hall Caine).

In fact, dismemberment has hitherto been mainly prevented by the mutually neutralising action of the three rival Powers, England, France, and Spain, each aiming at the supremacy, or watching for the lion's share of the spoils when the effete native rule has been finally set aside. A lurid light was thrown on the internal state of the country, as well as on the conflicting relations of the interested foreign States with the Maroccan Government, by certain incidents connected with the mission of Sir Charles Euan Smith, who was sent by England in 1892 to negotiate a treaty of commerce on behalf, not of Great Britain alone, but of the whole civilised world. It was made sufficiently evident that the temporary failure of that mission was mainly due to

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French intrigues, while the offer of £20,000 to the English envoy to sign a mutilated treaty showed the extent to which bribery and corruption have invaded every branch of the administration.

On this occasion some information was also gathered regarding the traffic in slaves which is still carried on between Marocco and Sudan. In a communication received by the British and Foreign Anti-Slavery Society from a resident in Marakesh, mention is made of a caravan arriving in March 1892 from Timbuktu with no less than 4000 slaves, chiefly young boys and girls, whose price ranged from £10 to £14 a head. As many as 800 were sold in the Marakesh market in ten days to buyers from Riff, Tafilelt, and other remote parts of the empire. "As you are aware," adds the writer, "there are no banks in Marocco; every one who has money that he wishes to take care of buries it in the ground. It is necessary that no one should know where this treasure lies hidden. Therefore, incredible as it may seem, old and worn-out slaves, male and female, are said to be employed to dig a large hole to hide the wealth of their master; and the unfortunate Negro may almost be said to dig his own grave, as he never sees the light of another sun! A cup of tea, coffee, or some native drink contains the deadly poison so often administered in Marocco, where, it must be remembered, coroners' inquests are unknown."

History of Algeria and Tunis

Under the Roman administration of nearly six centuries (147 B.C.-430 A.D.) the eastern parts of the Atlas regions, to which the name of Africa was gradually extended from the Carthaginian province of "Africa"

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(Tunisia), rose to a pitch of unexampled prosperity.[1] The province itself, as well as the northern slopes of Numidia (the Algerian Tell and central plateaux), became largely assimilated in political institutions, social usages, language, and even religion, to the rest of the empire; throughout the agricultural districts the settled populations, whether of Berber or Phœnician origin, had frankly accepted the culture of their Roman masters, the widespread influence of which is still attested by the remains of aqueducts, temples, baths, amphitheatres, and other magnificent monuments strewn over the whole region from Carthage, over against Sicily, and from Lambesa, under the shadow of Mount Aurasius, to Volubilis, almost within sight of the Atlantic Ocean. Numerous civil and military colonies were founded in every province; great cities, such as Thysdrus, with its stupendous amphitheatre, rising still like a mountain of stones above the surrounding desolation, and Lambesa, with its 40,000 free citizens, planted in the very heart of the highlands, sprang up in regions now roamed only by a few Arab or Berber nomads. Despite military conscriptions, warlike expeditions, and still more disastrous religious persecutions of Orthodox, Donatist, Arian, Pelagian, and other sectaries, the population continued to increase even under the Vandal misrule of over a century (430-533 A.D.). The historian Procopius, who accompanied the expedition

[1] "The long and narrow tract of the African coast was filled with frequent monuments of Roman art and magnificence, and the respective degrees of improvement might be accurately measured by the distance from Carthage and the Mediterranean. A simple reflection will impress every thinking mind with the clearest idea of fertility and cultivation: the country was extremely populous; the inhabitants reserved a liberal subsistence for their own use; and the annual exportation, particularly of wheat, was so regular and plentiful that Africa deserved the name of the common granary of Rome and of mankind" (Gibbon, ii. 33).

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of Belisarius which transferred the sovereignty of Africa from Gelimer, last of the Vandal dynasty, to Justinian, Emperor of the East (533), expresses his surprise at the magnitude of the cities, at the flourishing condition of the land, at the industry of the people everywhere engaged in trade and agriculture. He employs the Persian word "paradise" to describe the delightful pleasaunces which were passed on the march from Hadrumetum to Carthage, and which he declares to be more lovely than any elsewhere seen by him. The Vandals certainly impaired the resources of the land by the destruction of the forests needed to build those powerful fleets with which they ravaged the shores of both empires from Spain to Greece, thus initiating that system of piratical warfare which was later resumed by the Riff and Algerian corsairs, and not finally terminated till the bombardment of Algiers by Lord Exmouth in 1816. But it was the conquest by Belisarius, which was expected to restore peace and introduce the arts and civilisation of the Byzantine world, that plunged Africa into the depths of barbarism which later justified the popular sense attached to the expression "Barbary States." The heavy taxes imposed by the necessities of Justinian's ambitious administration brought about a chronic state of revolt and civil strife, in which the remnant of the Vandal intruders disappeared together with some five millions of the settled and nomad populations. "The victories and the losses of Justinian were alike pernicious to mankind, and such was the desolation of Africa that in many parts a stranger might wander whole days without meeting the face of a friend or an enemy."

Over a hundred years of Byzantine misrule (533-647) prepared the way for the Arab invasions of the seventh century, led successively by Abdallah, who reduced

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Tripolitana (647); Akba (Okbaben-Nafi), who in the course of twenty-four years (665-689) overran the whole region as far as the Atlantic, and founded the holy city of Kairwan (678); Hassan, who by the capture of Carthage destroyed the last vestige of Byzantine authority before the close of the century (692-698); lastly Musa, who broke the strength of the Berber nation by the overthrow of their renowned queen and priestess, Cahina; consolidated the power of the Khalifs from Tripoli to Maghreb-el-Aksa, and organised the expedition which extended Moslem ascendency from the Atlas to the Pyrenees (698-710). This ascendency remained henceforth uncontested throughout Mauritania for 1120 years (710-1830), except during a short interval in the twelfth century, when Roger, King of Sicily (Norman dynasty), held the seaboard from Tripoli probably to the Maroccan frontier (1122-1152), and again in the thirteenth and sixteenth centuries signalised by the disastrous expeditions of Louis IX., King of France (1270), and of the Emperor Charles V. (1535) against Tunis. The Arab supremacy, which lasted from the expulsion of the Greeks to the extinction of the Fatimite dynasty (910-1171), was followed by a period of great confusion and disorder, during which Kairwan, Tunis, Kafsa, Algiers (*Al Jesaïr*, or "the islands"),[1] and other places became the centres of petty Arab and Berber states continually at war with each other, or sending out piratical fleets to scour the Mediterranean and ravage all the surrounding Christian lands. This brought about reprisals, and it was to protect himself from the attacks of the Spaniards, already masters of several points on the Maroccan coast, that the Emir of Algiers invited to his aid the renowned

[1] So named from the islets sheltering the harbour, and later united with the mainland to form the mole.

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renegade and corsair Bab 'Aruj (Hariadan Barbarossa). Having seized the citadel and slain the emir, Bab 'Aruj secured his position by placing his conquest under the suzerainty of Selim I., Sultan of Constantinople (1515). Thus the sway of the Turk was extended to the frontiers of Marocco, and Algiers became the most dreaded stronghold of the Barbary corsairs and the capital of a powerful State known as the Regency of Algiers, ruled by hereditary vassals of the Porte bearing the title first of *Pasha* and then of *Dey*.[1] To the deys of Algeria corresponded the *beys*[2] of Tunis, whose allegiance was transferred from Turkey to France in 1881, whereas the Algerian deys were dethroned after the French occupation of the country in 1830.

Under the deys the regency had been divided into three beyliks or administrative departments: Constantine in the east, Titteri in the centre, and Oran in the west—the territory of Algiers being administered directly by the dey himself. These divisions were retained by the French, except that Titteri and Algiers were merged in one, while the term Algérie (Algeria) was invented to distinguish the whole colony from the capital and from the department of Algers (Algiers). Similarly, the convenient form *Tunisia* has recently been introduced to distinguish that protectorate from its capital, Tunis.

[1] *Pasha* is a contracted form of the Persian *padishah*, *badshah*, "great king," from root *pâ*, "to protect," and *shah*, "king." *Dey* is the Turkish word *dâi*, an uncle, a person in authority, a commander.

[2] *Bey* is a softened form of the Turkish *beg* (compare English *day*, from Anglo-Saxon *dâg*), originally *big*, *great*, then a prince, a governor, or any official of high rank. The feminine form of this word is *begum*, the title of a Mohammedan queen-regnant in India, such as the Begum of Bhopal.

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Topography: Chief Towns of Marocco

Marocco has the doubtful privilege of possessing three capitals, or royal residences: *Fez* and *Mequinez*, both on

STREET IN FEZ.

tributaries of the Sebu, in the north; *Marakesh*, on the Tensift, in the south. All have been well described by the Italian traveller, Edmondo de Amicis, who speaks in glowing language of the charming situation of Fez, between

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two wooded hills crowned by the ruins of ancient fortresses. Beyond these hills the horizon is bounded by a lofty range of mountains, and through the centre of the city flows the river Pearl, dividing it into two parts—the old town on the right, and the new town on the left bank. The whole is enclosed by a turreted wall, which, though very old and partly in ruins, is still supported by numerous strongly-built towers. From the neighbouring heights the eye commands the whole city, with its countless white houses, flat roofs, domes, and graceful minarets, interspersed with tall palms and patches of verdure, presenting altogether an extremely varied and attractive prospect. Round about the whole district are strewn ruined buildings of every sort—cells of recluses, broken arches of ancient aqueducts, tombs, forts, and other mediæval structures.

Less favourable is the account given by De Amicis of the interior of this "Mecca of the West," as it has been called. "To right and left are high dead walls, like those of a fortress, succeeded by lofty houses without windows, but disclosing frequent rents and fissures; streets now ascending precipitous steeps, now leading down abrupt inclines, but always encumbered with rubbish and refuse; numerous long covered passages, through which the wayfarer is obliged to grope his way in the dark, occasionally running into blind alleys, or narrow dark corners strewn with the bones of animals and all sorts of garbage—the whole veiled in a dim light producing a most depressing effect on the spirits. In some places the ground is so broken up, the dust so thick, the stench so intolerable, the air so swarming with mosquitoes that one is fain to stop and draw breath. From time to time we hear the rumbling of a windmill, the splashing of water, the hum of the spindle, a chorus of shrill voices, presumably from some

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neighbouring school; but to the eye nothing of all this is anywhere visible. We approach the centre of the city; the streets become more thronged, men gazing at us in amazement, women turning aside or concealing themselves, children shouting and running away, or shaking their fists at us from a safe distance. We come upon detached fountains richly ornamented with mosaics, noble archways and courts encircled by graceful arcades. At last we turn into one of the main streets, about two yards wide, and find ourselves the object of general attraction, so that the soldiers of our escort with difficulty keep us clear of the menacing crowds. Every moment we are obliged to step aside to make room for some Moorish cavalier, or for an ass laden perhaps with gory sheep's heads, or else a camel, bearing along some closely-veiled Mohammedan lady. To the right and the left are the open bazaars thronged with people, gateways and courts filled with all sorts of wares, mosques with open doors through which are visible the believers prostrate at their devotions. Here the atmosphere is heavy with a strong fragrance of aloes, aromatic spices, incense, and resin. Swarms of children troop by with scald heads and all manner of cuts and scars; repulsive old hags bareheaded and with exposed breasts; idiots nearly stark naked crowned with garlands, with branches in their hands, and incessantly laughing, singing, and capering about. At a street corner we meet a marabout or 'saint,' an exceedingly fat man, naked from head to foot, resting with one hand on a spear wrapped in a red cloth, and dragging himself along with much labour. He scowls at us and mutters a few unintelligible words as he passes. Soon after chance brings in our way four soldiers hurrying off an unlucky wretch, hacked and covered with blood—evidently some thief caught in the act, for the crowd of

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children at his heels keep incessantly shouting, 'His hand, his hand, off with his hand!' In another street we meet two men with an open bier on which is exposed a corpse withered up to a mummy, in a white linen sack, and bound round at neck, waist, and knees. I involuntarily ask myself, Am I awake or dreaming? whether the cities of Fez and Paris can possibly be situated on the same planet?"

Fez, which stands at an altitude of 1300 feet above the sea, is the largest city in Marocco, with a population variously estimated at from 50,000 to 100,000 or even 150,000. Since its foundation towards the end of the eighth century it has always been the chief religious, commercial, and industrial centre of the country, and it is still famous for the great variety and excellence of its silk fabrics, its carpets, rugs, glazed china, jewellery, leatherware (the Marocco of commerce), and the red skull-caps which take their name from this place. In mediæval times its so-called "University" (Mosque School) was a great seat of Mohammedan learning,[1] and here is a famous library preserved in the Karubin tower, which is reputed to contain many Arabic, Hebrew, Greek, and other manuscripts of priceless value.

Mequinez, which lies some miles west by south of Fez, is a much more cheerful place, with broad winding streets and houses, garden walls and enclosures not too high to shut out the view of the lovely encircling hills. Al-

[1] This famous centre of Arab culture, for ever associated with the name of Avicenna and many other renowned scholars, has at present sunk to the lowest depth of intellectual degradation. Astrology and alchemy take the place of astronomy and chemistry, and in the map of the world used in the geography classes England figures as a small island lying just south of Thibet. At least such is the account of the present state of the school by Mr. S. Bonsal in *Marocco as it is*, 1892, a work, however, which is far from trustworthy.

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though evidently fallen from its former greatness, Mequinez still breathes an air of comfort and repose, and still possesses at least one noble building, the governor's palace, richly adorned with mosaics, marble pillars, glazed tiles, and inscriptions in ornamental letters. Mequinez, which is connected with Fez by the best road in the whole empire, has frequently been occupied by the Sultans, who appear to have at one time accumulated a vast treasure in this place, estimated at many millions sterling. But the vaults of the building said to contain the treasure are now empty, and much of the specie is supposed to have been removed to a place of greater security in the Tafilelt oasis beyond the Atlas Mountains. Mequinez was founded in the tenth century by the powerful Berber tribe of the Meknesa, whose name it has retained.[1]

The village of *Walili* on the Wad-Faraûn, about 12 miles north of Mequinez and close to the venerated shrine of Mulai-Edris, has been identified with the Roman city of *Volubilis*, of which little now remains except two triumphal arches and the gates of a basilica. From Volubilis were drawn much of the building materials used in the construction of Mequinez. To the natives the place is known as *Kasr al-Faraûn* ("Pharaoh's Castle").

Wazan, due north of Mequinez and about midway between that place and Tangier, although little more than a rural village, is famous throughout the empire as the seat of a Sherifian family ranking in popular estimation almost on a level with the reigning dynasty itself. The Sherîf Haj Mulai Mohammed Abd es-Salaam, who died in 1892, claimed like the Sultan direct descent from Ali, and was highly honoured for his personal qualities, until his reputation was impaired by his somewhat romantic

[1] The original form of the word was *Meknäsat*, whence *Meknäsa*, *Meknes*, corrupted to *Mequinez* by the Spaniards.

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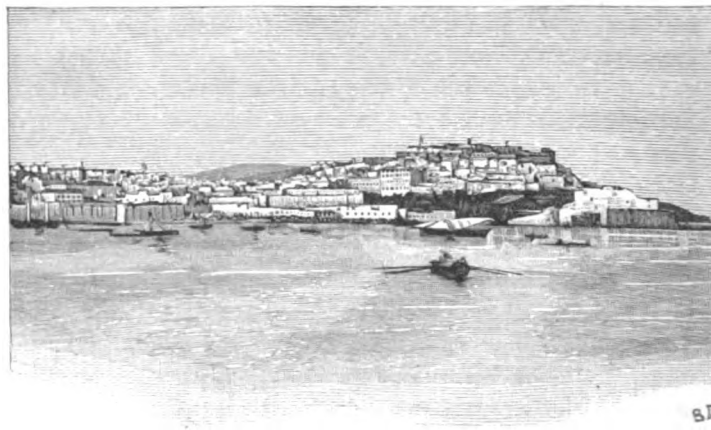
marriage with an English lady a few years ago. Still he maintained his prestige to the last in his native place, where at his death "men and women wailed aloud, business ceased, and the town wore the aspect of a place suffering from some terrible plague. People lay weeping in the streets, while the house-tops were thronged with women wringing their hands and wailing in heartrending tones." [1]

Nearly all the foreign trade of Marocco is carried on



TANGIER.

through the Atlantic seaports, the most important of which, in their order from north to south, are *Tangier*, *El Arish* (*Larash*), *Rabat*, *Casablanca*, *Mazagan*, *Safi* (*Asfi*), *Mogador* (*Sueira*), and *Agadir*. Tangier, near the headland of Cape Spartel at the Atlantic entrance to the Straits of Gibraltar, is the *Tingis* of the Ancients, which gave its name to the Roman province of *Mauritania Tingitana*. It is a place of vast antiquity, whose foundation was associated in classic times with the mythology

[1] *Times* correspondent, Oct. 1892.

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of the Atlas region. Later it was successively occupied by the Portuguese, Spaniards, and the English, the last named abandoning it in 1684, after blowing up the piers, fortifications, and harbour works, which they had erected at great expense. Since then Tangier, thanks to its convenient position on a semicircular bay sheltered from the west winds, has become the chief centre of the foreign trade of the country, and the official residence of all the European envoys, and of the Minister for Foreign Affairs. A considerable coasting trade is carried on, especially with Gibraltar, which receives most of its supplies from this seaport, the only place in the empire where Jews and Christians are completely protected from the fanaticism of the natives and from the exactions of the Government officials. This circumstance, combined with its healthy climate and pleasant situation on the slopes of the hills facing the broad Atlantic, attracts numerous visitors from Gibraltar and other parts of Europe, so that Tangier, with its suburban villas, new houses, landing-stage, factories, lighthouse, newspapers, cafés, and bright shops, has already acquired the aspect of a European city. The ruins of "Old Tangier," a little farther east on the same bay, do not occupy the site of the ancient city, which has never changed its position, but represent a comparatively modern town founded by the Arabs in mediæval times.

Larash, some 40 miles farther south, is also an Arab foundation, which, like Tangier, was long held by Spain or Portugal; the expulsion of the Spaniards in 1769, when a garrison over 3000 strong was either massacred or enslaved, is one of the memorable events in the later annals of the empire. Larash, capital of the province of Gharb, stands at the mouth of the Wad el-Khus, which is obstructed by a bar impassable by large vessels; nevertheless a brisk coasting trade is carried on chiefly with

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Portugal and Marseilles. In the vicinity are the cyclopean ramparts known as the "Lixus Lines," partly of Phœnician and partly of Roman origin, and further inland some still more ancient megalithic monuments are passed on the road to Kasr el-Kebir (the "Great Castle") in the same valley of the Lixus (Lukkos) or Wad el-Khus. This place gives its name to the famous battle of "Alkazar-

RABAT.

Kebir" (1578), in which King Sebastian of Portugal perished with his whole army.

Mahdiya, the ancient *Mamora*, although the natural outlet of the extensive and fertile Sebu valley, has remained little more than an obscure fishing hamlet since the expulsion of the Spaniards in 1681. The harbour is completely choked with sands, and all the foreign trade of this part of Marocco is centred in Rabat (*Rbat*) and Casablanca (*Dar el-Beida*). Rabat lies some 20 miles south of Mahdiya at the mouth of the Bu-Regrag, and

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might easily become the chief emporium of the empire, but for the surf-beaten bar at the entrance to the harbour. From remote times rugs and carpets of excellent quality have been woven in this district, but they are now dyed with the cheap aniline pigments that have replaced the beautiful purple for which the neighbouring station of *Chella* was renowned throughout the Roman world. Chella, the *Sala* of the Phœnicians, is now represented by the suburb of *Sla* or *Salé*, which, however, stands on the opposite (north) side of the estuary, and is now chiefly noted for the fanaticism of its inhabitants.

Casablanca (the "White House"), which stands about midway between Rabat and Mogador, is a Portuguese foundation dating from the sixteenth century. Here there is no sluggish or intermittent wady to obstruct the approaches with its sedimentary deposits, so that Casablanca has the advantage of a deep if somewhat exposed roadstead accessible to the largest vessels. Thanks to this circumstance it has become the first seaport in the empire, its exchanges being valued (1891) at over £780,000, or nearly one-fourth of all the foreign trade of the country.

The ancient port of *Azamor* beyond *Casablanca*, at the mouth of the Um er-Rabiah, is now eclipsed by *Mazagan* four miles farther on, which supplies the Canary Islands with much agricultural produce. Farther on follow *Safi* (*Asfi*), south of Cape Cantin, and *Mogador*, a little north of Cape Sim, natural outlets for the trade of the southern capital and of the great plain of Marocco. Mogador, the *Sweira* or "Beautiful" of the Arabs, stands at the extremity of a sandy point separated by a shallow channel from a fortified islet forming a somewhat exposed harbour accessible to vessels of light draught. But such as it is, it possesses considerable importance as the southernmost seaport on the west coast, except *Agadir* at the mouth of

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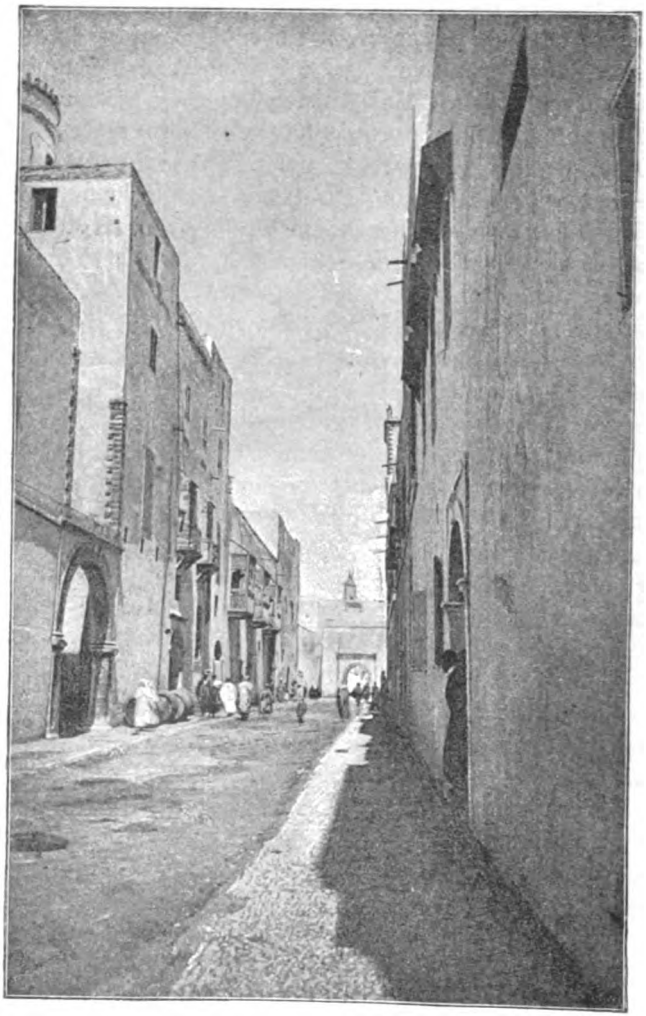

KASBAH MOGADOR.

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the Sûs. Beyond this place scarcely a single fishing village occurs for hundreds of miles along the inhospitable seaboard of the western Sahara. Agadir, which is sheltered from the north and north-west winds by Cape Ghir, westernmost headland of the Atlas range, is the natural outlet of the Sûs basin, and of its capital *Tarudant*. But it was virtually ceded to Spain in 1883, when its privileges as a seaport were transferred to Mogador. The claim of the Spaniards to Agadir is based on the Treaty of 1860, granting them the right to reoccupy the port of *Santa Cruz de Mar Pequeña* which they had held from 1507 to 1527, and which the official surveyors have somewhat doubtfully identified with the harbour of *Ifni* about 20 miles north of the Wad Nun estuary. Here is supposed to have stood the Agadir or Gwader destroyed by the natives after the expulsion of the Spaniards in 1527. No trace, however, can now be found of this Agadir, and the consequence is that it has become confused with the Agadir of the Sûs estuary, and both places appear on recent maps as identical with Santa Cruz. The true Santa Cruz is probably the *Boca Grande*, which stands at the mouth of the Wad Shibika midway between *Puerto Cansado* and the Draa estuary. All these points possess some commercial value as giving access to the caravan route between Marocco and Timbuktu, and their occupation may eventually lead to the transfer of the whole of the Draa basin to Spain, which, as mistress of the neighbouring Canary Islands, seems to have a prior claim to its possession.

On the Mediterranean seaboard also Spain holds nearly all the stations along the coast from *Ceuta* on the Strait of Gibraltar to *Melilla* and the *Zafrin Islands* near the Algerian frontier. The only important exception is *Tetuan*, a few miles south of Ceuta, which, though

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occupied by the Spaniards in 1859, has since been restored to the Sultan. Tetuan, properly Tettawen (the "Place of Wells"), so named from the numerous perennial springs on the slopes of the neighbouring hills, lies a few miles due south of Ceuta, some distance inland from the

TETUAN.

mouth of the Wad Martil, which reaches the coast between Capes Negro and Mazari, and is accessible to small coasters. Tetuan is a great centre of Jewish activity, all the trade of the place being in the hands of the Israelites, who also form fully one-fourth of the whole population.

Of the "presidios," as the Spanish fortified stations are

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called, the most important are Ceuta and Melilla. It has often been proposed to exchange Ceuta for Gibraltar on the opposite side of the strait. But although the strategic positions are somewhat analogous, Ceuta has the fatal disadvantage of being commanded by the neighbouring heights, which it would require a large army to hold against an enemy advancing either from Tangier or Tetuan. Ceuta has been made a free port, but it has failed to attract any trade, although before its occupation by Spain three centuries ago it was a chief centre of Moorish commercial (and piratical) enterprise in the Mediterranean. Melilla, at Cape Las Forcas, serves to forward the produce of the neighbouring Mulaya basin, which has no natural harbour, and the approach to which is guarded or obstructed by the Zafrin (Jafarin) Islands occupied by Spain in 1849. On the Riff coast east of Melilla are the presidios of *Alhucemas* and *Peñon de Velez*, mere convict stations, which, like Melilla, have been held by Spanish garrisons for over 300 years.[1] Melilla is much exposed to the attacks of the surrounding Riff tribes, who formally besieged the place in 1894, and

[1] Chief towns of Marocco with estimated populations (1892): Fez, 70,000; Marakesh (Marocco), 50,000; Rabat with Sla, 35,000; Mequinez, 25,000; Tetuan, 22,000; Tangier, 20,000; Mogador, 18,000; Mazagan, 15,000; Casablanca, 11,000; Kasr el-Kebir, 9000; Tarudant, 9000; Larash, 7000; Ceuta (Spanish presidio), 7000; El-Draa (oasis), 250,000; Tafilelt (oasis), 100,000. Regarding the population of the whole empire practically nothing is known, as may be inferred from the enormous discrepancy between two such estimates as those of Rohlfs (2,750,000) and Reclus (8,000,000 to 9,000,000). The distributions according to races are not only equally vague but quite unintelligible, owing to the prevalent ignorance of the ethnological relations. Thus one estimate gives Berbers and Tuaregs 3,000,000, and Shellas 2,200,000, these "Shellas" (Shluhs) being themselves Berbers. The same estimate gives the Mued (mixed Arabo-Berbers) at 3,000,000; the Bedouins (pure Arab nomads), 700,000; the Negroes, 200,000; the Jews, 150,000; and the Christians, 1500 (*Statesmen's Year-Book*, 1892).

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nearly involved Marocco in a war with Spain. The Sultan, however, agreed to pay an indemnity of £792,000, and to take measures to prevent the unruly tribes from renewing their attacks on the presidios.

Economic Condition of Marocco: Natural Resources, Government

From the remotest times the plough has been in use throughout Mauritania, and agriculture still forms the staple industry of Marocco, where the chief crops have always been barley, wheat, hemp, flax, pulse. More recently tobacco, maize, potatoes, the agave, and prickly pear have been introduced from America. All South European fruits, including the vine, thrive well; the small aromatic Tangerine orange is largely exported, and in many upland districts the slopes are clad with forests of the cork, walnut, olive, almond, and other economic plants. Marocco offers a magnificent field for stock-breeding, which is at present mainly confined to sheep (about 40,000,000) and goats (12,000,000), bred mainly for their wool and skins. Of horned cattle there are probably about 5,000,000; of asses and mules the same number; of horses and camels 500,000 each. Under a strong government, affording some protection to life and property, all these natural resources might be vastly developed, those best acquainted with the land being of opinion that from this region alone Great Britain might draw sufficient agricultural produce of all sorts to meet her present demands.

Marocco is the home of several long-established industries, such as weaving, dyeing, pottery, wickerwork, soap, lime, and brick-making, iron, brass, and bronze ware of excellent quality. Much taste and skill is dis-

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played in the manufacture of cloth and metal objects, such as plates, dishes, swords, scimitars, and guns of traditional designs, while leather-work of all kinds has acquired a world-famed reputation.

Abd-ul-Aziz, the reigning sovereign, who succeeded his father Mulai el-Hassan in 1894, bears the official title of Emir-el-Mumenin ("Prince of True Believers"). He is an absolute theocratic ruler, chief of the State and head of the religion, in principle uncontrolled by any laws civil or religious, his authority not being limited, as in Turkey and other Mohammedan States by the Ulema, or expounders of the Koran, with the Sheikh ul-Islam at their head. There are, however, six Ministers, the Vizier, the Chief Chamberlain, the Chief Treasurer, the Chief Administrator of Customs, and the Ministers for Home and Foreign Affairs, who may be occasionally consulted, but who are practically mere executors of the sovereign pleasure. Personally the late Sultan was a man of noble presence, a typical Arab in outward appearance, with a slighter strain of Negro blood, and less cruel than most of his predecessors. Considering his despotic position, at the head of a barbarous government mainly upheld by an organised system of terrorism, he might even be called humane. At least it may be said that the chronic state of misrule prevalent in the land, the arbitrary conduct of the provincial governors, the venality of the caids, and the total absence of justice in the administration of the laws, are evils due not so much to the Sultan himself as to the bad traditions and inherent defects of all Mohammedan theocracies. He can initiate no reforms without raising enemies on all sides, and it is this circumstance that makes the present condition of Marocco so hopeless. Yet so great are the natural resources of the country that

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its foreign trade has actually increased in recent years. The exchanges with Great Britain, about three-fourths of the whole, rose from £950,000 in 1886 to £1,300,000 in 1890, when all the imports were valued at £1,794,000, and the exports at £1,632,000. The exports consist chiefly of wool, pulse, olive oil, maize, goat skins, cattle, eggs, gum, beeswax, dates, almonds, wheat, barley, and slippers; the imports of cotton goods, sugar, woollen cloth, hardware, silks, tea, glass, and earthenware. Little is known regarding the financial condition of the country; but there is probably no public debt, while the Sultan's revenue is estimated at £500,000, derived chiefly from taxes, tithes, monopolies, and "presents," another name for extortion.

Chief Towns of Algeria

Algiers, capital of Algeria and of the department of Algiers, occupies a superb position on the west side of the bay of like name, which develops a crescent of several miles round the base of the picturesque slopes of the Sahel or coast range, terminating eastwards at the bold headland of Cape Matifu. The city is built in the form of an amphitheatre rising tier above tier on these slopes, where the long lines of streets break right and left into scattered suburban residences, whose dazzling white façades and red roofs contrast pleasantly with the surrounding sub-tropical vegetation. There are two distinct quarters, the modern or European on the lower slope and along the shore, with broad streets and squares, warehouses, hotels, and Government buildings; and the old Arab town above, with narrow, winding, and dirty passages between the high bare walls of houses, in which narrow grated slits serve for windows. The summit of the hill is crowned by the Kasbah, or ancient citadel of

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the Algerian deys, rising 500 feet above the Mediterranean. The sheltered and spacious harbour is formed by a pier constructed by the Moors to connect the reefs in the bay with the mainland, and recently extended so as to enclose a basin 240 acres in extent. Algiers ranks next to Alexandria, Tunis, and Zanzibar as the largest city on the African seaboard, its population of over 80,000 (1891) consisting mainly of Moors, Berbers, Jews, French, Italians, Spaniards, and Maltese. One of the picturesque old Moorish buildings has been converted into a public museum containing extensive archæological and historical collections and a library of nearly 40,000 volumes.

Algiers occupies a central position on the Algerian coast, on which are situated several other important places, such as *Cherchel*, *Mostaganem*, and *Oran* on the west; *Dellys*, *Bougie*, *Philippeville*, *Bona*, and *La Calle* on the east of the capital. Oran, second largest city in Algeria, is the capital of the western department, to which it gives its name. Like Algiers, it is strongly fortified, and a pier over half a mile long now encloses an artificial harbour 60 acres in extent. Before the construction of this breakwater most of the shipping anchored at the neighbouring port of *Mers el-Kebir*, the *Portus Divinus* of the Romans, which lies under the shelter of the Jebel Santon headland.

Bona, the *Hippo Regius* of the Ancients, a royal residence of the Numidian kings, and later the episcopal see of St. Augustine, claims now to be the most European of Algerian cities. It is divided into two sections by a grand boulevard running from the port straight to the neighbouring heights, and laid out with ornamental gardens, fountains, palms, and public monuments. The harbour, being well sheltered by the Cape Garde pro-

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montory, is one of the best in the Mediterranean, giving access to large vessels right up to the quays, with a depth of from 20 to 30 feet. Including the outer port, formed by a pier half a mile long, the basin has an area of about 200 acres, and is now one of the chief naval stations in these waters.

Constantine, capital of the department of like name, is the most important of the inland cities of Algeria. It lies about 50 miles south of its port of *Philippeville* on the site of *Cirta*, that is, *Cartha* (the "City," in a pre-eminent sense), which was the residence of the Numidian kings, Syphax, Masinissa, and their successors. It takes its present name from the Emperor Constantine, by whom it was rebuilt after its destruction during the disorders preceding his accession to the throne of the Cæsars. It occupies a strong position on a rocky terrace almost entirely separated from the surrounding tableland by the precipitous gorges of the Rummel, which at one point rushes through a rocky archway resembling the natural bridge of Virginia. The capture of Constantine by the French in 1837 gave them the possession of all the eastern tell, and was soon followed by the submission of the confederate Kabyle tribes. This place is a great centre of the leather industry in all its branches.

Extensive Roman and earlier ruins are scattered over the surrounding districts, and the remains of hundreds of ancient cities, extending all the way from Tunis to the Atlantic, show that the Atlas regions were far more densely peopled in Carthaginian, Numidian, and Roman times than at present. Of the inland towns that have succeeded these old centres of population the most noteworthy in Algeria are *Batna* and *Biskra*, following nearly due south from Constantine; *Guelma* and *Suk Ahra*, east of the same place towards the Tunisian frontier; *Aumale*,

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Blida, *Orleansville*, and *Tlemcen*, westwards in the direction of Marocco. Of all these places the most famous in the local annals is Tlemcen, the *Pomaria* of the Romans, and capital of the powerful Zenata confederacy in the fifteenth century, when it is said to have had a population of over 120,000 souls. Tlemcen lies some miles south-west of Oran in the heart of the western tell, which here culminates in the mountain mass, 6000 feet high, from which the city takes its name. Before its capture by the Spaniards, from whom it passed to the Algerian deys in 1553, "it rivalled the great European cities as a centre of trade, the industries, the arts and sciences; like Cordova, Seville, and Grenada, it furnished a proof of the high degree of culture to which the Berber race is capable of attaining. The minarets and cupolas of its mosques, its carvings and mural arabesques perpetuate the renown of the Zenata artists, while the chronicles record the artistic marvels displayed at the court of Tlemcen. Here long resided Ibn Khaldun, the famous author of the *History of the Berbers*." [1]

In the Algerian Sahara the chief centres of population are El Aghwat (Laghwat) in the Jedi basin; *Gardaia* and *Guerrara* in the Mzab territory; *Wargla*, *El Golea*, and *Ghadames* in the El Erg wilderness on the verge of the Great Desert. These places and the surrounding oases are yearly acquiring greater importance with the development of the irrigation works, by which large tracts of the sandy waste have already been reclaimed. But their political is even greater than their economic value, their possession giving the French complete control of the Sahara as far south as the fertile Twat oasis. But all attempts to penetrate farther in the direction of the Sudan have hitherto ended in disaster. The expedition

[1] Reclus, xi. p. 290.

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despatched in 1881 under Flatters to establish a permanent connection with the colony of Senegal was destroyed by the Tuaregs of the Ahaggar district, and the same fate was shared by Palat (1886) and Camille Douls (1889) in their attempts to open the road to the Tidikelt and Twat oases. Since then, however, Twat has been occupied by the French, who are now advancing claims to the still more important Tafilelt oasis hitherto supposed to form an integral part of the Maroccan empire.[1] In all these oases the date palm attains its greatest perfection, while their position in the Northern Sahara on the main caravan routes to the Sudan gives them exceptional political and commercial importance.

Economic Condition of Algeria: Natural Resources, Government, Prospects

Algeria, the conquest of which occupied altogether 17 years (1830-47) was constituted a French colony in 1834, and since then has gradually come to be regarded as a sort of "African France," represented in the National Assembly by three senators and six deputies. It forms three administrative departments, mainly under a civil Governor-General, assisted by a Council, whose function, however, is purely consultative. The southern or Saharan section of each department is also still under the control of the military authorities, as shown in the subjoined table of areas and population for 1891:—

[1] Tafilelt being the cradle of the reigning Sherifian dynasty (see p. 90), its possession would serve as a convenient basis on which to establish a title to the political ascendency in Marocco itself. Its occupation by the French would probably be followed by the reoccupation of Tangier by the English.

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Departments.	Area in Sq. Miles.	Population. Civil Division.	Military Division.	Total.
Algiers .	66,000	1,275,650	192,477	1,468,127
Oran .	45,000	817,450	124,616	942,066
Constantine	74,000	1,543,867	170,672	1,714,539
Total	185,000	3,636,967	487,765	4,124,732

These official returns show a steady increase of the population since the first census of 1851, when the total scarcely exceeded 2,500,000. The increase affects both the natives (Berbers, Moors, and Arabs), who now number 3,567,000, and the European immigrants, comprising 273,000 French, 120,000 Spaniards, over 50,000 Italians and Maltese, and about the same number of naturalised Jews. Algeria being essentially an agricultural region, the great bulk of the population is rural, and although towns are numerous, all are relatively of small size, even the capital containing less than 80,000 inhabitants.[1]

Since the French occupation the progress of material wealth has more than kept pace with the growth of the population. Everywhere agricultural and trading companies have been formed, and some of these are largely engaged in obtaining the halfa (*Macrochloa tenacissima*) and esparto grass (*Lygeum Spartum*), most of which is imported by the English paper-makers. Halfa grows wild, especially on the southern slopes of the Oran uplands, where it covers an extent of nearly 4,000,000 acres. Its exportation rose from 4000 tons in 1869 to 60,000 in 1875, and 74,000 in 1891, valued at £430,000. Large sums have also been invested in the

[1] Population of the chief towns in Algeria (1891):—Algiers, 75,000; Oran, 68,000; Constantine, 45,000; Bona, 30,000; Tlemcen, 28,000; Blidah, 24,000; Philippeville, 22,000; Sidibel Abbes, 22,000; Mostaganem, 14,000; Dellys, 13,000; Biskra, 7000.

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cultivation of the dwarf palm, which by a simple process is made to yield a sort of vegetable hair for the Paris market. Much profitable labour has been disposed on the Australian blue gum (*Eucalyptus globulus*), which possesses valuable antifebrile properties, and which has been successfully acclimatised. Other important forest growths are the cork-tree, walnut, olive, and the oleander, which yields a highly-prized perfume.

About 2,800,000 acres are under wheat, and 3,400,000 under barley; but hitherto little attention has been paid to maize, although the soil and climate are well suited for this cereal. Potatoes, introduced by the French, yield yearly increasing supplies to the home market, and Algeria promises to become a great field for the supply of spring fruits and vegetables to the whole of Europe. Before the conquest the natives, forbidden the use of wine by the Koran, cultivated the vine only for its grapes and raisins; now it is grown also for its wine, and as it flourishes everywhere up to an altitude of 3000 feet, the vineyards are rapidly extending, having increased from 10,000 acres in 1858 to 265,000 in 1891, with a total yield of nearly 60,000,000 gallons. Tobacco also, introduced in 1844, now covers an area of about 25,000 acres, giving an annual crop of from 8,000,000 to 9,000,000 lbs. Cotton, first introduced by the Arabs, was cultivated for centuries in the western districts, but had died out completely before its re-introduction by the French in 1842. During the American civil war (1863-1868) its cultivation received a great stimulus, and as much as 900 tons of excellent quality were produced in 1866; but after the war this industry declined.

According to the last returns, 8,120,000 acres, mostly in the department of Constantine, are under timber, chiefly oak, cedar, and pine; but the annual

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value of the produce is small. Stock-breeding, almost entirely in the hands of the natives, is mainly confined, as in Marocco, to sheep (10,000,000) and goats (4,250,000). In 1891 the horned cattle numbered little over 1,220,000; horses and mules, 335,000; camels, 276,000.

Few countries abound more in iron of prime quality than Algeria. One of the most productive mines is that of *Mokta el-Hadid* at Lake Fetsara, 20 miles south-west of Bona, which in some years has yielded as much as 400,000 tons of rich ores. Lead, copper, silver, zinc, antimony, and quicksilver also occur; and the Algerian marbles have been famous from remote times. But there is scarcely any coal, and the output of all the mines (iron, blende, galena, copper, silver), employing about 3000 hands, was valued in 1891 at little over £160,000.

Algeria forms no exception to the general rule that trade follows the flag. Of the total exchanges, estimated in 1891 at over £21,000,000, fully three-fourths were with France. The trade with Great Britain, however, is steadily increasing, the exports having advanced from £700,000 in 1886 to nearly £900,000 in 1891, and the imports of British products from £270,000 to £330,000 for the same years. The chief exports to Great Britain are halfa and other fibres, iron, copper, and lead ores, rags, and barley; imports—cotton fabrics and coal.

Including the Tunisian line (140 miles), 1910 miles of railway were open for traffic in 1891. The great trunk line, begun in 1860, runs from Oran eastwards to Algiers, and thence to Tunis, with branches either completed or in progress to all the large seaports. From this main artery three lateral lines are advancing across the plateau to the southern oases, and it is intended

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eventually to continue one of these across the Sahara to the Niger basin, so as to connect Algeria with French Sudan and Senegal. Roads accessible to wheeled traffic have already penetrated in this direction as far as Ain Sefra, Laghwat, and Wargla.

Altogether the work accomplished by the French in Algeria goes far to gainsay the trite remark that they do not know how to colonise. When they occupied the country they had to contend with many physical obstacles, marshy tracts, rugged uplands, sandstorms, a dangerous and changeable climate, with rapid transitions from heat to cold. They were at first mostly dependent for supplies on the home country, often at a loss for bread and meat, and even for fresh water. In the lowlands they were exposed to the pestilential exhalations of extensive saline lakes, whose shores were overgrown with rank vegetation, hotbeds of fever and ague. On the hills it was a struggle between the sirocco, accompanied by clouds of fine yellow sand, and the fierce north wind lowering the temperature from 80° or 90° to below 50° F.

On their military expeditions they had to endure intense heat during the day, followed at night by severe cold. The towns, destitute of sanitary arrangements, were regarded as uninhabitable by Europeans. Hence an enormous mortality amongst the first settlers, and especially amongst the children, whom it was found almost impossible to bring up at all, and the excess of deaths over births continued down to about the year 1884. Bona was so unhealthy before the drainage of the neighbouring marshes that whole regiments were decimated; the swampy lands about Bufarika, near Algiers, have also been drained, and the place is now free from malaria. The draining of Lake Hallula, in the Metija district, has recovered 34,000 acres of good land,

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capable of growing cotton of the finest quality. With ague of the worst type, which gave this district the title of the "Grave of Europeans," have also disappeared the swarms of mosquitoes which formerly made life almost unendurable.

In recent times the extensive plantations of the *Eucalyptus globulus* have greatly contributed to this happy result, which has been extended even to portions of the Algerian Sahara itself. Here the soil is of a deep chalky sand, which yields luxuriant crops wherever water can be procured for irrigation. Following the example of the Romans, who transformed large portions of the arid plateau lands and sandy regions to tracts of surpassing fertility, and the remains of whose works are seen all over the country, the French have paid great attention to irrigation and to the sinking of Artesian wells. The numerous wells sunk in South Algeria between the years 1856 and 1890 are now yielding over four billion cubic feet of water per annum, and have increased the annual value of the dates and other produce in the Wed Righ alone from £66,000 to over £250,000. The water drawn from the underground reservoirs is potable, and nowhere saline enough to affect the vegetation; its temperature varies from 70° to 80° F.

The dark side of this picture are the finances, which are certainly in an unsound condition. No doubt the annual budgets show a surplus of revenue over expenditure (£1,853,000 and £1,800,000 respectively in 1892); but in these budgets no account is taken of the heavy military outlay, and in point of fact the absolute expenditure for the period from 1830 to 1888 has exceeded the revenue by an aggregate sum of no less than £151,000,000, an excess mainly due to the large armaments hitherto maintained in the colony. The peace

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footing consists (1892) of the 19th Army Corps, comprising 54,000 men and 15,000 horses with 16 batteries of artillery, besides two "foreign legions" and various native regiments of Zouaves, Turcos, and Spahis, altogether about 70,000 of all arms. There is little prospect of any reduction in this formidable armament, which is required to keep in awe a permanently disaffected Mohammedan population, whose hostile spirit is kept alive by numerous fanatical "brotherhoods," with secret ramifications spread over a great part of North Africa. Hence it would seem as if, with all its natural resources, Algeria must look forward to a chronic state of insolvency.

Chief Towns of Tunis

Tunis, capital of Tunisia, stands near the mouth of the Mejerda, close to the ruins of Carthage, which it has succeeded as the largest and most important seaport on the African side of the Mediterranean, Alexandria alone excepted. It stretches in a north-westerly direction along the shallow Bahira lagoon ("Lake of Tunis"), and on the land side is completely enclosed by a strong wall nearly five miles in circuit, and pierced by nine gateways. Between this outer enclosure and the inner town, which is also encircled by a wall with seven gates, lie the suburbs of *Bab es-Suika* to the south, *Bab el-Jezirah* to the north, and on the east the new quarter, with its arsenal, custom-house, and fashionable resorts. Before the changes introduced since the French occupation, Tunis was still a thoroughly oriental city, with narrow, crooked, and unpaved streets, dusty in fine, miry in wet weather, and thronged from dawn to night with picturesque crowds of Moors, Jews, Berbers, Maltese, and Italians. The Kasbah, or citadel, presents, despite

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the rents in the walls of the great square central block, a somewhat imposing appearance seen from the public gardens on the west side. One of the suburban railways runs two miles westwards to *The Bardo*, that is the residence of the Bey, which forms a little town in itself, with palaces, guard-houses, dwellings, workshops, bazaars, and a population of about 2000.

THE BARDO.

But at present the Bey usually resides at *Marsa*, a neighbouring watering-place, where are also the residences of the French Minister and the British Consul. Marsa is connected both with the capital and with its little port of *Goletta* on the marine channel connecting the Gulf with the Lake of Tunis. Here the beach shoals so gradually that large vessels are obliged to anchor in the offing half a mile from the shore. It is now proposed to create a commodious harbour by deepening the approaches and dredging the Bahira, or "Little Sea," to a depth of

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about 20 feet. But, meantime, the natural outlet of the increasing trade of Tunis[1] is the magnificent land-locked basin of *Biserta*, a little east of Cape Farina, which, despite international engagements, the French seem disposed to convert into a great naval arsenal and war harbour, a menace at once to Italy and to Malta (p. 56).

On the east coast the chief Tunisian seaports are *Susa* and *Monastir* on the Gulf of Hammamet, *Mehdia* (*Mahadia*) at Cape Africa, and *Sfax* (*Sfakus*) opposite the island of Kerkenna on the north side of the Gulf of Cabes. Susa, with its well-preserved walls and ramparts and several fine new buildings, presents a somewhat imposing appearance seen from the sea. It occupies the site of the ancient *Hadrumetum*, and is at present the port of the holy city of *Kairwan*, with which it is connected by a tramway on the Decauville system. But its trade, carried on chiefly with Italy, is far inferior to that of Sfax, probably the ancient *Taphrura*, and at present the chief place in South Tunisia. It is the outlet for the excellent dates of the Jerid district, for the burnous cloth woven in the southern oasis of Gafsa, the olive oil of the Sahel or neighbouring coastlands, the esparto grass from the surrounding uplands, sponges from the Syrtes, and lastly the highly-prized rose and jessamine oils from the gardens of the town itself.

Kairwan, almost the only noteworthy place in the interior of a region which formerly contained scores of flourishing cities, is scarcely less sacred in the eyes of the natives than Mecca and Medina themselves. This

[1] The exports of Tunis rose from £1,275,000 in 1890 to £1,826,000 in 1891, and the imports from £1,214,000 to £1,588,000, the former chiefly wheat, barley, and olive oil; the latter cotton, silk, and woollen goods, coffee, and sugar

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religious capital of Tunisia, which was inaccessible to Christians and Jews before the French occupation (1881), lies in a barren plain near the north-west corner of Lake Sidi el-Heni, and its chief mosque [1] is one of the finest structures of the kind in North Africa. It is still the centre of a considerable caravan trade, but the large traffic formerly carried on across the Sahara with Sudan has been mostly diverted east to Fezzan, and west to Ghadames.

At *El-Jem*, the ancient *Thysdrus*, on the old highway between Susa and Sfax and about midway between those places, stands the best-preserved amphitheatre of the Roman world, not even excepting those of Verona, Pompeii, or Rome itself (see p. 93). In the same district, one of the most densely peopled of the province of Africa, though now almost uninhabited, are the extensive ruins of *Bararus*, including a triumphal arch, a theatre, and numerous other structures, spread over a space of about 8 square miles.

Economic Condition of Tunisia: Prospects, Government

There seems no reason why the prosperity enjoyed by this region in Roman times should not be revived under the French administration. Tunisia enjoys many advantages over Algeria, such as its diversified seaboard giving more easy access to the interior both from the north and the east side, less marked contrasts in the general relief of the plateau, a more fertile soil inhabited by a more docile and less fanatical Arabo-Berber population. Agriculture and pasturage, although little

[1] The *Jemaa el-Kebir*, or "Great Mosque," as this remarkable edifice is called, has as many as seventeen double parallel aisles, with over 400 onyx, porphyry, and marble pillars.

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developed, are still the main sources of wealth, and the country seems specially adapted for corn and vine growing. About 800,000 acres of arable land are already in the hands of French settlers; but notwithstanding the excellent result hitherto obtained, not more than 10,000 acres have been planted with vines. The cork and olive, both indigenous, arrive at great perfection, and promise good returns in the near future. Much esparto grass is exported, chiefly to England.

Stock-breeding is mainly confined to sheep and goats, though climate and pasture are well suited for horned cattle, camels, and horses. The woods, and especially the gum-yielding acacias of the southern districts, have suffered much from the goats and camels, which browse on the foliage and tender shoots of these thorny plants. Despite the reckless destruction of the forests that has been going on for ages, many of the slopes, especially in the Krumir territory on the Algerian frontier, are still covered with fine groves of the valuable cork-tree. The woods in the extreme south-east have been mostly replaced by herbage and barley, which thrives well and is largely exported. There can be no doubt that the disappearance of the forests has been followed by a greatly diminished rainfall, so that the sands have in many places encroached upon the arable lands, and even swallowed up whole oases, while others, such as those of Nefta and Tuzeur, west of the Shott Kebir, are steadily retreating before the advancing dunes. But under the French control this evil will probably soon be arrested, as it has been in the Algerian Sahara, by the sinking of Artesian wells and replanting the land wherever water is available.

Another profitable industry are the Tunisian coral fisheries, over which France had already acquired rights in 1832. Coral is found all along the Mauritanian

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coasts; but the best qualities occur in the waters of Galita, an islet thirty miles north of Cape Serrat on the coast of Tunis. This fishing-ground is annually visited by numerous smacks, chiefly from Italy, which have their headquarters at the Algerian ports of Bona and La Calle. The coral of the Barbary coasts is mostly red, though white and black, as well as the much-valued pink, are also found. A dredge formed of two pieces of olive wood, each 6 or 7 feet long, lashed crosswise and furnished with unravelled tufts of hempen cordage, is dragged over the banks to entangle the pieces of coral. The yield varies from £200,000 to £600,000 a year.

Round the Tunisian coast are a number of lagoons partly separated from the sea by narrow strips of sand, and to these large shoals of fish resort in the breeding seasons. The Biserta inlet, which is the most important fishing-ground, is said to yield a different species of fish for every month in the year. Tunny fish, in their annual migration in May and June from the Atlantic to the Black Sea, follow all the windings along the southern and northern shores of the Mediterranean, and advantage is taken of this circumstance for their capture. A *tounara*, or system of nets, is placed off a headland so as to intercept the shoals, whose migratory instincts impel them to move steadily eastwards; thus they pass from one enclosure to another, till as many as 700 are occasionally taken in a single catch. The Tunisian waters yield from 10,000 to 14,000 tunny, from the offal of which an oil is extracted much used by curriers and tanners. Sponges also occur along the Tunisian seaboard, and although not of fine quality the annual yield is valued at over £30,000.

Tunis still suffers from defective communications, the trade routes being neither numerous nor good. A beginning,

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however, has been made with the railway system, of which 200 miles had been completed in 1892. The chief line runs from the capital up the Mejerda valley to Suk-Ahras and thence north to Bona, thus connecting the Tunisian with the Algerian system. The finances are in a sound condition, the expenditure (about £1,200,000) being usually more than covered by the revenue, which is derived chiefly from direct taxes, customs, and monopolies. The public debt, consolidated in 1888 and bearing $3\frac{1}{2}$ per cent interest, amounted in 1891 to £5,700,000.

Sadi Ali, the reigning Bey, elected in 1882, has still a show of sovereignty represented by a body-guard and a few native troops. But these are completely overawed by three regiments of French infantry, two of cavalry, and two batteries of artillery, while the administration is practically in the hands of the Minister Resident under the French Foreign Office. In 1884 the Consular Courts were superseded by French judges. The reigning family descends from Ben Ali Turki, a native of Candia, who made himself master of the country in 1691, and secured his position by recognising the suzerainty of the Turkish Sultan, to whom tribute was paid till 1871. Ten years later the suzerainty passed from Turkey to France.

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CHAPTER III

TRIPOLITANA

General Survey: Extent, Divisions, Population — Historic Retrospect: Exploration — Physical Features: The Coastlands of Tripolis—The Inland Plateaux and Ranges: The Great Hammada—Barka and Marmarica; The Aujila Depressions—The Kufara Oases—The Libyan Desert—Ghat and Ghadames—Fezzan—Climate, Flora, and Fauna of Tripolitana—Inhabitants—Table of the Arabo-Berber Populations of Tripolitana—The Turks, Jews, Negroes, and Europeans—Towns: Tripolis, Benghazi—Administration.

General Survey: Extent, Divisions, Population

THE Turkish possessions in North Africa west of Egypt have remained untouched by the recent changes that have profoundly modified the political map of the Continent. They still comprise the whole region, extending along the Mediterranean seaboard from Tunisia nearly to the Siwah oasis, with an ill-defined "hinterland" reaching southwards to the Tropic of Cancer. In the absence of any conspicuous physical landmarks the western, southern, and eastern frontiers are mere conventional lines indicated on the maps by graceful but vague curves, which seem to present no greater stability than the shifting sands of the desert over which they are drawn. Between these curves and the Mediterranean are included the three somewhat distinct regions of *Tripolis* in the

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west, *Barca* in the east and *Fezzan* in the south, which with the eastern oases of *Aujila* and *Kufarah* (Kufra) and Ghat and Ghadames in the west, may be conveniently comprised under the general designation of TRIPOLITANA, though this expression was not extended by the Ancients farther east than the Syrtis Major (Gulf of Sidra). Hence as here used the term embraces both the Tripolitana and the Cyrenaica, as well as the Phazania of the Greek and Roman geographers. According to the greater or less extent of sandy and stony wastes included within the curves, the area of the whole region oscillates between 400,000 and 485,000 square miles, with a total population ranging from 1,000,000 to 1,300,000, or from two to three to the square mile. In other words, a territory about four times larger than the British Isles has a population five times less than London.

In fact, the greater part of Tripolitana is not physically distinguishable from the Sahara proper, which has also its oases and little centres of population, and which may be said to reach the Mediterranean at many points between Tunis and Egypt. Several parts, especially towards the Egyptian frontier, which come within the limits of the so-called "Libyan Desert," are even more desolate and lifeless than almost any other section of the Great Desert itself. Suess, perhaps the first authority on the geological constitution of these regions, treats the whole of the seaboard from the Gulf of Cabes to the Nile delta as an essential part of the Sahara, which by the meridian of Tripolis, or roughly speaking by the great caravan route leading thence through Murzuk to Lake Chad, is divided into a waterless eastern section and a western section traversed in many places by short watercourses descending from the Tibesti and other central uplands. Hence a great part of East Tripolitana is absolutely destitute of

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vegetation, while in the western districts extensive palm groves, wide stretches of herbage, and even good grazing grounds, are far from rare phenomena, especially in the upland valleys.

But viewed as a whole Tripolitana may be regarded as a vast stony and sandy plateau, traversed by a few hilly ranges of moderate elevation, and destitute of perennial running waters, but relieved by several fertile tracts and verdant oases, which are everywhere separated by extensive uninhabitable waste spaces. The inhabited districts constitute collectively the Turkish vilayet[1] of Tripolis, although several of the more inaccessible oases, such as Kufara and parts of Fezzan, are either absolutely independent, or only nominally subject to the Ottoman authorities. The true rulers of the land are in fact the powerful and widespread Senûsiya brotherhood, a body of religious reformers and political firebrands, who originated in Algeria, but whose headquarters were removed in 1855 from Barka to Jarabub in the Faredgha oasis on the confines of Egypt.

Historic Retrospect: Exploration

The 1300 miles of coastlands stretching from Tunisia to the Nile delta are divided nearly midway, or about the meridian of Benghazi, into the two well-marked sections of Cyrenaica and Tripolitana, which differ altogether in their early historic evolution. In the eastern section, bounded westwards by the Syrtis Major, the first Egyptian foundations, such as *Ammon* (Siwah oasis) and *Barke*, were replaced by Greek colonies, the oldest and

[1] That is "Regency," "Government," from the Persian *wali* (vali), a prince regent, a ruler. As the governor of this regency is always a pasha of first rank, it is also known as the pashalik of Tripolis.

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most famous of which was *Cyrene*, a Dorian settlement dating from about 630 B.C. From this metropolis of the Hellenic world in Libya the whole region took the name of *Cyrenaica*, and was also known by the alternative designation of *Pentapolis* from its "five cities" of *Cyrene*, the neighbouring port of *Apollonia*, *Arsinoe*, *Berenice*, and *Barke* (later *Ptolemais*).

In the western section, on the other hand, the first settlers were Phœnicians from Tyre and Sidon, and these were succeeded not by the Greeks but by the Romans, heirs of Carthage and all its dependencies. As Cyrenaica took its name from its chief city, it might be supposed that Tripolitana was similarly designated from its capital, *Tripolis*. But, on the contrary, Tripolis was named from Tripolitana, which was so called from its "three cities" of *Leptis Magna*, *Oea*, and *Sabrata*, all founded before the dawn of history by the Phœnicians on the seaboard projecting into the Mediterranean between the two Syrtes. Later, when Oea became the capital of the Tripolitan province, it became known as Tripolis, a name which it has since retained, being distinguished from the Tripolis on the Syrian coast as West Tripolis, the *Tarabulus el-Gharb* of the Arabs and Turks.

South of Tripolitana the whole of *Phazania* beyond the Mons Ater was reduced by Asinius Pollio's quæstor, Cornelius Balbus, who in the reign of Augustus overthrew the ancient empire of the Garamantes, capturing their strongholds of *Cydamus* (the present *Ghadames*), and *Garama* (the present *Jerma*) in the Wady Lajâl depression, 40 miles north-west of Murzuk. Near the palm groves of old Jerma, which was the capital of the Garamantes centuries before the new era, a well-preserved square tomb still marks the southernmost limits

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of the Roman dominion in the interior of the Continent. In this region the Romans were succeeded towards the end of the seventh century by the Arabs from Cyrenaica, who retained its general designation in the modified form of *Fezzan*, and translated Pliny's *Mons Ater* into the *Jebel es-Suda* in the west and the *Harûj el-Aswad* in the east, both expressions having much the same meaning of "Black Mountains," "Black Range." The *Harûj el-Abiad*, or "White Range," seems not to have been distinguished as a separate chain by the old geographers.

Nor can any of the other oases, except *Augila* (the present *Aujila*), south of Cyrenaica, be now identified with the vague Ptolemaic nomenclature, which mostly disappeared from this region with the Arab irruptions of the seventh and eleventh centuries. All traces of Greek and Roman culture, except their architectural monuments, were swept from the land by these rude fanatical hordes, and the whole seaboard from Egypt to Mauritania reverted to a state of absolute barbarism, from which it can scarcely be said to have recovered under the chronic maladministration of the Turks, successors of the Arabs in the sixteenth century. In fact it has grown worse, and many formerly productive districts, such as the picturesque Welad Ali valley near the coast, once covered with orchards and date-groves, are at present reduced to "a desolate wilderness" (Barth). This observer noticed that, in the opinion of the natives themselves, the land has deteriorated under the effete Turkish administration. "While passing a number of saffron-plantations, which I said proved the productiveness of their country, they maintained that the present production of saffron is as nothing compared to what it was before the country came into the impious hands of the Osmanlis" (i. 48).

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In fact Tripolitana may be said to have become an unknown land until its re-discovery by the modern pioneers of geographical exploration in North Africa. Notwithstanding its position on the plateau close to the coast, and within a short sail from Candia, the very site of the famous city of Cyrene, birthplace of such celebrities as Eratosthenes the geographer, the poet Callimachus, and the orator and philosopher Carneades, was a matter of speculation, till its identification by Lemaire in 1706. Then it was again almost forgotten till the close of the eighteenth century, when it was visited by Browne in 1792 and described by Hornemann in 1798. These were followed by the more careful surveys of Cervelli and Della Cella (1811, 1817), to whom we are indebted for the first systematic observations on the soil, climate, natural history, and antiquities of the whole of Cyrenaica. The same region was afterwards traversed in all directions by numerous archæologists and scientific explorers, such as the brothers Beechey who surveyed the seaboard (1821-22), Pacho (1826), Barth (1846), Hamilton (1852), Beuermann (1862), Rohlfs (1868-79), and many others. Cyrenaica and its easterly extension, Marmarica, have especially attracted the attention of Italian explorers, whose object, however, appears to have been mainly political, as in South Abyssinia and Kaffaland. Italy has long regarded the whole of these coastlands as her natural inheritance, although both on historical and geographical grounds Greece might seem to have a better claim at least to Cyrenaica, which was always considered a part of the Hellenic world before its fair cities and cultivated lands were made desolate by the nomad Arab invaders.

Tripolis, lying nearly under the meridian of Lake

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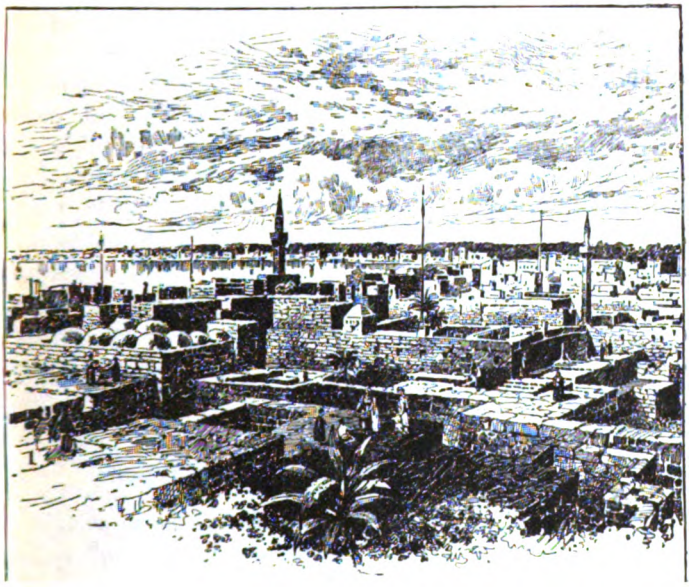
Chad, at the Mediterranean end of the shortest route across the Sahara to Sudan, has naturally become, like Zanzibar on the east coast, a chief starting-point for explorers penetrating from the north into the interior. Most of these explorers, such as Lyon (1819), Oudney, Denham, and Clapperton (1822-24), Richardson on



TRIPOLIS.

his first journey to Ghat (1846), Nachtigal (1869-72), and many others, passed rapidly through to the interior, without diverging from the beaten caravan routes, during the earlier stages of their expeditions. Hence some parts of the vilayet, near the Mediterranean, despite their immense archæological interest, have been subjected to less systematic surveys than, for instance, the

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Welle basin, Bornu, and other regions in the heart of the Continent. But Barth, both on his first journey along the coast from Tunis to Egypt (1845), and again before starting with Richardson and Overweg on the memorable expedition of 1850-55 to the Sahara and Sudan, made some careful observations on the districts surrounding the capital, and these have been greatly enlarged and supplemented, especially by Rohlfs and Duveyrier, in recent years. But much still remains to be done for the region between Tripolis and Fezzan, where some of the more important itineraries, such as those of Dickson, Richardson, Rohlfs, and Duveyrier, have not yet been connected at several points. Some districts are known only from the reports of the natives or the summary accounts of early travellers, and the south-eastern parts of the desolate Black and White Harûj have never been visited since they were first crossed, nearly a century ago, by Hornemann on his expedition from Aujila to Murzuk.

Physical Features: The Coastlands of Tripolis

The whole of Tripolitana, however, is now fairly well known in its main outlines — the general relief of the land, its climate, natural history, and ethnology. The strip of coastlands extending from the capital east to Masrata projects like a blunt promontory between the two Syrtes, and this headland forms the centre of a vast semicircle of precipitous basalt and limestone cliffs, which, at a radius of from 60 to 80 miles, sweep round from the Gulf of Sidra to the Tunisian frontier. Thus is enclosed an extensive maritime plain characteristically called the *Jefara*, or "Flats," which every-

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where terminates somewhat abruptly at the foot of the cliffs, and which appears to be partly of marine as well as of alluvial and igneous origin. The isolated Mount Takut (2800 feet), which advances a short distance beyond the normal line of the cliffs, nearly due south of Tripolis, was found to be an extinct volcano by Barth, who reached the summit, crowned by a ruined Moslem shrine, in 1850.

None of the crests appear to overtop Takut, although the mean altitude is scarcely less than 2000 feet, falling to 1000 in the Mesellata and Tarhona sections in the east, rising to 2000 in the Ghurian or central, and to 2200 in the Yefren and Jebel sections towards the south-west. Seen from the "Flats," the whole system presents the aspect of a sharply-defined steep rocky wall, or low mountain range, apparently barring all access to the interior except through the deep gorges still occasionally flushed by roaring torrents on their seaward course. But when the summit is reached, the mountainous aspect of the barrier vanishes, and the rocks encompassing the maritime plain are seen to be merely the abrupt escarpments of an inner plateau stretching southwards beyond the horizon. Here is, in fact, the true continental periphery, and Barth is probably right in regarding the semicircular cliffs as the original coast-line. Before the formation of the Jefara, the two Syrtes were merged in one vast bight curving round from the Roman "Africa" to the Greek "Libya," and penetrating nearly 100 miles farther inland than the present shore-line. At that time the cool moist marine breezes reached far into the now arid plateau, and the gradual creation of the maritime plain may perhaps be taken as a measure of the gradual deterioration of the climate that has been in progress

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since prehistoric times. Barth noticed "the majestic offshoots of the plateau jutting into the plain like vast promontories,"[1] where, by substituting "sea" for "plain," we shall probably have an accurate picture of the former conditions.

The Khoms district, and other parts of the coast east and west of the capital, are even still fringed with *sebkhas*, that is shallow depressions, which are alternately dry salt-pans and brackish lagoons. In Phœnician and Roman times some were navigable, and communicated with the sea through narrow channels, now choked with sands. The sands have also silted up and obliterated the deep inlets and natural havens, where formerly stood Leptis Magna, Sabrata, and many other large and flourishing cities, some vying in grandeur and magnificence with the imperial capital itself. Both the coastlands and especially the encircling heights are profusely strewn with the remains of the cultures, here superimposed as in so many successive layers, that have followed from the earliest to comparatively recent times—prehistoric Libyan or Berber cromlechs of great size and surprising artistic finish, vast Carthaginian dykes and stone walls, a quarter of a mile long and 14 to 16 feet thick, built across the wadys to capture the intermittent rush of waters from the surrounding escarpments, superb Roman citadels and sepulchres, Byzantine forts and Arab kasrs crowning all the more conspicuous crests, which, in clear weather, are at times visible from the capital, dimly bounding the southern horizon. The Roman monuments especially cover a vast area, and are continued beyond the old marine cliffs, marking every successive stage on the southern highway opened by Vespasian across the wilderness to

[1] *Travels and Discoveries*, vol. i. p. 28.

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the utmost confines of the empire in the heart of Phazania.

The Inland Plateaux and Ranges: The Great Hammada

Beyond the Ghurian heights the wilderness seems to begin at once in the barren Ghadama district, which, however, is followed by several productive tracts under grass, corn, or palms, and containing some permanent water-holes. The Wady Sofejîn depression is even described as the most fertile region in the vilayet. Here the plateau falls from a mean elevation of 2000 to a little over 1000 feet, and even to 530 in the Zemzem valley, beyond which it again rises rapidly to over 1000 feet in the Gharia district, on the northern verge of the great stony Hammada. The term "hammada," meaning a stony burnt-up waste, is of frequent occurrence in North African geographical nomenclature, and is usually accompanied by some descriptive epithet, such as black, red, stony, or the like. But the frightful wilderness, which covers an area of 40,000 square miles between the maritime plains and the Fezzan depression, is commonly spoken of as the Hammada in a superlative sense, though its southern more barren and waterless section takes the distinguishing designation of *El Homra* ("The Red"). The whole region stands at a somewhat uniform level of from 1500 to 1700 feet, and for a distance of 130 miles north and south presents a monotonous surface of sandstone, overlain by clays, marls, gypsum, and fossiliferous silicious deposits, relieved in its northern section by a few patches of herbage, scrub, and brushwood, with even a little water in the rocky cavities, which, however, soon evaporates after the heavy showers which occasionally occur in this almost rainless desert.

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Two distinct routes, however, lead from Tripolis across the Hammada to Fezzan. One, the shorter and more westerly, runs directly south over the Ghurian cliffs and across the western side of the Jebel es-Suda, while the other is more roundabout, turning for a considerable part of the way considerably to the east. The first was mainly followed by Richardson, Barth, and Overweg, and again by Rohlfs; the second by Lyon, Denham, and Clapperton, Vogel and Duveyrier. Nachtigal also took the longer route, which is the true caravan highway, being more regularly supplied with watering-stations, and offering desirable resting stages in such centres of population as Beni Ulid, Bu-Njeim, and Sokna. At Beni Ulid, about 100 miles south-east of Tripolis, a pleasant olive grove for the last time refreshes the eye of the traveller, who, on passing farther on to Bu-Njeim and Sokna, finds himself in the midst of a complete desert. Between these two places, a journey of four long days, the path traverses a dreary waterless plain, diversified only by bare rocky ridges or low rising grounds.

The Hammada is skirted southwards by the Jebel es-Suda ("Black Mountain"), which stands at a mean elevation of 2800 feet, rising westwards to 3000, and in one peak to over 4000 feet. It takes its name from the blackened aspect of its limestone and sandstone rocks, which have evidently been subjected to volcanic action, giving them the appearance of basalt. The Jebel es-Suda ramifies eastwards in the two crescent-shaped ranges of the Harûj el-Aswad and Harûj el-Abiad ("Black" and "White" Harûj), enclosing another hammada, or broad cretaceous plateau, which has never been visited by any explorer since Hornemann crossed both ranges in 1798. The Harûj el-Aswad maintains a mean altitude of 700 or 800 feet above the plateau,

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while the limestone Harûj el-Abiad descends in terraces down to the Fezzan depression, which it encloses on the north-east. But the whole of the Harûj region still awaits systematic exploration.

Barka and Marmarica; The Aujila Depressions

The route followed by Hornemann in 1798 leads from the Harûj el-Aswad through the Neddik Pass in the Jebel Morai-Yeh north-eastwards down to a remarkable zone of oases or depressions, which extends from the Gulf of Sidra eastwards between the Libyan Desert and the plateaux of Barka and Marmarica all the way to the Bahriyeh (Lesser) Oasis in Middle Egypt. The elevated coastlands of Cyrenaica, which enclose the Gulf of Sidra on the east, and project northwards far into the Mediterranean, are thus cut off from the desolate inland plateau, and might seem, like the Atlas region, to belong geologically rather to the European than to the African Continent. They have a mean altitude considerably higher than any other part of the vilayet, and attain in the Jebel Akhdar ("Green Mountains") of Barka a height of nearly 3500 feet. But the eastern plateau of Marmarica leading down to the Nile delta is much less elevated, nowhere rising to more than about 1800 feet.

Both plateaux fall through a series of terraces southwards to the zone of oases, which from the most important of the system are often spoken of as the Aujila depression.

This depression, which assumes somewhat the aspect of a long winding wady, expanding at intervals into patches of perennial verdure and shallow saline basins, extends with several interruptions from the Wady Fareg near the south-east corner of the Gulf of Sidra

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through the Bir Rassam, the Aujila, Jalo, Faredgha, and Siwah oases to the "bitter lakes" of Sittra and the old dried-up branch of the Nile now known as the Bahr bilâ-Mâ ("Waterless River"). According to the first measurements of Rohlfs, who passed through from Tripolis to Alexandria in 1869, the whole area of depression should be regarded as a silted-up arm of the sea, which formerly penetrated 200 or 300 miles south-eastwards in the direction of the Nile. Aujila and Jalo were placed at from 100 to 180, and Bir Rassam at from 330 to 360 feet below the Mediterranean, while the brackish character of the lakes, as well as the quantities of mollusks and other fossil marine fauna occurring at various points, speak also for the marine origin of this remarkable depression, which may have even received some of the flood waters of the Nile through Lake Moeris (the Fayyum) or the Bahr bilâ-Mâ. Hence Rohlfs conceived the project of again transforming the chain of oases into an inland gulf by admitting the Mediterranean waters through a cutting to the Wady Fareg or the Bir Rassam. A waterway, he thought, might thus be opened far into the arid Libyan Desert, the climate improved, and Cyrenaica converted into an island in the middle of the Mediterranean. But Rohlfs himself gave up this project after the expeditions to the Libyan Desert and Kufara, when it was found that Siwah alone with its eastern extensions fell below the Mediterranean—Siwah 98, Sittra 80, and the Birket el-Qarun (in the Fayyum) 141 feet. Aujila and Jalo were, on the contrary, shown to stand 130 and 296 feet respectively above sea-level, so that the marine inlet cannot have penetrated beyond the Bir Rassam at least in recent geological times. Junker also, who in 1875 surveyed the coast district west of the Nile delta and the Natron Lakes farther south,

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found that the Bahr bilâ-Mâ could not have reached the sea in that direction, at all events within the historic period.[1] Thus the projected flooding of the Libyan Desert shares the fate of Rudaire's analogous scheme in respect of the Algerian Sahara (see p. 51).

The Kufara Oases

South of the Aujila depression the land rises steadily to a height of from 1000 to 1200 feet in the Kufara[2] oases, which were first visited by Rohlfs and Stecker in 1879. Kufara lies in the heart of the Libyan Desert, which had already been traversed by Rohlfs in another direction farther east in 1873-4. There are altogether five oases—Taizerbo, Zighen, Bu-Zeima, Erbena, and Qebabo—stretching a distance of 200 miles north-west and south-east, with a total area of 7000 square miles and a population of from 6000 to 7000, belonging to the widespread Arabo-Berber, Zuwaya (Zawiya), and El-Hasûn tribes. Although there are no surface streams, fresh water in abundance is easily obtained by tapping the

[1] Dr. W. Junker, *Travels in Africa*, i. p. 16. But in pliocene times the Bahr bilâ-Mâ appears to have really formed a marine inlet, 95 per cent of the fossils found in its sands belonging undoubtedly to the present Mediterranean fauna. From an obscure passage in Herodotus (ii. 150) it might even be inferred that an underground communication was still maintained in his time between Lake Moeris and "the Libyan Syrtis," though it is uncertain whether this Σύρτις ἡ ἐν Λιβύῃ refers to the Syrtis Major west of Cyrenaica or to some now obliterated Syrtis between Marmarica and the Nile delta. Junker, however, says emphatically that "I must regard it as to the last degree improbable that any watercourse formerly reached this part of the coast from the south or the south-west" (p. 16).

[2] *Kufara* (Kufra), plural of *Kafir*, means "Infidels," and was so named from the pagan Tibu tribe inhabiting it when first reached by the Mohammedans from Barka about 1730. Nearly all the Tibus appear to have been exterminated or driven out at the beginning of the present century.

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underground reservoirs which usually occur at depths of from 3 to 10 feet on the margins of saline ponds and marshes. Besides the spontaneous scrubby and herbaceous flora, yielding good fodder for camels, there are extensive date groves, mainly of the bushy variety, the foliage springing directly from the ground without any stem. These groves contain over a million fruit-bearing plants, of which fully one-fourth belong to the Senûsiya brotherhood. Their *Zawya*, or convent, at Jof in Qebabo, is second in importance to that of Jarabub alone, which it even surpasses in wealth. From this central stronghold, the Khwan or "brethren" are able to exercise a direct influence on all the unruly elements of the Mohammedan world throughout North Africa. This circumstance, combined with their great fertility and their position midway on the caravan route between Cyrenaica and Wadai, imparts to the group of Kufara oases a political and commercial importance out of all proportion with their extent and population.

The Libyan Desert

Formerly Kufara was connected by a well-beaten trade route with the Dakhel oasis in Upper Egypt, and it was by this track, traces of which are still visible, that Rohlfs endeavoured to reach Kufara in 1874. But he was thwarted by the continuous lines of high dunes, all disposed right across his path in the direction from north to south. The expedition was thus compelled to trend northwards between the parallel ridges to Siwah and the Mediterranean coastlands. Thanks, however, to this misadventure, a first exploration was made of a considerable section of the Libyan Desert, which extends from Fezzan eastwards nearly to the Nile Valley, and from the Aujila depression southwards to Sudan. Our knowledge of this

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frightful wilderness was further enlarged by Rohlfs' journey from Cyrenaica to Kufara in 1879, and we now know that the Libyan Desert is perhaps the most utterly desolate section of the Sahara, the only part that fully answers to the former descriptions, which wrongly represented the whole region from Upper Egypt to the Atlantic as a boundless ocean of sand.

In truth the Libyan Desert is little more than a vast sea of sand, shingle, and grit, broken only by the Kufara Archipelago, and a few other evergreen isles, and intersected, especially in the east, by numerous chains of sand-hills resting on its rocky bed like great solidified ocean billows. It is not, however, a true depression, as was formerly supposed, but like the rest of the Sahara, a somewhat level plateau with a gentle but continuous slope from the Sudan northwards. Its western limits are roughly indicated by the Fezzan depression and the Tibesti highlands, while it is naturally bounded northwards by Cyrenaica and the Mediterranean, east and south by the Nile Valley and Sudan. But a region of sandy and stony wastes nearly as large as European Russia, uninhabitable, except at a few isolated spots, and inaccessible except along two or three caravan tracks, must always remain one of the least known portions of the earth's surface.

The orographical and geological conditions, as described by Dr. Ascherson, a member of Rohlfs' first expedition, are of an extremely simple character, and of such a nature as for the most part to render organic life impossible. The coast belt between Cyrenaica and the Nile delta, where the desert reaches the Mediterranean, certainly enjoys a sufficient winter rainfall to afford a few favoured spots, where a little rude agriculture is carried on by the surrounding Uled Ali Arabs. But with these exceptions the arid character of the plateau is maintained

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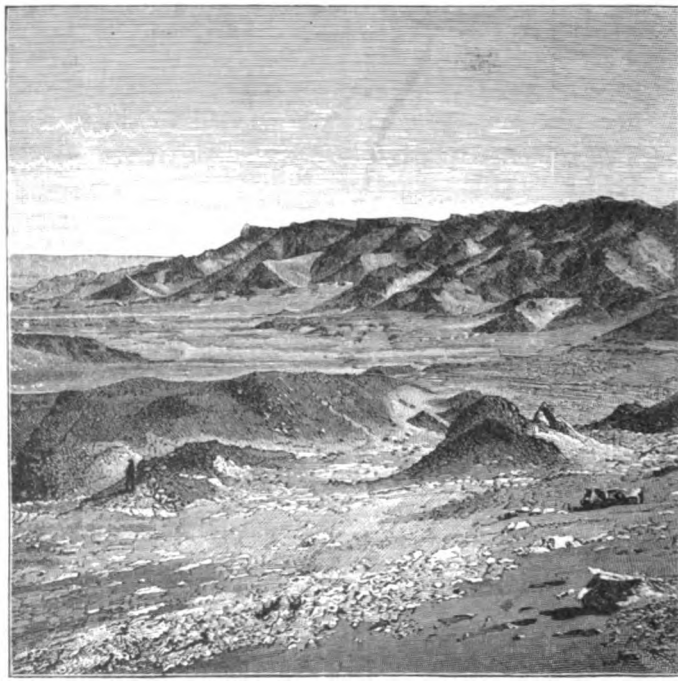
quite up to the sea-coast, while farther west the shores of the greater Syrtis are fringed by utterly barren sandy wastes.

Eastwards the Libyan Desert develops a great lime-



VIEW IN THE LIBYAN DESERT NEAR THE DAKHEL OASIS.

stone plateau, which everywhere presents steep rocky escarpments to the Nile Valley. Here the sandy wastes are relieved by the long line of Uah oases[1]—Bahriyeh,

[1] *Uah* is the Coptic (Egyptian) *ouahe*, an abode, from *ouih*, to bide, dwell, whence the Greek ὄασις (oasis), applied originally to these "abodes," or fertile spots on the Western confines of Egypt, and then extended to similar habitable tracts wherever occurring in all deserts.

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Farafreh, Dakhel and Kharjeh—which occupy depressions several hundred feet deep at the foot of the plateau. West and south of these oases the limitless ocean of sands rolls away in interminable billows of lofty dunes to unknown distances. But towards the south-western verge the Libyan Desert assumes another aspect. Here rises a long range of limestone and sandstone hills, which, beginning some days' journey from the southern border of Fezzan, extend south-eastwards to the northern limits of Darfur. They probably form a connecting link between the Marah Mountains of that region and the Tibesti highlands. At intervals along this line of uplands occurs a series of inhabited valleys, such as Borgu and Wajanga, which form so many stages on the caravan route between Darfur and Fezzan.

Ghat and Ghadames

Although separated by a vast stretch of sands, these two oases belong essentially to the same physical region. Lying on the western confines of the vilayet, they are everywhere enclosed by boundless sandy wastes, which form an integral part of the Great Desert. Both also lie in the same fluvial system, for they are not closed basins like Fezzan, but drain, or rather formerly drained to the Igharghar river when there were perennial running waters in the Sahara. Thus **Ghat** occupies the bed of the Wady Aghelad, which was a south-eastern branch of Igharghar, though now cut off from the main stream by shifting dunes. The Aghelad, or "Passage," trends north to the Iasawan valley along the east foot of the Tasili plateau, which here forms the divide between the waters formerly flowing north to the Mediterranean, west to the Atlantic, and south to the Niger and Chad basins. On

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the opposite or east side the oasis is skirted by the jagged crests of the Akakus range, which is turned at its north end by the route leading east to Fezzan.

Ghat is not an area of continuous verdure like parts of Twat and some other oases, but merely an extensive sandy plain dotted over with clumps or groves of date palms. In the centre of this plain is held the great annual fair to which, combined with its position on the high road across the desert, it owes all its importance. The town of Ghat is a walled enclosure divided into six symmetrical sections by streets terminating at six gates in the walls. As in Siwah and Ghadames these streets resemble underground passages, being sheltered from the glare of the sun by a continuous vault, with here and there a few openings which scarcely admit sufficient light to dispel the gloom. The town has a population of 4000, partly traders from Ghadames, Twat, and other oases, partly descendants of the Ihajenen tribe, who formerly ruled the whole district, and whose Berber dialect is still the current language. Several villages with a collective population of 4000 or 5000 are scattered over the oasis, which has a copious underground reservoir yielding an abundant supply of water for irrigation and other purposes. Here are still bred a few of the humpbacked cattle which were formerly spread over the whole of the Sahara, but which with the change of climate were gradually replaced by the camel.

Ghat was first visited by Richardson from Ghadames in 1845, and again in 1850 by the same explorer, with Barth and Overweg. But since then nearly all attempts to reach the place have ended in murder. Even the German traveller, Erwin von Bary, who penetrated to the oasis in 1876, was assassinated next year on his return journey. The Turks, however, succeeded in capturing

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the town in 1872, and although driven out in 1886 they retook it in 1887. But they are only nominal masters, the true rulers being the all-powerful Senûsiya brethren. Ghat appears to be a comparatively modern place, probably successor to *Rapsa*, a great commercial centre and military station under the empire. At least amongst the first settlers in the oasis were some Berbers, called Kel-Rafsa, that is, "People of Rafsa or Rapta."

Ghadames, on the contrary, has a record which goes beyond the dawn of history. It is the *Cydamus* of the Ancients, one of the great strongholds of the Garamantes, the capture of which by Cornelius Balbus (p. 132) led to the overthrow of their empire and to the extension of the Roman sway over a great part of the wilderness. The oasis, which stands on the chalky Tinghert plateau, 300 miles from Tripolis and 1200 feet above sea-level, is completely surrounded by a circular rampart over three miles in circumference. The town, which occupies the south-west corner of this enclosure, is itself divided into several hostile secondary enclosures inhabited by as many distinct ethnical groups, such as the Beni-Ulid and Beni-Wazît Berbers, the Uled-Bellîl Arabs, besides the Atrîya or Negro freedmen, and a class of emancipated half-castes, all speaking their own languages and Berber as the general medium of intercourse, and numbering collectively about 7000. The narrow vaulted streets branching off in all directions seem to a stranger like the bewildering galleries of a coal-pit, only the roofs are laid out as open-air walks reserved for the exclusive use of the women. The neighbouring gardens, fed by the copious Ain el-Fers spring and numerous Artesian wells, present an exuberant vegetation of palms, figs, apricots, and vegetables, besides a few patches under wheat, barley, and millet. The Ghadamesians, who are born traders,

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have extensive commercial relations with the markets of Tripolitana, Tunisia, Sudan, and have even found their way as far as Egypt and Turkey. A British consular agent has long been stationed in Ghadames, which was first visited by English explorers—Major Laing in 1826, Richardson (1845), and Dickson (1849). Lying close to the Algerian frontier, Ghadames has in recent years attracted the attention of French travellers and politicians —Bonnemain (1856), Duveyrier (1860), Mircher (1862), Largeau (1878), who have prepared the way for its peaceful occupation in the near future. The Turkish authority, represented by a provincial governor and a handful of invalided troops, is little more than nominal. Thanks also to the enlightened spirit of the much-travelled Ghadamesian traders, the Senûsiya order, which secured a footing in the place in 1876, appears to possess far less influence than in the other Saharan oases. Rohlfs' remark that the master of Tripolis is master of the Sudan, might, perhaps, under the altered conditions, be more truthfully applied to Ghadames, converging point of all the more frequented caravan routes from Twat, Timbuktu, Sokoto, Lake Chad, and Fezzan.

Fezzan

The zone of oases known to the Ancients by the name of Phazania, and occupied by the Romans till their expulsion from Africa by the Vandals, was overrun by the Arabs about the end of the seventh century, and attached to the Turkish regency of Tripolis in the sixteenth century. In modern times Fezzan was first reached by Hornemann, who in 1798 advanced from Aujila across both the Black and White Harûj ranges to Murzuk, the chief centre of population and the great

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trysting-place of all more recent travellers penetrating from Tripolis across the Sahara to the Chad Basin.

The large space round about Murzuk marked off on most maps from the desert, coloured green and labelled "Fezzan," suggests the idea that Murzuk is also the centre of an extensive arable and habitable region in the middle of the Sahara. But such is far from being the case, and a nearer inspection resolves this enclosed space into a monotonous sandy expanse a little more thickly strewn with verdant isles than the surrounding wastes. Travellers descending the slopes of the Jebel es-Suda, which forms the natural northern boundary of this group of oases, are not for a long time conscious of any marked change in the environment beyond a transition from the more stony Hammada el Homra to the fine sands characteristic of the Central Sahara. The greater part of Fezzan presents, in fact, a dreary and silent landscape of barren desolation canopied by an everlasting blue sky, from which the solar furnace has evaporated every particle of moisture. Some districts are almost as bad as the Hammada itself; in others the palm groves have already been overwhelmed by the advancing dunes, and in several places Barth's people had to flatten away the crests of the steep sandhills "in order to facilitate the camels' ascent" (i. 149).

But as the traveller advances southwards his eye is relieved by the soft vegetation of the oases which begin to cluster round the capital, and which seem like gardens of Eden after the weary journey across the hard stony plateau, the shadeless sandy depression and drifting yellow dunes at the foot of the Jebel es-Suda. At about 26° 30′ S. lat. the caravan route crosses the Wady Lajâl, a long narrow valley which trends south-west and north-east in the direction of the White Harûj,

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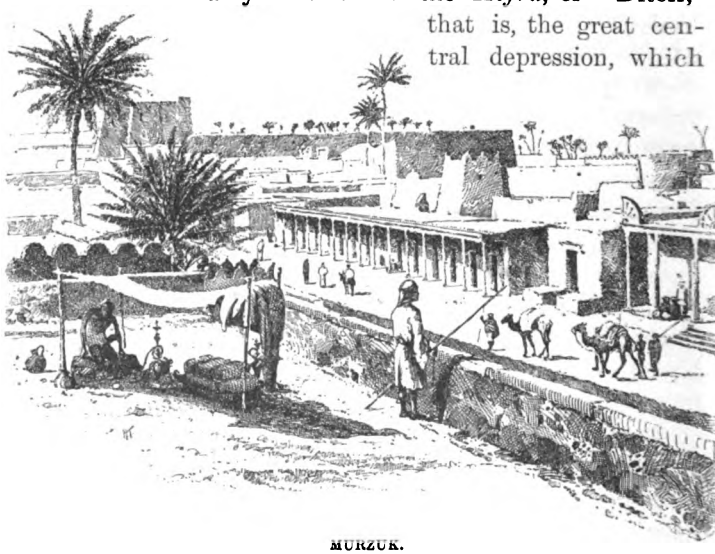
and the western section of which (Wady Gharbi) is the most fertile tract in the whole of Fezzan. Here are numerous perennial springs, wheat and barley fields, and date groves enlivened by flocks of doves and hoopoes. Here also was *Old Jerma* (Garama), former capital of the Garamantes and of the Roman province, but now replaced by *New Jerma*, a little farther north. The present capital, Murzuk, founded some seven centuries ago, is much less favourably situated in the *Hofra*, or "Ditch," that is, the great central depression, which



MURZUK.

at the Wady Sherkiya wells farther east sinks to its lowest level (600 to 700 feet above the sea). Why this unhealthy site was chosen for the new capital was already a wonder to the Arab traveller Mohammed el-Tunsi (Mohammed of Tunis) over 500 years ago. "How," he asks, "can one live in a place where not

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a single savoury dish can be had, where not a drop of rain falls, where man like the animals has to put up with a few dates, where fever has its head-quarters, where wheat is the diet of kings alone, where butter can no more be procured than the philosopher's stone, where man contends with the lamb for the clover dear to ruminants, where a fowl fetches half a mitkal of gold?"[1]

The description still mainly applies to Murzuk, whose only monument is a massive gloomy citadel eighty feet high, and whose 7000 inhabitants depend chiefly on the profits of the transit trade between Sudan and Tripolis. Unfortunately this traffic still consists largely of slaves captured during the organised man-hunting raids of the Sudanese Mohammedans to the pagan districts farther south, and brought to the great central slave-mart of Kuka in Bornu on the west bank of Lake Chad. Here most of them are purchased by Arab dealers, and marched by arid tracks across the desert for about 800 miles to Murzuk, and thence formerly to all the Mediterranean coastlands; but since the European occupation of Algeria, Tunis, and Egypt, chiefly to Tripolis; one great annual caravan from Kuka alone brings about 4000, and the whole number yearly passed across the desert by this route was estimated by Nachtigal at 10,000. The hardships and tortures endured by these wretched gangs of slaves may be conceived from Rohlfs' description of the track along which they are marched: "On both sides of the route are seen the blanched bones of dead slaves, many of the skeletons being still wrapped in their blue negro garment. Any one ignorant of the way to Bornu would only have to follow the bones strewn right and left of the path."

[1] *Travels*, quoted by Nachtigal, *Sahara*, vol. i.

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From Murzuk another beaten path leads across a stony waste known as the "Hammada of Murzuk," eastwards to the oasis of Ghat, and it was at the Sharaba wells on this route that Miss Tinné was murdered by the Tuaregs in 1869. East of Murzuk follow the oases of *Traghen*, formerly capital of a Negro state; *Zuila* and *Temissa*, already in the heart of the wilderness, and away to the south-east *Wau el-Kebir* discovered by Beurmann in 1862, and now held by a branch of the Senûsiya brotherhood. Southwards the Fezzan depression again rises to an altitude of 2000 feet, and in this direction lies the oasis of *Gatron* held by a community of Negroid Marabouts ("Saints") from Marocco, who enjoy a monopoly of the transit trade between Fezzan and the Tibesti uplands. Beyond Gatron follows *Tejerri*, on the verge of the desert, interesting to botanists as the southern and northern limit of the range of the date and dum palms respectively. Beyond Tejerri the Saharan plateau rises continuously to the Tibesti highlands. From this it seems evident that Fezzan is a true depression, a lacustrine basin without seaward outflow, which, like Lake Chad of Central Sudan, was also flooded in a former geological epoch, when the Sahara itself enjoyed a more favourable climate than at present.

Climate, Flora, Fauna

Even still there are some permanent and intermittent lakes in the sandy Edeyen district between the Jebel es-Suda range and the Wady Lajâl valley, which is all the more remarkable that Fezzan now lies altogether within the rainless zone. One of these basins, the saline Bahr el-Dud ("Sea of Worms"), has an area of no less than 600 square miles, with a depth, according to Vogel,

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of at least 26 feet. Years often pass without any rain, which, when it does fall, is not at all welcomed by the inhabitants of the oases. As in the arid districts of California, it does far more harm than good, the sudden tropical downpours washing away the surface soil, uprooting the palms, and generally disturbing the regular system of artificial irrigation from the underground reservoirs. The climatic conditions correspond in other respects to those of the surrounding desert, the characteristic feature being an extreme range of temperature, not from season to season, but from day to night, which is due to excessive radiation of heat from a rocky or sandy surface into a pure almost dewless atmosphere. The mean annual temperature is about 82° F., rising in summer to 110° and even 120° in the shade, and in the sun to 180°, and at night falling as low as 45° or 50°. Snow is said occasionally to fall on the surrounding heights, and as in other parts of the Sahara, the shallow waters are often covered at dawn with a thin film of ice.

Despite these violent transitions, the date thrives well in the oases of the hofra, where as many as three hundred varieties are said to occur, yielding an abundance of nutritious food to the inhabitants, to all their domestic animals, and even to the gazelles of the desert. Wheat, barley, cotton, tobacco, and indigo are also grown, while alfa-grass, clover, and scrub yield plentiful fodder for the camels, said to have been introduced from Egypt in Roman times. Previously the Garamantes bred cattle, horses, and asses, as shown by the sculptures on the rocks at Telissarhé, south-west of Murzuk. At present neither these animals nor sheep and goats are suited for the climate, which has become much drier even within the historic period.

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A characteristic growth of the Hammada are truffles of fine flavour, which occur in great abundance. Here also Barth met the *asfir*, a little green bird "which lives entirely upon the caravans as they pass along, by picking off the vermin from the feet of the camels" (i. 136).

In the Tripolis district the annual rainfall scarcely exceeds 7 or 8 inches, and the discharge is mainly confined to the winter months, during the prevalence of the moisture-bearing northern and western winds from the Mediterranean. These are succeeded in summer by the north-east winds, which temper the heats on the coastlands, but also endanger the shipping along the exposed surf-beaten shores of the Syrtes. At times the winds veer round to the south, and then the sandstorms from the desert reach the coast, strewing the decks of vessels in Tripolis harbour with thick layers of dust, and filling the air with dense fog. Most of the rain-charged clouds are intercepted by the scarps of the plateau encircling the capital. Hence, these heights are occasionally exposed to heavy downpours, and in winter even to snowstorms. On one occasion, in the month of February, Barth found the whole country covered an inch deep with snow, which did not melt till late in the afternoon (i. 52). Few regions of the globe are subject to more violent contrasts than such wintry snows followed by the *gebli* or hot south winds, charged with the sands of the desert. Similar contrasts are presented by the changes of temperature, which at times falls below freezing-point and then rises to 150° and even to 170° F. at noon, making the ground so hot that Rohlfs' dog had to be shod with sandals to enable him to endure the burning sands of the plateau.

Tripolitana may be regarded in its flora as a transitional region between the Sahara and the Mediterranean

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lands. In many places the characteristic plants of both, such as the date and olive, are found intermingled, forming in the more favoured spots delightful oases of verdure amid the surrounding wastes. The finest dates, though still inferior to those of Algeria and Marocco, come from the Gharia district in the Zemzem valley, where extensive groves occur containing tens of thousands of plants. Elsewhere, wheat and barley are successfully cultivated, and such southern fruits as the fig, apricot, vine, pomegranate, quince, and especially the almond, arrive at great perfection. Tufts of *shi* (wormwood), affording fodder for camels, occur at intervals, even on the stoniest plateaux, while many of the wadys are overgrown with forests of mastic, sodr, pistachio, tamarisk, the talha acacia yielding an excellent gum, and *beshna* (alfa-grass), which has already begun to be exported.

With the increasing dryness of the climate, all large animals, both wild and domestic, the camel alone excepted, have either disappeared or deteriorated. A few horses and cattle are still bred, together with asses, large flocks of goats, and some fat-tailed sheep, which in these latitudes have not yet lost the woolly coat they lay aside within the tropics. Beasts of prey are chiefly represented by the fox, and game by the moufflon, gazelle, hare, and rabbit. Marmots are numerous, as are also the much-feared gecko and horned viper.

But farther east the hyena and jackal still infest the wooded slopes of the Jebel Akhdar, where the thickets afford cover to the wild boar. In other respects the fauna of Cyrenaica differs little from that of Tripolis West. But the flora is far richer and of more vigorous growth, thanks to a more copious annual rainfall, which rises from about 14 inches in Marmarica, to over 20 inches on the higher

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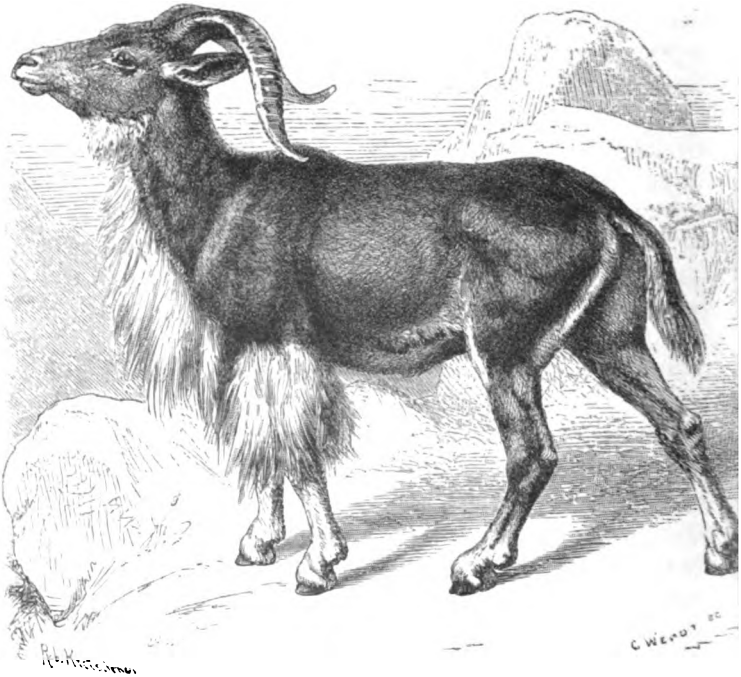
plateau of Barka. Here also the summer heats are tempered by cool sea breezes, so that the glass, which rarely falls in winter below 50° F. at Cyrene, seldom rises above 86° F. in the hot season. Thus Cyrenaica, where many have sought for the "Garden of the



AFRICAN MOUFFLON (AMMOTRAGUS TRAGELAPHUS).

Hesperides" of the Ancients, still enjoys, as in the days of Herodotus, one of the most delightful and equable climates in the world. Speaking on the report of the natives themselves, the historian tells us that "the territory of Cyrene, the most elevated part of Libya,

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inhabited by the nomads, has three seasons, which are disposed in admirable succession; for the fruits which abound on the sea-coast are the first to ripen and to be garnered; scarcely are these saved when those of the intermediate zone, above the sea, which they call The Hills, are ready to be gathered; and lastly, the fruits of this middle zone being collected, those on the highest grounds are bursting into maturity. Thus, by the time the first harvest is consumed the last is available, and in this way the Cyreneans are engaged for eight months on their harvests." [1]

The description, which might still hold true were there any industrious peasantry on those now desolate uplands, recalls the superimposed zones of vegetation in the hot, temperate, and cold regions of Guatemala and Mexico. In Cyrenaica also, the early ripening cereals of the coastlands are succeeded by the laurel, myrtle, and other evergreen shrubs, clustering round the evergreen oaks and tall cypress of the seaward slopes, and these by the acacia, pine, carob, and drias (adrias) of the higher grounds. The drias appears to be the silphium (*Thapsia garganica*), a plant so highly prized by the Ancients for its medicinal properties that its hardened sap fetched its weight in silver. At present this highly favoured region yields nothing but a little wheat, barley, tobacco, olive oil, and wild honey of exquisite flavour. Tillage is carried on with the most primitive implements, and no attempt is made to husband the rain waters, which rapidly disappear in the fissures of the limestone plateau, so that in the whole of Cyrenaica there is no longer a single perennial stream.

[1] Book iv. sec. 199.

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Inhabitants

Considerable changes have taken place in the ethnical relations of Tripolitana since the time of Herodotus, when Libya was inhabited by "four races," two indigenous, the Libyans and Ethiopians; two intruders, the Phœnicians and Greeks (iv. 197). The Libyans, that is the Berbers, are still there, though mostly Arabised; the Ethiopians, that is, the Negroes, are represented only by the slaves and freedmen, and a strain of black blood, very marked especially amongst the peoples of Fezzan; the Phœnicians and Greeks have been entirely eliminated and replaced by other "intruders," chiefly Arabs, but also Turks, Jews, Maltese, Italians, and a few others from the northern shores of the Mediterranean in the north, and in the extreme south a few Tibus, unless these are to be taken as the feeble descendants of the Negro or Negroid Garamantes, spoken of by the Greek historian as "an exceeding great nation."[1]

At the dawn of history the Libyans appear to have been mainly confined to the Mediterranean coastlands, while the Ethiopians occupied most of the inhabitable parts of the great desert.[2] But even then there must have been considerable overlappings and interminglings,[3] and throughout the historic period the Libyans (Berbers and Tuaregs) have been continually encroaching on the Ethiopian domain, so that at present the Negroes are

[1] *ἔθνος μέγα ἰσχυρῶς* (Book iv. 183).

[2] "It may be gathered, even from ancient writers, that they [the Libyans] did not extend to the very border of the naked desert, and that they were bounded on the south by a region [the Sahara], occupied by Ethiopian [Negro] races" (Barth, i. p. 224).

[3] Hence such names as *Leukaethiopes* ("White Ethiopians"), which may be compared with the *Celtiberi* of the Iberian Peninsula.

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nowhere found in independent groups north of the Sudan. They are most numerous in Fezzan, where they form the substratum of the population; but this substratum represents, not the original Ethiopians of the Sahara, but later importations from the south. A great stimulus was given to the onward movement of the Libyans by the general migration of Arab families into North Africa instigated by Ahmed ben Ali el Jerjerâni, who died in 1045. Then took place that tremendous dislocation of the Mauritanian populations, during which a large section of the Berbers withdrew from the plains to the uplands, while others retired to the wilderness. Here they were later followed by the Arabs themselves, so that at present many Arab tribes are found, not only in the Western Sahara, but also in the central districts. Such are the fierce Aulad Slimân of the steppes near Tripolis, whence they have sent numerous plundering expeditions to Fezzan and even as far south as Kanem and Bornu in the Chad basin, where some of them are now permanently settled.[1] In Tripolitana the outcome of all these peaceful and warlike historical migrations, is that in Cyrenaica the Libyan element has entirely disappeared, or become assimilated to the Arab; in Tripolis West both still bear somewhat the same relation to each other as at the first displacements, the Arabs occupying the Jefâra plains, the Berbers though largely Arabised, and often passing for Arabs, holding the Ghurian and other escarpments of the plateau encompassing the capital; in Fezzan and the Hammadas the Arabs, pure or mixed, are dominant; in Aujila and Jalo some of the Libyan aborigines still hold their own (Wajili), while others have been Arabised (Mojabra); in the other oases, such as Leshkerreh and Kufara, the

[1] Nachtigal, *Sahara*, ii. *passim*.

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Arabs with a distinct strain of Negro blood are almost exclusive masters. The present distribution of these diverse elements is shown in the subjoined table of all the

Arabo-Berber Populations of Tripolitana

Arabs	*Awaghir*, widespread in Barka.	
	Eshteh, Jebel Akhdar, above Benghazi.	
	Abeidat, *Berasa*, *Hassa*, *Dorsa*	Jebel Akhdar, east and west of Cyrene.
	Harabi, *Mogharba*	Southern slopes of Cyrenaica, and Wady esh-Shiati.
	Aulad Ali, Marmarica, intruders from Lower Egypt.	
	Zwiya, Leshkerreh and Kufara oases, and south of Benghazi.	
	Uled-Bellil, Ghadames oasis.	
	Ulad Slimân, west of Tripolis and Fezzan.	
	Riah, between Sokna and the Black Harûj.	
	Hotman, Wady esh-Shiati.	
	Beni-Jehem; Kadadifa; Aulad Bu-Seif; Sfradna; Aulad Yusef; Beni Ulid; Hamadat; Bu-Ajela; Nuail Orfella; Wershefana; Belasa; Urjamma; Urgaat; Akarah.	The Jefâra steppe east to Cyrenaica and west to Tunisia, some (Orfella, Bu-Seif) also in Fezzan.
	Drahib; Welad Bu-Sid; Welad Ali; Welad Bu-Marah; Marghana; Firjan; Welad Yusuf; Welad Mehada; Naajc; Welad Bu-Selem; Mata; Khwarish; Gerakta; Bu-Saba; Shefatra; Erhaimiyeh.	Tarhona and Meselata districts; south-east from Tripolis.
	Guntarer, Wady Sofejin.	
	El Asâba, Yefren and Ghurian slopes.	
Berbers	*Merabetin Selahet*, *Merabetin Bu-Aaysha*, *Megaigera*	Tarhona uplands.

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BERBERS	*Riaina; Khalaifa; Wuerje; Zintan Rujban; Fissam; Selemat; Arhebat Weled Shebel; Haraba; Genafid; Kabaw; Nalud.*	Ghurian and Yefren uplands south and south-west of Tripolis —mostly Arabised.
	Mojabra } Aujili and Jalo oases *Wajili* }	All of Berber speech except the Mojabra.
	Ihajenen, Ghat oasis	
	Kel-Tinalkum, west of Murzuk	
	Beni-Uled } Ghadames oasis *Beni-Wazit* }	

Nearly all the Arabs included in the list are strictly nomad, living in tents and moving with the seasons from one camping-ground to another. Some, however, have become sedentary, and cultivate a little land, especially about Benghazi, and in the fertile districts around the shores of the Syrtes. Besides these there are numerous communities which enjoy great repute, either as *Shorfa* (descendants of the Prophet), *Marabouts* (saints and recluses), or *Khwan*, *i.e.* "Brethren," members of the Senûsiya confraternity. Most of the Shorfa appear to have come, not from Arabia, but from Marocco, whither their ancestors had penetrated during the first years of the Mohammedan irruption into North Africa. This retrograde movement is still going on, and thousands are now moving from Algeria and Tunisia into Tripolitana to escape the hated yoke of the "Kafir." The immigrants are acting at the instigation of the

Senûsiya Brotherhood,

a semi-religious semi-political body, which, since its foundation by the Algerian Sheikh Senûsi el-Mejahiri, about fifty years ago, has acquired immense influence throughout the Mohammedan world. After his expulsion

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from Mecca in 1843, this reformer set up as a zealous preacher at Benghazi, where he soon attracted such numbers of devotees, that he was able to found a first *zawya* (convent, mosque, school, hospital, and stronghold all in one) in the fertile district west of Cyrene. But under pressure of the European consuls he was induced to withdraw in 1855 to Jarabub in the Faredgha oasis, where he died four years later "in the odour of sanctity."

Since then the society has continued to flourish under his son and successor, who, like his Sudanese rival, is also regarded as a true *Mahdi* ("Guided"), destined to restore the power of Islam. A large number of zawyas, each a little centre of fanaticism, industry, and even culture, has been founded, especially in Tripolitana and the Saharan oases, and Jarabub, present headquarters of the brotherhood, has become the capital of a politico-religious organisation which numbers millions of devoted adherents, and which makes its influence felt from the Mesopotamian plains to the shores of the Atlantic. Turkey keeps its governors and other paid agents in the Tripolitan oases and in Fezzan; but the true rulers of all these populations are the Khwan, who are all the more dangerous propagandists that they profess to abstain from all political agitation. Even the Nubian Mahdi they refused to countenance, but only because the time had not come. Meanwhile the organisation continues to expand, and has lately become all-powerful in Wadai, where the Sultan and all his Moslem subjects are affiliated to the brotherhood.

The Turks, Jews, Negroes, and Europeans

Although Turkish, as the official language, is dominant in the capital, the Turks themselves are chiefly represented

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in Tripolitana by a few arrogant officials, and by the so-called Kulugli, a term applied indifferently to all the half-breeds whose fathers are Turks and whose mothers are Berbers, Arabs, or even mulattoes. These Kulugli are a privileged class, who are exempt from taxes, but bound to join the irregular forces whenever called out.

Some of the Jews appear to be the direct descendants, not, as has been said, of the lost tribes, but at all events of immigrants settled in the country since the Ptolemaic dynasty. Despised by the Turks and Arabs, they live on good terms with the Berbers, and, like them, some have even become troglodytes, dwelling in the limestone caves of the Ghurian uplands. Here the underground village of Housh el-Yehúd, as indicated by its name, is entirely inhabited by them, and Barth is of opinion that the subterranean dwellings described by Captain Lyon (1819) "have originated principally with the Jews who, from time immemorial, had become intimately connected with the Berbers, many of the Berber tribes having adopted the Jewish creed" (i. 48). All are strict observers of the law, and appear to betray a low degree of intelligence.

Nearly all the Negroes are slaves, kept in the large towns for domestic service. They are imported from all parts of Sudan, and are generally bilingual, speaking Arabic with their masters, and Kanuri, Fulah, Hausa, and other Sudanese languages amongst themselves. Hausa especially, the great *lingua franca* of Central Sudan, may be heard currently spoken in the streets of Tripolis and Murzuk, where many travellers have been able to study its structure as a preparation for their long journeys in the interior. The Negro element enters largely into the composition of the general population of Fezzan, which

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in this, as in other respects, forms a land of transition between the northern and central regions.

Of the 5000 or 6000 Europeans, nearly all settled in the coast towns, about 4000 are Maltese, themselves more than half Arabs in speech and origin. The remainder are nearly all Italians, and there are probably not more than 300 of other nationalities in the whole of Tripolitana. Although the climate and soil are well suited for colonisation in parts of Barka and on the Ghurian uplands, no movement in this direction is likely to take place under the Turkish administration.

Towns, Stations, Administration

Except Ghat, Ghadames, and *Murzuk* described at pp. 151-2, there are no large centres of population in the interior, where one of the most important places is the *Zawya el-Istât* ("Convent of Purity"), headquarters of the Senûsiya brethren in the *jof* ("depression") of Kebabo, southernmost of the Kufara oases. Even on the seaboard, once so thickly studded with great cities and flourishing marts, the only places worthy to rank as towns are *Tripolis*, capital of the regency, and *Benghazi*, the chief seaport of Barka. Tripolis, distant about 210 miles south by west of Malta, with which it is now connected by a submarine cable, occupies the south-west side of a crescent-shaped bay, partly sheltered by a low chain of reefs from the fierce north-westerly gales. The harbour, or rather roadstead, has a depth of 16 to 20 or 22 feet, but owing to the dangerous bar, it is inaccessible to ships drawing over 14 feet. The city, which presents a pleasant prospect from the sea, is enclosed by crumbling ramparts partly built on the old walls of the Phœnician *Uayat*, that is, the *Oea* of the Romans. The

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narrow, tortuous streets within the ramparts are chiefly lined with monotonous Arab houses, contrasting with the huge barracks, magazines, prisons, and other structures in the Turkish style familiar to travellers in the Levant. The city proper, with the Maltese suburb and the Marina, or European quarter, has a total population of 30,000, and about the same number, chiefly Arabs and emancipated Negroes, are scattered over the Meshiya, a belt of palm groves and sandhills occupying a considerable space round about the ramparts. Here is a vast underground reservoir, which is tapped by numerous wells, yielding a copious and perennial supply of water for irrigation purposes.

Tripolis stands at the seaward head of three great trade routes diverging south-west to Ghadames, south through *Mizda*, *Sokna* and Fezzan to Central Sudan, and south-east to Wadai for Darfur. Although a small place, with a population of scarcely 500 Arabised Berbers, Mizda derives some importance from its position on the main route, 110 miles due south of Tripolis, at the converging point of the roads from Murzuk and Ghadames. The small but fertile oasis lies in the upper part of the Wady Sofejîn at an elevation of 1018 feet, and the station, probably the *Musti Komē* of Ptolemy, has in recent years became one of the strongholds of the Senûsiya brotherhood. In the district are numerous remains of tombs and other Roman monuments, as well as of a fine Christian church described and figured by Barth (i. ch. 4). About eight caravans of from 1000 to 3000 camels are yearly equipped for the interior by the Ghadames and Murzuk routes, while the traffic on the Darfur track has greatly increased since the closing of the Nile route by the revolt of the Mahdi. The caravans are freighted chiefly with cotton and other European wares, and take from two to three months to reach the Sudan,

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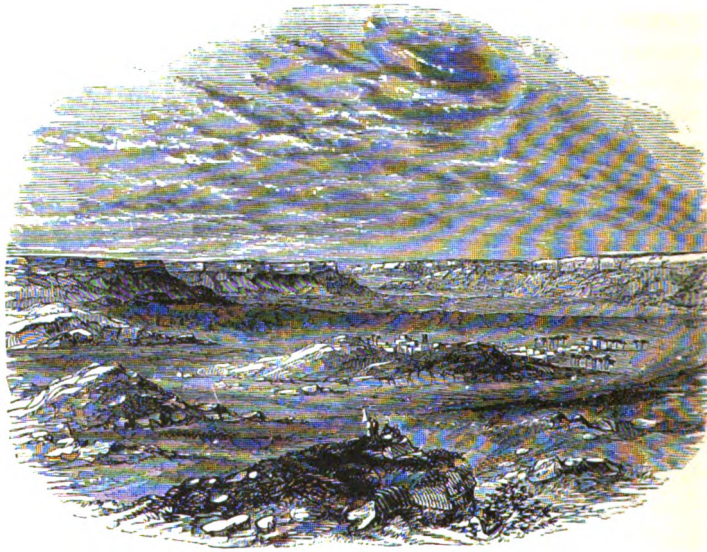
whence they return with gold dust, ostrich feathers, ivory, and large numbers of slaves. But the chief article of export is alfa-grass, from the seaboard steppes, nearly all shipped for Great Britain, with which more than half of the foreign trade is carried on largely through Malta.

Much of the alfa is forwarded from the little port of



MIZDA.

Lebda, which now represents the great city of *Leptis Magna*, with its hundreds of thousands of inhabitants and superb monuments of Phœnician and Roman architecture. Of *Sabrata*, on the opposite or west side of Tripolis, nothing remains except a few heaps of ruins, to which the Italians have wrongly given the name of *Tripoli Vecchio*, or "Old Tripolis."

The same picture of decay is presented by the sea-

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board of Barka, where all the Greek cities of Cyrenaica have disappeared except *Euhesperides*, later *Berenice* and now *Benghazi*, capital and only town of East Tripolitana. Benghazi occupies the southern extremity of a promontory which formerly enclosed a spacious natural haven on the dangerous north-east coast of the Great Syrtis. But the harbour has been partly filled up by the ruins of a castle swept away by the sea, while the inner basin has been transformed to a shallow lagoon, which in summer is a dry salt-pan. Hence the modern harbour is inaccessible to vessels drawing more than 6 or 7 feet, and is so exposed to the north-westerly gales that all traffic ceases during the winter months. Its 15,000 Arab, Jewish, Berber, and Negro inhabitants trade chiefly in cereals, wool, live stock, hides, salt, butter, and sponges fished in the neighbouring waters, taking in exchange cotton goods, sugar, wine, and timber.

Derna, on an exposed roadstead east of Benghazi, is noteworthy as the only place ever occupied by the Americans on the African continent. It was captured by the fleet despatched in 1815 by the United States Government against the corsairs of Tripolis. The ruins of a battery erected on the heights are still visible, and nothing has been done to complete the harbour works begun by them. *Marsa Tobruk* (*Tabarka*), near the Egyptian frontier, appears to be entirely deserted, although it has the advantage of a spacious natural haven 34 feet deep and two miles long, sheltered from all except the east winds. A breakwater at the entrance would suffice to make this place one of the finest naval stations and harbours of refuge in the whole of the Mediterranean. Its occupation by the present masters of Egypt might help to "restore the balance" threatened by the French operations at Biserta (see p. 58).

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The regency is administered, as elsewhere in the Ottoman Empire, by a *vali* who has control both of civil and military affairs, ranking as a *mushir* or "marshal," and disposing of about 10,000 regular troops. Under him are the *mutaserifs* and *kaimakans* (provincial governors), and the *mudirs*, who have replaced the *caids* or heads of cantons and communes. But the Arab tribes have still their sheikhs, and the Berbers their *jemaa* or assemblies, through which the taxes are raised.

The revenue ranges nominally from £120,000 to £160,000; but probably over £1,000,000 is actually extorted from the people by arbitrary measures and the venal dispensation of justice. The maintenance of order is entrusted in the towns to the *zaptiehs* or "police," who, like the higher officials, are often criminals or victims of court intrigues banished from other parts of the empire.

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CHAPTER IV

THE SAHARA

Extent, Population—Political Status: French Aims and Prospects—Historic Survey—Geographical Exploration—Origin and Character of the Sahara—Plateau Formation—Varied Physical Features: The Oases—The Sandhills: Origin of the Dunes—The Northern Oases: Wargla, Ghardaya, El-Golea—Twat—The Eastern Erg: Tademait, Tasili and Ahaggar Uplands—The Tibesti Highlands—Borku, Ennedi, Wanjanga—Kawar Oases: Bilma—Asben (Air) Uplands: Agades—Damerghu—Timbuktu, Adghagh (Adrar)—The Western Sahara—Coastlands: Arguin, Rio de Oro, Cape Juby—The Adrar Uplands: Tafilelt, El Juf—El Hodh, Taganet, Azawad, Aherer—Hydrography of the Sahara—Climate, Winds, Sandstorms—Changed Climatic Conditions—Flora and Fauna—Inhabitants—Table of the Saharan Populations—The Saharan Arabs—The Tuaregs—The Tibus—Communications: The Caravan Trade.

Extent, Population

ACCORDING to the various standpoints from which the Sahara, that is, the "Desert"[1] in a pre-eminent sense, has been considered by geographers, their estimates as to its limits and extent vary enormously. Taken in its relations to climatology, it must be regarded as the western section of the vast rainless, or nearly rainless, zone of arid plateaux and sandy wastes, which with little

[1] For the meaning and proper pronunciation of this word see note p. 4.

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interruption girdles round the northern division of the Eastern Hemisphere from the Pacific seaboard to the Atlantic Ocean. If those regions are properly regarded as "desert" which enjoy a mean annual rainfall of less than 10 inches, then this western or African section will roughly comprise all the lands extending from the Mediterranean seaboard in the north southwards to the Sudan, and from the Red Sea westwards to the Atlantic. Here the precipitation averages scarcely more than 5 inches, and in many districts, as for instance in Egypt itself, little or no rain falls for years together. As thus defined, and the definition corresponds also in a general way with its geological constitution, the Sahara may have a total area of 3,500,000 square miles, the estimate given by Dr. J. Murray[1] and some other more recent observers. But its uniformly arid character is interrupted along many more favoured parts of the Mediterranean seaboard, and throughout the Lower Nile valley, where the regularly recurring inundations more than compensate for a copious but uncertain rainfall. Hence these northern and eastern border-lands, in which field operations are profitably carried on, must necessarily be excluded from the strictly desert zone, which is thus reduced by Mr. E. G. Ravenstein[2] to 2,386,000 square miles with a sporadic population of 1,400,000.

Political Status: French Aims and Prospects

In the late partition of the continent the eastern section, known from remote times as the Libyan Desert, has been overlooked, either because unworthy of consider-

[1] "On the Origin and Character of the Sahara," in *Proc. Roy. Geog. Soc. for* 1890, p. 464.

[2] In A. S. White's *Development of Africa*, p. 86; and elsewhere.

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ation, or else because regarded as the hinterland of the Powers dominant in the Nile Valley and Mediterranean seaboard. On some recent maps the whole of the west coast between Marocco and Senegambia is wrongly coloured "Spanish." Spain lays claim only to the strip, some 500 miles long, which extends from Cape Bojador southwards to Cape Blanco, to which point the French Senegambian possessions have been extended by mutual agreement. Since 1886 the frontier between the French and Spanish spheres of influence is indicated by a conventional line running from Cape Blanco in the direction of Timbuktu. The stretch of sandy coastlands between Cape Nun, southernmost limit of Marocco, and Cape Bojador, has not been formally appropriated by any Power. But an English company has founded a factory at Cape Juby, and formed treaties with the local chiefs, establishing a claim to the whole territory, though the British Government has set up no title to a protectorate in this district. In the interior no definite limits have yet been assigned to the Spanish sphere; but treaties appear to have been made with the Sultan of Adrar and other neighbouring potentates, in virtue of which the Spanish protectorate would extend along the southern frontier about 600 miles towards Timbuktu, and along the northern for 420 miles from Cape Bojador in the direction of Tenduf.

But these shadowy frontiers are left for future arrangement with France, which in 1890 proclaimed the whole of the Western Sahara between Algeria and Senegambia a French hinterland, or within the sphere of French influence. Of a protectorate, or any closer connection, there could be no question in a region where the local Tuareg chiefs recognise no masters, and whence few European adventurers return to relate their experiences. Nevertheless by the Anglo-French Agreement of August 5,

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1890, Great Britain recognises "the sphere of influence of France to the south of her Mediterranean possessions, up to a line from Say on the Niger to Barrua [Baruwa] on Lake Tsad [Chad], drawn in such a manner as to comprise in the sphere of action of the British Niger Company all that fairly belongs to the kingdom of Sokoto, the line to be determined by the commissioners to be appointed."

Nothing has been determined with regard to the rest of the Sahara, that is, the central region between the meridian of Baruwa and the Libyan Desert, which is skirted on the west by the direct caravan route between Murzuk and Lake Chad, and traversed in the direction from north-west to south-east by the Tibesti highlands, home of the fierce and indomitable Tibu nation. But France has secured all that she at present needs—the formal recognition of her exclusive control of all the space between her Algerian and Senegambian possessions, to which she hopes eventually to give commercial as well as abstract political unity by the projected trans-Saharan railway between the Algerian system and Timbuktu and St. Louis, on the Atlantic Ocean. The prospects, however, of such a scheme being realised are remote. All the fanatical Tuareg and Arab tribes of the wilderness will have first to be reduced, and a trunk line then constructed, over 2000 miles long, running for most of the distance through permanently unproductive sandy wastes. The trade that may thus be created between Sudan and the Mediterranean will have moreover to compete with the traffic already developed by British enterprise along the far less costly ocean route between the Niger basin and England. It is obvious that such a trans-Saharan line can never yield any returns to shareholders, and that, if ever constructed, it can never serve any purpose

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beyond giving France military control over a few lawless nomad populations at an enormous annual charge, and without any appreciable advantage to the mother country, already heavily burdened with the yearly deficits of her Algerian and Senegambian colonies.

Historic Survey

From time immemorial the Sahara has formed a barrier between the northern Hamitic and the southern Negro peoples far more impassable than lofty mountain ranges. This barrier is not known to have ever been crossed by the nations of antiquity, unless credence can be given to the story reported by Herodotus (Book ii.) of the five adventurous Nassomon youths, who some five centuries before the new era made their way across the desert to a southern region inhabited by Ethiopian dwarfs, and traversed by a river flowing from west to east. Although the Nassomones dwelt to the south of Cyrenaica, it is assumed that this river must have been the Niger, which for a part of its middle course trends west and east. But this part of the Niger lies over 2000 miles to the south-west of Cyrenaica, and could not possibly have been reached by any travellers starting from that district. Even if they succeeded in surmounting the Mons Ater (p. 133) lying athwart their track, they must have been intercepted by the Garamantes of Phazania, while a more southerly course would have brought them to the foot of the Tibesti range, where they would have found running waters and fertile lands, inhabited, not by pigmies, but by the Tedamensae, forefathers of the present Teda or northern Tibus.

Nor could any one then, any more than now, venture to plunge into the frightful solitudes of the Libyan

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Desert, except along known trade routes and in company with caravans, if any regular trading relations had at that time been developed with the far interior. Herodotus speaks of none, and as far as our knowledge goes, no such intercourse was established till the introduction of the camel by the Arab invaders in the seventh century. For these "children of the desert" the wilderness had no terrors, and the Saharan barrier, which had arrested Phœnicians, Greeks, and all sedentary Mediterranean peoples, was first completely broken down by these fiery apostles of Islam. According to the native records brought to light by Barth, the Arabs had crossed the Western Sahara and reached the Niger basin within the first century of the Hejira (722 A.D.), when mosques and schools were already opened in the Negro kingdom of Ghanata (Ghana), west of Timbuktu. An organised system of caravan traffic had certainly been established between the Middle Niger and Mauritania some time before the close of the ninth century, and by the year 1000 nearly all the Berber tribes of the Sahara had abandoned heathendom and Christianity and embraced Islam. From that year dates the foundation of the great Mohammedan empire of the Songhay Negroes, which later extended north to the Twat oasis, and which persisted till the sixteenth century, when it was overthrown by Mulai Hamed, Sultan of Marocco, in 1591 (see p. 90). Thus was broken the momentary political cohesion given to the scattered Saharan populations by the renowned Haj Mohammed Askia, most illustrious monarch of the Songhay-Berber State, and since that time the various Tuareg (Berber) and Arab peoples of the Saharan oases have known no peace, maintaining hereditary intertribal feuds with each other, and combining only to resist hostile movements from without. This incessant warfare,

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mitigated by many traditional customs and by the necessity of keeping open the common caravan routes,[1] extends eastwards to Tibesti, and while every Tibu tribe regards its neighbour as an enemy, the whole nation maintains a defiant attitude towards the surrounding Tuareg peoples.

Geographical Exploration

Nevertheless all these lands were from time to time visited, and in a sense explored, by several distinguished Arab and Berber geographers or historians, such as Mohammed el-Tunsi, Ibn Khaldun, and especially Leo Africanus, with whom the modern period of exploration may almost be said to begin. But a great gap intervenes between Africanus and the foundation of the African Association (1786), which opens the era of systematic exploration for purely scientific and philanthropic purposes. The first expeditions despatched by this association had for their objective, not so much the Sahara itself as the rich Sudanese lands beyond it, the city of Timbuktu, from mediæval times famed for its fabulous wealth and splendour, and the solution of the Niger problem. They were conducted by Ledyard, an experienced traveller, who undertook to cross the continent from the Nile to the Atlantic, but who perished of fever before well on the road (1788); Lucas, who was familiar with the Atlas region through his stay in Marocco first as a slave and then as British vice-consul, and who was

[1] Thus of the four wells at Asiu, between Ghat and Asben, two belong to the Azjar (Askar) or northern Tuaregs and two to those of Asben, the owners being bound by an unwritten code of honour to abstain from all acts of hostility beyond the confines of their respective territories. This convention, however, like many others, was broken by the Azjars when the Richardson-Barth expedition passed through in 1850.

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now commissioned to advance from Tripolis southwards to the Sudan, but who had to return, the route being barred by a revolt of the Arab tribes against the Turks (1788); lastly Hornemann, who after a successful journey from Cyrenaica to Fezzan in 1798, made a fresh start from Tripolis in 1800, and at Murzuk joined a caravan bound for Bornu. But no further tidings were heard of him till years after he was reported to have died of fever in the Nupé country in the Lower Niger region. The next attempt was made by Ritchie and Lyon, who also started from Tripolis; but the former died in Murzuk, and Lyon failed to get beyond Tejerri, on the southern frontier of Fezzan (1817-19).

These pioneers were followed three years later by the memorable expedition of Oudney, Denham, and Clapperton, who were the first Europeans known to have crossed the desert, arriving at Lake Chad from Tripolis by the Murzuk-Bilma route (1822-24). In 1825 Major Laing, already known by his journey from Sierra Leone to the sources of the Niger, eclipsed all previous performances by passing from Tripolis by the Ghadames route athwart the Sahara to Timbuktu, which he was the first European explorer to enter, and where he resided for about five weeks in 1826. Unfortunately his observations were lost to science, for he was assassinated on the return journey near Arawan, two days' journey north of Timbuktu. This place was next reached in 1828 by the French traveller René Caillié, who started from the Senegal coast, and, after a stay of two weeks in Timbuktu, crossed the Western Sahara to Marocco disguised as an Arab trader.

But while enlarging our knowledge of various caravan routes, none of these journeys can be described as explorations of the Sahara in the strict sense of the term.

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For such explorations we are indebted mainly to Germans, and above all to Barth, Vogel, Nachtigal, Rohlfs, and Oscar Lenz. Barth, partly in association with Richardson, Overweg, and Vogel, partly alone, twice crossed the desert between Tripolis and Lake Chad, explored Kanem, resided in Timbuktu, traversed a great part of the Tuareg domain, surveyed the territories of Aïr (Asben) and Agades, and elucidated from original records the history of all the Tuareg and Sudanese populations. His great work, in five volumes, issued in 1857-58 under the auspices of the British Government, embodies the multifarious result of his diligent researches, during the years 1850-55, in these hitherto for the most part unknown lands. Vogel, despatched by the Foreign Office to replace Richardson and Overweg, who had succumbed to the climate and the hardships of the journey, determined astronomically several important positions in the Sahara and Central Sudan, but was murdered on attempting to enter Wadai in 1856.

The expeditions conducted by Rohlfs in the Libyan Desert, in Cyrenaica, and the Kufara oases have already been referred to (pp. 142, 144). But this indefatigable explorer had previously distinguished himself by his travels in the Maroccan Sahara (1861), and by his dangerous journey from Marocco through the Tafilelt, Twat, Tidikelt, Timassinin, and Ghadames oases to Tripolis in 1864. He started again in 1866 from Murzuk for the Sudan, and after reaching Lake Chad by the Kawar and Bilma oases, passed westwards to the Gulf of Guinea, having failed to reach Timbuktu, one of the objects of his expedition. In 1869 Nachtigal set out from Tripolis on his eventful journey to the still unvisited central and south-eastern parts of the Sahara, spending altogether five years in his explorations of Kawar, Bornu, Borku, and Kanem,

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whence he made his way by an entirely new route through Wadai, Darfur, and Kordofan to Khartum and Cairo (1869-74).

The route followed by Lenz largely coincided with that of Caillié. But the German traveller proceeded in the opposite direction from north to south, starting from Rabat, on the Marocco coast, crossing the western extremity of the Atlas system, traversing the Igidi region of high sandhills to Taudeni, in the great El Juf depression, here trending south to Timbuktu, whence he made his way through Senegal to the Atlantic (1880). The observations made by Lenz on the general physical constitution of the Western Sahara are of great value, and have helped more than any other in determining the true character of that region. His survey has since been supplemented by those of Cervera (1886) and Douls [1] (1887), in the Spanish sphere of influence, which had previously been explored only by Panet (1850) and Vincent (1860). But none of these west coast itineraries are connected with those of Lenz, Rohlfs, and others farther inland; nor has Ledyard's original project of crossing the Sahara in its entire length from east to west been yet carried out by any explorer. Hence vast spaces remain everywhere unvisited between the various routes running north and south, and it has been estimated that the actual extent of the Sahara roughly surveyed by all these collective itineraries scarcely exceeds 200,000 square miles altogether.

Origin and Character of the Sahara

Nevertheless from the work already accomplished a

[1] On his second journey from Marocco to Timbuktu Douls was murdered by his guides at the Ilighen well in 1889.

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tolerably adequate idea may be had of the general relief and geological constitution of the Great Desert. The formerly prevalent notion of its marine origin has not been confirmed by recent exploration. On the contrary, it has been made abundantly evident that the Sahara, taken as a whole and apart from certain limited littoral depressions in the north and north-east, has formed no part of the oceanic basin since Secondary (chalk and Devonian) times, while even the depressions have been dry land since the Tertiary epoch. Not only does the Sahara stand at a present mean altitude of over 1400 feet above the surrounding waters, but there are unmistakable indications that within comparatively recent geological times it stood very much higher, probably as high as the southern section of the continent, say from 3000 to 4000 feet above the sea. Nor is its present lower altitude due so much to subsidence, of which there is little evidence, as to a continuous process of denudation, caused at first perhaps by the erosive action of running waters, but afterwards and to a much larger extent by atmospheric agencies in a region of rapid transition from a diurnal temperature of over 100° F. to one or two degrees below freezing-point at night.[1] This violent oscillation of the thermometer within the twenty-four hours is a phenomenon common to all desert regions, being due to the intense dryness of the air and consequent rapid radiation of the heat from the burning surface of the ground after sunset. The disintegration of the rocks resulting from this weathering process is further promoted by the mechanical action of the winds, driving the disintegrated particles themselves against the

[1] During Colonel Flatters' disastrous expedition of 1880-81 the glass fell at Hassi Jemel in the month of December from 77° F. at noon to 23° F. (9° below freezing-point) during the night.

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still resisting core. During the day the rocks become heated and expand under the fierce solar rays; then they are broken up by the sudden shrinkage caused by the rapid dispersion of the heat at night; the smaller particles are carried away and again brought to bear on the crumbling rocks, which in this way are gradually "disintegrated by means of changes other than water, although water perhaps had in times past played a greater part than it does now."[1]

Thus has been brought about the prodigious amount of denudation, by which the mean altitude of the Saharan plateau has been lowered probably by 1500 feet during and since quaternary times. The proof of this view is based on the nature of the sedimentary rocks, which appear to be entirely of fresh-water origin and of quaternary date; hence also the surrounding sands themselves are now found to be not of marine but of land origin, derived partly from crystalline and other igneous matter, partly from sediment deposited in lacustrine basins. Dr. Murray tells us that during the *Challenger* Expedition he had found in the bed of the Atlantic, far off the Saharan coast, small grains of red quartz sand identical with those he afterwards saw in the Tugurt district, on the northern verge of the desert. In the same district he studied the sands from the sedimentary formations, which were of a light yellowish-brown colour, exceedingly fine, and mixed with a "good many clay particles,"[2] conclusively showing their land origin. This is the reason that, unlike those of the sea-shore, the Saharan sands are so very fertile wherever sufficient water can be obtained. The sinking of numerous Artesian wells in the Tugurt district itself and elsewhere has already brought extensive tracts under cultivation, and in

[1] Murray, *loc. cit.* [2] *Ibid.*

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some places the palm groves have largely encroached on the surrounding wastes. In many other districts the disintegrated fragments have not yet been reduced to a fine powder, and here the dominant feature is not sand but a hard shingly surface, condemned for ages to absolute sterility. Elsewhere the general uniformity is broken, not only by long ridges of shifting dunes, but also by mountain masses and ranges of moderate elevation, by deep but now dry fluvial valleys and depressions of all kinds, so that the Sahara is not to be regarded as a vast level plain everywhere strewn with sands, but as "a plateau of diversified structure, with mountains and numerous dried-up watercourses, regions of dunes and steppes overgrown with alfa, alternating with hamadas and sandy wastes."[1] According to the varying character of the districts traversed by them, observers have estimated the actual extent of fine sand at less than one half or even less than a third of the entire surface. But on this point no approximate estimate can be formed until the vast spaces have been surveyed, or at least traversed, which at present intervene between the various itineraries of scientific explorers.

Plateau Formation

In the interior there are certainly numerous depressions, using the word in a relative and not an absolute sense, which at one time probably formed the beds of freshwater lakes like the still flooded Chad basin. Such are the *juf* or "cavity" in the west, the *hofra* or "hollow" of Fezzan, in the centre, the Twat oasis in the north-west, Taiserbo (Kufara) in the north-east, and others. But the general plateau formation of the whole

[1] Oscar Lenz, *Timbuktu, Reise durch Marokko, die Sahara, etc.*

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region is revealed by the fact that, from whatever direction it is approached, the traveller has to ascend, not descend. Thus the caravan route from Tripolis has to scale the Ghurian cliffs (1500 to 2000 feet), encircling the Jefara coast plains, while the decline towards the Nile Valley is so abrupt that it has received the name of the "Libyan Range," though clearly shown by the Rohlfs' expedition of 1874 to be a plateau escarpment. Here the track rises rapidly from 900 to 1200 and 1400 feet, the farthest point reached by Rohlfs' associate, the geologist Zittel. From Lake Chad also, itself 830 feet above the sea, the route rises somewhat more gradually to an altitude of 2300 feet before again descending to the Murzuk depression (1500 feet). It is the same in the Western Sahara, where Lenz had to climb the escarpments on the left bank of the Draa to a height of 1300 feet, which appears to be about the mean for this section of the plateau. Even here no depression falls below 500 feet above sea-level, a fact which disposes of Donald Mackenzie's "proposed plan for opening Central Africa by flooding the Sahara."[2] Lastly, in the extreme west the measurements taken by Cervera and Quiroga, in 1886, show that the plateau escarpments facing the Atlantic slope seawards have an average altitude of about 1000 feet, though here also the Ijil sebkha falls to 500 feet above the sea. Thus recent exploration shows the Sahara to be, not a marine basin capable of being again transformed to an inland sea by a few simple engineering operations, but an elevated plateau, which has been dry land at all events since the cretaceous epoch, and which stands at a mean altitude of from

[1] *The Flooding of the Sahara*, London, 1877. This scheme may be compared with that of Rudaire for the Algerian Sahara (p. 51), and with Rohlfs' original project for the Aujila depression (p. 142).

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2100 to 1400 feet, nowhere falling to or below sea-level except in the Siwah district on its extreme north-eastern verge (p. 142), and in the Shott Melghigh south of Algeria.

Varied Physical Features: The Oases

Although possessing no very conspicuous features standing out in bold relief from the surrounding wastes, unless the Tibesti highlands be regarded as such, the Sahara by no means lacks the contrast of mountain masses, hilly ranges, elevated plateaux, low-lying plains, or depressions known as *hofra* or *juf*, verdant oases and well-defined river-beds occasionally swept by sudden freshets. The oases themselves present a great variety of aspects, corresponding to the different conditions under which they have arisen. Some are due to natural surface-drainage, or to underground springs and infiltrations, such as those of the Wady Draa, which are supplied entirely by moisture collected from the Atlas uplands by the head-streams of the Draa, or those of Upper Tafilelt, which depend for their existence on the scanty drainage from the inner slope of the Atlas. Amongst those irrigated by underground running waters are the lower Tafilelt oases south of Ertib, the greater portion of the northern group in Twat, and several other smaller ones south of the Atlas. Some, such as those of Ghadames and Siwah, are formed by copious natural springs; while others are due to the presence of underground lakes or reservoirs of stagnant water lying a few feet below the surface, such as Kawar on the route between Murzuk and Lake Chad, and several in Fezzan. Others again are dependent on reservoirs at depths of 20, 30, or more feet, which have to be reached by Artesian wells, as is the case with many both in Fezzan and the Algerian

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Sahara. Lastly, there are fertile tracts, resembling those of Persia and Afghanistan, where the water has to be conveyed long distances by artificial channels or tunnels, as in Tidikelt and some others south of the Atlas region.

The Sandhills: Origin of the Dunes

Even where the plateau maintains a uniform level for hundreds of miles its aspect is at least varied by alternating stretches of fine sands, stony hamadas, isolated hills, such as the so-called *gara* (plural *gûr*), probable survivals of the old disintegrated tableland, wadys expanding into *sebkhas* or closed basins encircled by elevated banks, alternately flooded and covered with saline efflorescences; lastly, the *Erg* or *Areg* regions of interminable shifting dunes, such as the East and West Erg, stretching from about the parallel of Tugurt southwards to the Tinghert Hamada, and continued through the sandhill region of Igidi (Gidi) south-westwards to the Adrar heights. The dunes are usually disposed in long parallel or nearly parallel ridges, varying in height from 50 to 400 or even 500 feet. These sands are continually drifting with the winds, but very slowly, and are never stirred to a sufficient depth to swallow up whole caravans, as was formerly supposed. On the contrary, their general contour lines are little modified even by the fiercest storms, so that year after year the caravan leaders are still able to recognise the inconspicuous landmarks that suffice to guide them through the trackless solitudes.

It thus appears that the dunes are little influenced by the winds to which their origin is usually attributed. But Captain Courbis, who has carefully studied the Algerian sandhills, has recently shown that they are due rather to the presence of moisture drawn from the under-

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ground reservoirs by capillary attraction. Dunes are developed only in those places where the drifting sands become saturated, and, as it were, water-logged. Many travellers had already noticed that the dunes were generally damp, and that at the foot of the hills underground basins are constantly found near the surface, a fact long known to the natives, and utilised by them in selecting likely places for sinking wells. Without moisture the sands are nowhere fixed, and from the general absence of dunes, as on the wind-swept *Ghassi Mokhanza* plain south of Wargla, the absence of water may also be inferred. Courbis' views open up fresh prospects for the sandhill regions, which have hitherto been regarded as absolutely irreclaimable.[1]

The Northern Oases: Wargla, Ghardaya, El-Golea

Despite its generally desolate character, some important centres of trade and population occur both on the northern and southern margin, and even in one or two central parts of the Western Erg. Such are, proceeding in the direction from north-east to south-west, the towns and oases of *Tugurt*, *Wargla*, *Ghardaya*, *Metlili*, *El-Golea*, and in the extreme south-west the *Twat* oases, including the flourishing settlements of *Tidikelt* with its capital *In-Salah*, in the Wad Saura basin.

Of the numerous oases in the Algerian borderland, Wargla, which lies in the bed of the Wad Miya, is undoubtedly the most important. It lies in 32° N. lat. surrounded by burning sands, like a verdant island in an ocean of fire, and has formed part of the French Algerian possessions since the expedition of Colomien in 1862. The town of Wargla stands in a low-lying

[1] *Mémoir presented to the Academy of Sciences*, April 1890.

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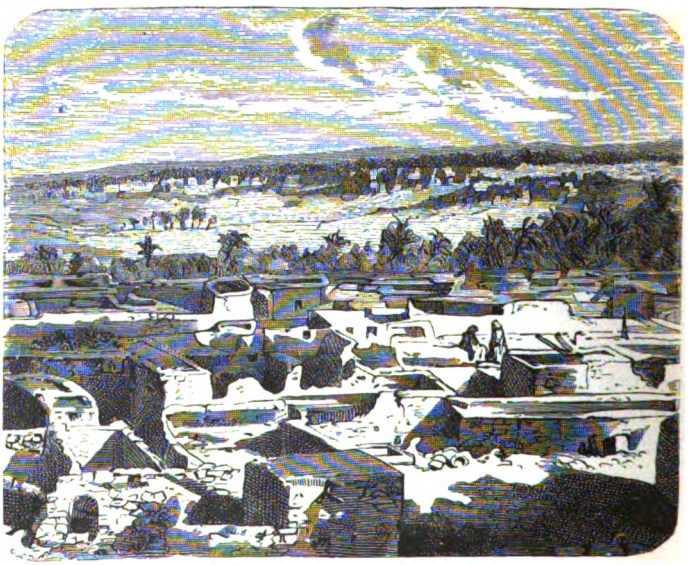
district, where the date groves are steadily encroaching on the desert, thanks to a well-devised system of artificial irrigation by means of Artesian wells. So narrow are the streets that there is no room for a man on horseback to turn round between the houses, which are all one storey high and built of adobe, with earthen floors, and a



TUGURT.

passage from the Koran usually inscribed over the door. The market, which serves also for the shambles, reeks with blood, while the flesh of camels and dogs lies in the sun infested by clouds of flies. Hence it is not perhaps surprising that Wargla is very unhealthy, and at times a hotbed of fever. In the oasis the palms have increased from about 600,000 in 1880 to over 1,000,000 in 1892.

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In the Algerian borderland the most important explorations have been those of the famous French traveller, Henri Duveyrier, who, in 1859, made his way from Biskra through Tugurt, capital of the Wad Rhir district, to *El-Gerara*, and thence to *Ghardaya*, some distance

METLILI.

west by north of Wargla. Ghardaya is a walled town, crowning a hill in the Wady Mzab, a depression of the plateau, which begins about a day's journey north of this point, and stretches east and south beyond Metlili and Wargla. *Metlili*, which lies a little south of Ghardaya, presents a singular view, being built round an exceedingly

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steep eminence crowned with a half-ruined mosque. Here are grown enormous cucumbers, about three feet long, and here also flourishes the *Asclepias gigantea*, whose proper home is Sudan.

From Ghardaya Duveyrier made a six days' journey southwards to the oasis of *El-Golea*, which place he was the first European to visit. El-Golea, or El-Menia, the most southerly settlement within the Algerian Sahara, consists of two quarters, the upper town built on a cliff and surrounded by a wall, the lower lying between this cliff and a neighbouring eminence. The houses consist merely of four mud walls covered with palm branches, and disposed in two or three compartments with small courts but no terraces. The total population scarcely exceeds 1500, and in the surrounding oasis little is seen except a few scattered date groves. El-Golea, which lies beyond the basin of the Wad Miya, on the route between Wargla and Twat, is not occupied by a French garrison, but acknowledges by tribute the authority of the Algerian Government.

Twat

South-west of El-Golea the route passes beyond the southern limits of the Western Erg down to the cluster of oases known by the collective name of Twat (Tawat), which is the general Berber word for oasis. It consists of five groups, the most southern of which is *Tidikelt*, on the southern scarp of the Tademait plateau. *In-Salah*,[1]

[1] The Berber *In-Salah*, meaning "Salah-town," has by a popular etymology been changed by the Arabs to *Ain-Salah*, meaning "Fountain of Peace." It is a great trysting-place of traders and explorers penetrating into the interior of the Sahara; hence its frequent mention in recent books of travel.

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capital of Tidikelt, is the emporium of the trade carried on between Twat, Sudan, and Mauritania, exchanging the ostrich feathers, gold, ivory, and slaves of the south for coffee, sugar, spices, cloth, cutlery, needles, looking-glasses, beads, and other European wares imported through Tripolis and Algeria. Twat occupies a central position in the Wad Saura basin, about 800 miles from Timbuktu, Mogador, Tangier, Algiers, and Tripolis.

The group of oases forms an independent confederation of from 300 to 400 petty states stretching about 200 miles east and west and 180 north and south. This federal union of separate communes recognises no chief authority nor any central government for the whole, each member of the union enjoying complete political autonomy. It is a "United States" without President or Congress. In the Berber villages democratic rule prevails, while among the Arabs power is inherited in the families of sheikhs or marabouts. In the districts where the Negro element is dominant, the administration assumes the form of an oligarchy, power being vested in the hands of a few influential men of colour. The oases are densely peopled, having a collective population of fully 120,000, chiefly Berbers, Arabs, and blacks. There is also a steady increase by the natural excess of births over deaths, and as the extent of inhabitable land is limited by the surrounding wastes, the result is a constant flow of emigrants to all parts of Mauritania and as far south as Timbuktu. The trade with Algeria is indispensable to Twat, which depends on that country for its regular supplies of corn, flesh, wool, and other primary necessities. Hence its occupation by the French is merely a question of time and political convenience. This would mean the annexation of "the whole region of quaternary alluvia which sweeps in crescent form round

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the west and south sides of the extensive cretaceous Tademait plateau. Its natural limits on the north side are formed by the dunes of the Western Erg; on the west, beyond the Wad Saura, by the Igidi sands; on the south by the Devonian plateau of Mindir. The plains thus limited are, however, divided into isolated cultivable tracts by intervening stony hamadas and ranges of sandhills."[1]

Except a few choice varieties, the dates of Twat are generally inferior to those of Tafilelt. The other chief products of the oases are opium in the north, tobacco in the south, elsewhere cotton, henna, korunka (*Calotropis procera*), which supplies the charcoal used in the preparation of gunpowder; lastly, various kinds of fruits, vegetables, and cereals (wheat and barley), but not in sufficient quantities to supply the local wants. The inhabitants—Arabs and Berbers, with a strong strain of Negro blood—are extremely fanatical Mohammedans, and have recently been brought under the influence of the Senûsiya brotherhood.

The Eastern Erg: Tademait, Tasili, and Ahaggar Uplands

The character of the Eastern Erg, which is divided into two sections by the Igharghar valley, has recently been more accurately determined by J. Foureau, who describes it, not as a homogeneous system of dunes, but rather as a confused agglomeration of *aghrud* or high sandhills almost impassable in the north-west. Elsewhere they are traversed by *fej*, or ravines, and *gassi*, or beaten tracks flanked by *gûrs*, some of which are 1150 feet high. In this region are buried numerous prehistoric stations known only to the Arabs, who have no idea

[1] Reclus, xi. p. 455.

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either of their age or significance. Their ascertained existence, however, is alone sufficient to imply a vast change of climate in this now absolutely uninhabitable part of the desert.

Foureau extended his researches to the Mader district south-west of the East Erg and east of the Tademait plateau, beyond which the yellow gravelly Ragben el-Asfar plain is skirted by a *Batan*, or ridge, disposed in the direction from north-east to south-west, and forming a divide between the Mediterranean and Atlantic basins. The southern (Atlantic) slope drains through the Akaraba to the Massin tributary of the Massaud (Messaura), which formerly collected all the streams descending from the south side of the Tademait plateau. The divide culminates in the Cudiat M'rakba (1400 feet), which dominates the Massin valley, and which was the farthest point reached by Foureau. Farther south the triangular space enclosed by Tademait, Mader, the Tasili plateau, and the mountain mass of Ahaggar, is occupied by the Muidir plain, flanked on the east by the Ifettessen peak, which Duveyrier believes to be an extinct volcano. North of Ahaggar stretches the granite Eguere plateau, which is traversed by volcanic faults, while to the north-west the Batan Ahenet uplands are continued in the direction of the Twat oases.

Ahaggar (Hoggar) occupies very nearly the geometric centre of the Sahara viewed as a whole. The circular central mass has a circuit of over 370 miles, and consists of a series of superimposed plateaux rising in terraces from 1600 to over 6500 feet. The Atakor-n-Ahaggar, or highest crest, with its twin peaks, Hikena and Watellen, is covered with a snowy mantle in winter, while Tifedest in the extreme north is crowned by the extinct Udan volcano, locally called the "Nose of Ahaggar." East-

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wards extends the Inhef (Anehef) chain, with summits from 5000 to 6000 feet; but no European has yet visited the southern district with its extension, the upland region figuring on the maps as the South Tasili, or Tasili of Ahaggar.

Even the Northern Tasili plateau, or Tasili of Ajer, is known only in its more prominent outlines. It forms a mass of rugged uplands whose longitudinal axis is disposed north-west and south-east in a line with the Tibesti range, of which it appears to be a northern extension. The plateau escarpments, limited on the south-west by the quaternary alluvia, of which the Saharan plains mostly consist, are continued with some uniformity apparently all the way to Tibesti, forming with it the backbone of the Sahara and the natural dividing line between its western and eastern sections, that is, between the Sahara proper and the Libyan Desert. About the middle of the escarpments rises a group of crests, to which is collectively applied the term Adrar, that is, in the Berber language, "The Mountain." According to Duveyrier the dominant peak, In-Esokal (over 5000 feet), is also a volcano whose lavas have spread over the older Devonian rocks of the plateau. Westwards Tasili is carved into a number of isolated blocks, while on the north side old fluvial valleys penetrate far into the thickness of the escarpments. Tasili is thus divided into several fragments, each bearing a special name.

The Tibesti Highlands

Tibesti or Tu, that is the "Rocks," forms the "Alpine region" of the Sahara. It consists of a distinct mountain range which, with its less elevated spurs and offshoots,

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extends north-west and south-east, a distance of over 430 miles. The Tarso, or northern section, develops a gently sloping pedestal of easy access, about 3500 feet high, above which rise numerous isolated summits and continuous crests. All these are of igneous origin, cones piercing the surface of the plateau, whose sedimentary rocks they have covered with eruptive matter. Mount Tusidde, the chief peak (7800 feet), shows on one of its flanks a parasitic cone from which vapours were formerly ejected, and about 1000 feet from the summit is seen an extinct crater, from 10 to 12 miles in circumference and some 160 feet deep.

Tibesti has been visited only by Nachtigal, and his explorations were restricted to the northern section. Hence its general conformation is still unknown, though the central parts appear to have a thickness of at least 60 miles. Farther south the system seems to acquire a still greater expansion, broadening out in the Kussi highlands, which probably attain an altitude of 9000 feet. North-westward the Tarso uplands are continued at a much lower elevation through Mounts Abo or Afo (2000 feet), Afafi (2320), and Tummo (Tumno), where the junction is effected with the south-eastern prolongation of the northern Tasili. The whole system running obliquely athwart the Sahara from north-west to south-east cannot have a length of less than 1500 miles, and at its southern extremity it is continued through the unexplored Ennedi hills southwards to Wadai. This vast orographic system must in former ages have had a paramount influence in determining the marked contrasts now presented by the western and eastern (Libyan) sections of the Sahara—one a somewhat diversified wilderness, with many indications of a comparatively recent copious rainfall, the other a dreary waste of shifting sands, as

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unchanged for thousands of years as the pyramids raised on their eastern verge sixty centuries ago.

Nachtigal's expedition to Tarso followed the south-easterly route from Tummo through a difficult waterless district to the Afafi hills, where the prevailing formations are dark sandstones strewn with huge basalt blocks. Many torrents have carved themselves deep channels through the hard rock, and here the prospect is relieved by the bright-coloured talha trees (*Acacia gummifera*), the hills assuming grotesque shapes in the background. Beyond Afafi Nachtigal crossed a bare sandy and stony plain, on which many groups of sandstone masses rose like huge castellated structures. In the torrent beds alone the camels found a scanty pasturage, but in no direction were there any signs of human habitations. But on approaching the Enneri-Tollobu torrent, he noticed a remarkable change in the landscape, light porous stones of diverse colours replacing the sandstones and limestones, and presenting a barren undulating surface. On 13th July 1869 he entered Tao, the first inhabited place in Tarso, where some huts of dum-palm fibre are scattered round a copious spring. But at the time of Nachtigal's visit, Tao, like the other settlements on the western slopes of Tarso, had been almost abandoned, owing to a famine which had driven the people to the upland districts, or else to Bardai, the most important station in the whole country, occupying a broad valley at the eastern foot of the range. Tibesti is at no time well provided with supplies. After the autumn showers camels find sufficient fodder to give milk, and although goats are also bred, flesh is a luxury reserved for feasts. Meal is ground from millet cultivated in the district, but dates have to be brought from Fezzan and other

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lands—the supply yielded by the Bardai groves being insufficient for the local wants. When hard pressed the Tubu natives have recourse to the dum-palm, the leaves of which, however, contain but little nourishment.

From Tao Nachtigal ascended to the uplands, passing through the charming Zwar valley, where water flows in abundance, vegetation is rich, and apes, gazelles, and birds enliven the scenery. Here, however, he was compelled by the local chiefs to return to Tao, whence he took the eastward route over the mountains towards Bardai, visiting on the way a remarkable natron basin 10 to 15 miles in circuit, in the centre of which rose a conical hill with a summit crater filled with natron. A six days' march from the pass flanked by Mount Tusidde, and down the eastern slopes of Tarso, brought Nachtigal to Bardai, where, however, his reception was far from friendly. Mohammedan fanatics, inflamed by palm-wine, urged the people to slay the Christian dog, and it was only by the active interference of the chief, Arami, that the traveller was able to find a refuge in the house of his protector. He saw but little of the flourishing settlement of Bardai, with its gardens and date-groves, being glad to escape with his life from the continued hostility of the natives, and retrace his steps to Fezzan.

Borku, Ennedi, Wanjanga

Later Nachtigal attempted to reach the southern extremity of Tibesti from the Chad basin, but was unable to penetrate farther than the land of Borku, whence a distant view could be obtained of the lofty crests of Kussi, probably the culminating heights of

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Tibesti. These heights fall through a rugged sandstone district south-westwards to the deep valleys of Borku, which are disposed parallel with the main axis of Tibesti, and some of which fall as low as 660 feet above sea-level. The depressions descend through an intervening tract of diverse coloured limestones down to a vast lacustrine basin, which formerly communicated through the Bahr el-Ghazal with Lake Chad. This basin is enclosed on the north by the elevated districts of Egay and Bodele traversed by Nachtigal on his journey to Borku, and on the east by the Ennedi hills, which develop (on the maps) a gentle curve sweeping round from Wadai to Tibesti. Ennedi, like its northern extension Wanjanga, is known only from native reports, but evidently forms a natural boundary between the Sahara and the Libyan Desert. The oasis of Wanjanga (Wajanga, Wanja, Onja) is visited by native traders for the sake of the rock-salt, which is said to be quarried in the surrounding hills. From this point the land appears to slope gently northwards to the Kufara oasis, the vast intervening space consisting, as far as is known, of nothing but sands, mostly forming long parallel dunes, which are disposed in the direction from north to south.

Kawar Oases: Bilma

On the borderland between the Tubu and Tuareg domain, and about midway between Tibesti and Asben, lies the oasis of Kawar, familiar to all travellers journeying by the great caravan route from Tripolis to Lake Chad. The narrow depression, about 50 miles long, and standing a little over 1000 feet above sea-level, is one of the hottest districts in the world;

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but a perennial reservoir at some depth from the surface yields abundant water for passing caravans and for the neighbouring date-groves. Three or four permanent settlements occupy the more favoured spots, the Tubu and Kanuri inhabitants of which are ruled by a *Mai*, or "King," who, however, is himself controlled by the Senûsiya brethren.

But by far the most important part of Kawar is the central district of *Bilma* with the village of *Garu*, whose inexhaustible salt-pans supply a great part of Central Africa. These pans consist of numerous shallow basins apparently lying on a great bed of rock-salt. So intensely saline is the water in the pans, and so rapid the evaporation, that every two or three days a crust of salt is deposited, then broken up like ice and carried away in convenient blocks. Bilma is regularly visited by traders from Asben, who here exchange wheat, cloth, and slaves for the salt which they distribute throughout Sudan with caravans of many hundreds and even thousands of camels. But the cost of transport is so heavy that the produce of the Bilma salines will probably ere long be driven from the Sudanese markets by English salt imported by the Niger-Benue route. A camel-load, which at Bilma is bartered for about four shillings' worth of corn, often fetches from £6 to £8 in Sudan. As many as 70,000 camels are said to be constantly engaged in this traffic, which is controlled in the west by the Tuaregs of Asben, in the east by the Tedas or northern Tubus, and in the south, between Kawar and Lake Chad, by the Dazas or southern Tubus. Unfortunately, the oasis is also periodically visited by the ferocious Aulad Slimân marauders, hereditary foes of the Tubus, who at times swoop down and make a clean sweep of everything. Hence

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the various settlements, which might easily support 6000 or 7000 inhabitants, had a collective population of not more than 2300 at the time of Nachtigal's visit.

Asben (Air) Uplands : Agades

From Bilma the route leads for about 430 miles across a stony and almost waterless hamada and through the little oasis of *Agram* westwards to *Agades*, the chief town in the Asben district. Although perhaps the largest and most important centre of population in the whole of the Sahara, the fertile Asben or Air [1] uplands have never been visited by any European traveller since their exploration by Barth and Richardson in 1850. They constitute a distinct orographic system rising abruptly above the surrounding wastes about midway between Tibesti and the great bend of the Niger, and develop a line of crests running about 130 miles north and south with a breadth varying from 40 to 60 miles, a total area of 6000 square miles, and a collective population of over 100,000 Tuaregs. Several summits, such as Tengik (Timgé) in the north, Eghellal in the centre, Doghem and Baghsen in the south, attain elevations of 3500 and even 4000 feet above the plateau, which has here a mean altitude of from 1500 to 2000 feet above sea-level. The general aspect is that of a group of huge mountain masses whose development has been arrested before the running waters had time to complete their normal work of erosion by carving it into a distinct mountain range with lateral ridges and transverse fluvial valleys.

[1] *Air* of the Tuaregs, *Ahir* of the Arabs, the Negro *Absen* or *Asben*, supposed to be Ptolemy's *Agisymba*.

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Hence neither in the centre nor around the periphery are there any broad upland valleys comparable to those of European mountainous districts where the torrents have accomplished their appointed task. As in many parts of Abyssinia, here is seen little but rocky gorges and narrow ravines flushed only by sudden freshets during the heavy autumn rains. Nevertheless, one or two wide straths are crossed on the northern approach to Tintellust, where the Richardson party were nearly washed away by a tremendous downpour which suddenly "changed our valley into the broad bed of a rapid river, placing all our property in the utmost danger. . . . We had no antecedents from which to conclude the possibility that in this region a valley more than half a mile wide might be turned in twenty-four hours into a stream violent enough to carry away the heaviest things, not even excepting a strong tall animal like the camel" (i. 324). It should be noticed, however, that Asben is regarded by the natives as a part of Sudan, and from Barth's frequent allusions to the "rainy season" it is evident that this district lies at all events on the borderland between the dry Saharan and rainy Sudanese zone. But the surrounding region is a "thirst land," where all the moisture is absorbed by the sands or by evaporation, or else disappears in the crevices of the rocks, so that no perennial surface streams can be developed.

Air was reached by Barth by the route from Ghat which passes the important *Asiu* wells, converging point of several main lines of traffic from Twat, Ghadames, Tibesti, and Agades. From Asiu the expedition pushed southwards through the settlements of *Selufiat*, *Tintaghoda*, and *Tintellust*, and the busy town of *Asodi* to the fertile Auderas valley, where slaves

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were seen yoked to a plough [1] and driven like oxen, and thence to *Agades* on the southern verge of Asben. After the removal of the capital to this place from Tinshaman, twenty miles farther north, Agades became a great trading centre and the largest place in the whole of the Sahara, with a superficial area spacious enough to comprise a population of 50,000 within the enclosures. It reached the height of its prosperity towards the beginning of the sixteenth century, when it maintained direct trading relations with Timbuktu and all the chief towns of Sudan. Even after its destruction by the Tuaregs at the close of the eighteenth century, it again became a flourishing mart, and at the time of Barth's visit had a permanent population of Asbenawa (local Berbers), Hausas, Songhays, and other pure and mixed Negroes. Here is a remarkable minaret and watch-tower, 95 feet high, constructed entirely of clay, apparently on the model of a deleb palm-tree, bulging out in the centre and tapering upwards to a width of about eight feet. It is strengthened by thirteen layers of dum-tree planks, which project on all four sides like porcupine's quills, and which afford the only means of clambering to the top. Agades was originally the capital of an independent Tuareg State, but after their expulsion by Haj Mohammed Askia in 1515, it became a part of the Songhay empire, to which in its flourishing days it paid an annual tribute of 150,000 ducats. Later it was reduced by the Fulahs, and appears to be still nominally subject to the Fulah emperor of Sokoto. But the current language is still Songhay, most of the natives being descendants of the Songhay

[1] "This is probably the most southern place in Central Africa where the plough is used, for all over Sudan the hoe or fertāna is the only instrument used for preparing the ground" (Barth, i. p. 388).

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settlers, by whom its first Tuareg inhabitants were replaced in the sixteenth century. The Tuaregs, however, have again become the dominant people, though in Barth's time their Sultan was rather "a chief of the Tuareg tribes residing in Agades than the ruler of Agades," while the Tuaregs themselves, belonging to the great Kel-Owi nation, have lost their racial purity through constant intermarriage with the Songhay and other Negroes from Sudan.

Damerghu

From Agades the Richardson-Barth expedition continued its southward journey through the land of Damerghu to the kingdom of Sokoto. Damerghu forms in this direction the border zone through which the desert proper merges somewhat rapidly in the broad, fertile, and highly cultivated plains of Sudan. After crossing a narrow belt of sand, which appears to extend at a mean altitude of about 2000 feet along a great part of the border land between 16° and 17° N. lat., the traveller enters a region of comparative plenty, where corn-fields alternate with grazing-grounds, while scattered farmsteads soon grow into hamlets, villages, and even towns. Here is the busy market of *Tagelel*, where cotton, earthenware, cattle, cheese, milk, vegetables, tobacco and other produce are offered for sale, and where the roads wind between "villages, stubble-fields, tracts covered with tunfafia (*Asclepias*), detached farms, herds of cattle and troops of horses tranquilly grazing." [1] Damerghu, "the granary of Asben," is a rolling country sixty miles long by forty broad, originally peopled from Bornu. Kanuri (the Bornu language) is still the current speech; but the

[1] Barth, i. 542.

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Bornus themselves have been conquered and reduced to the condition of serfs by the Hausas of Sudan, the present dominant people.

Timbuktu, Adghagh (Adrar)

The direct commercial relations formerly maintained by Agades across the Adghagh plateau with the great Songhay cities on the Middle Niger appear to have ceased since the overthrow of the Songhay empire, and *Timbuktu* was reached by Barth, not by the old caravan route from Asben but from Sokoto by crossing the Niger bend from Say. Both in its geographical position and political relations, Timbuktu is properly a Saharan town. It lies not on the Niger, but on the southern scarp of the desert, nine miles north of its riverain port, *Kabara*, from which it is separated by a dreary sandy waste infested by marauders, and hence known by the ominous name of *Ur-immandess*, "He (Allah) hears not," that is, is deaf to the cry of the waylaid traveller. This dismal tract is intersected by a chain of *dhayas*, or swampy depressions, marking the old bed of a navigable creek, which formerly branched from the Niger to the foot of the scarp, and which in 1640 even inundated a low-lying part of the city. The main stream itself appears to have followed the channel of the dhayas before it took its present easterly bend to Burum, where it trends southwards to the coast. Here also the Niger was probably joined at some remote period by the now dried-up Wady Messaura from Twat, although the rough levels taken by Oscar Lenz make it uncertain whether this great river flowed north or south.

In any case Timbuktu has been left, so to say, high and dry by the shifting of the Niger bed more to the

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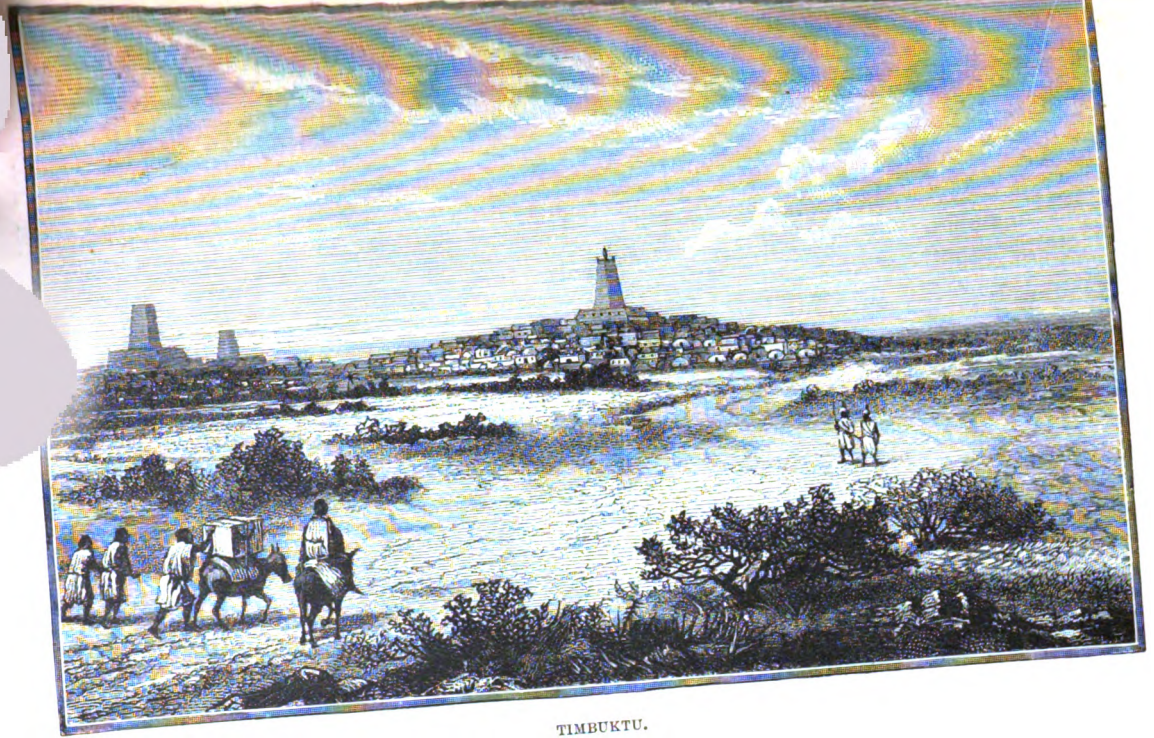

TIMBUKTU.

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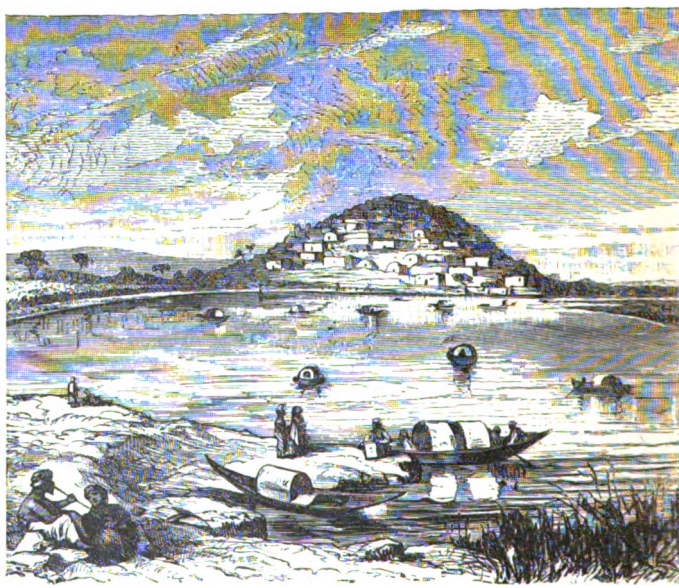
south. Its foundation dates from the eleventh century, and the city of "Timboutch" already figures on the old Catalan map of 1373, when it was a great mart for gold and salt under the Mandingan kings of Mali (Mallé). During the flourishing days of the Songhay empire it rose to great splendour, and became with Gogo a chief centre



KABARA.

of Mohammedan culture. But since its capture by the Sultan of Marocco (p. 90), Timbuktu long continued to be the prey of all the surrounding peoples—Tuaregs, Arabs, Fulahs (1800) and Toucouleurs (1865). Being thus at the mercy of all, it ceased to rebuild its dismantled walls, preferring to pay tribute to each in turn, and then indemnifying itself by peaceful intervals of

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trade whenever the land routes were open and the upper and lower reaches of the Niger clear of pirates. But since 1884 regular relations have been established with the French, who are now masters of the Middle Niger region, and who occupied Timbuktu early in the year 1894.

From the ruins covering extensive tracts on the north and west, it is evident that Timbuktu was formerly a much larger place than at present. The great mosque, which at one time stood in the centre, now lies near the outskirts, where its high but unsightly earth tower forms a striking landmark. There is little else to relieve the eye in this monotonous aggregate of hovels and mud houses. As in former times, a chief staple of trade is salt from Taudeni and other parts of the Sahara here exchanged with gold dust for kola-nuts from Sudan, Manchester goods and other European wares, which with tea are imported from Marocco or by the Niger routes. Cowries, slowly yielding to European moneys, are the chief currency; and of local industries there is little except leather-work prepared by the Tuareg women. The administration is in the hands of a hereditary *Kahia*, a kind of mayor descended from one of the Ruma (Mohammedan Andalusian) families settled in the place since the time of its capture by the Maroccans. Till recently the Kahia himself was controlled by a local Tuareg chief and by the powerful Bakhai family, who as Shorfa and Marabouts are revered throughout the Western Sahara. The current language is still Songhay, but Arabic, Berber, Mandingan, Fulah and other Sudanese tongues are also spoken, for Timbuktu is a converging point of the chief Saharan and West Sudanese races—Arabs or Arabised Berbers to the west; Ireghenaten, or "mixed" Tuaregs southwards across the Niger; Imohag (Imoshogh) Tuaregs belonging

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to the Awellîmiden confederation mainly to the north and east; Songhays, Fulahs, Mandingoes, and Bambaras in and about the city. But the total population had dwindled in Barth's time (1853) to 11,000, and Lenz estimated it in 1880 at no more than 20,000.

The vast unexplored uplands of **Adghagh**, or **Adrar**,[1] occupying a space of some 80,000 square miles between Timbuktu and Asben, appear to consist of an elevated plateau traversed by lofty ranges, forming a divide between the streams which formerly flowed south-west direct to the Niger, south and south-east to its northern affluent the Wed Tafassasset. According to native report the southern slopes come within the zone of regular rains, and abound not only in rich pasturage but also in much arable land, and even extensive forest tracts. The whole region is held by independent Tuareg tribes of the Awelímmiden confederacy, who have hitherto resisted all attempts of European travellers to penetrate into their mountain strongholds. Hence the interesting Adghagh plateau still continues to figure as a blank space on our maps.

The Western Sahara

The central region of the great desert is divided by no distinct geographical features from the Western Sahara, which in the absence of high ranges, prominent mountain masses, and extensive habitable tracts, corresponds to the still more arid and monotonous Libyan Desert in the extreme east. The parting line coincides with the now dried-up valley of the Messaura, the whole region west of this valley, some 800,000 square miles in superficial area, being regarded by many of the natives merely as a

[1] Not to be confounded with the *Adrar* of the Western Sahara described at p. 211.

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"*Sahel*," or "coastland," as if it were nothing more than an inland extension of the dreary Atlantic seaboard. It consists, in fact, almost exclusively of interminable sandy dunes or sandy wastes, traversed here and there by low rocky ridges, sinking in the central parts to the great El Juf depression, and attaining a moderate elevation of 1800 or 2000 feet only in the Adrar heights. The trade routes between Marocco and Timbuktu are relieved by no groups of oases, such as those of Bilma and Fezzan, and would be altogether impracticable but for the *bir* or "wells" occurring at Tenduf, Tarmanant (on the Tropic of Cancer), Taudeni, Onan and other points at greater or less intervals along the line of march. In the north especially the track winds along waterless hamadas from 1200 to 1300 feet high, where the older formations appear to rest on more recent rocks, in some places carved by now vanished running waters into the fantastic forms of castles, towers, or frowning fortresses. Here occur some typical specimens of the so-called *serirs*, districts somewhat intermediate between the rough stony hamadas and the tracts of fine sand, being strewn with grit or silicious gravels too heavy to shift with the winds.[1] In these western serirs the gravels often consist of agate, opal, chalcedony, or quartz pebbles, that is, the harder fragments of the paleozoic or crystalline rocks disintegrated by the weathering process.

Coastlands: Arguin, Rio de Oro, Cape Juby

Nevertheless the Western Sahara is not all waste, and

[1] "In contradistinction to the sandy wastes, properly so called, those parts of the Sahara are called *serîr* where large masses of the silicious hornstone lie scattered over the sands. The serir, in fact, is covered with coarse rather than fine shifting sand" (R. Buchta, note to Junker, vol. i. p. 25).

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the coast district north of the Lower Senegal, now included in French territory, may almost be regarded as a part of the Sudan. Here water abounds in the shallow streams, and there is no lack of excellent grazing grounds occupied by peaceful Tuareg tribes locally known as "Marabouts," [1] that is to say, a kind of Moslem "Quakers," who object to the profession of arms, and devote to religion the little time they can spare from their camels and long-haired sheep.

Farther north the Arguin bank just south of Cape Blanco, and consequently also comprised within the French sphere, is one of the richest fishing-grounds in the world. Hence the neighbouring beach, with its natural salt-beds, affords every advantage for the establishment of a flourishing fishing-station. The district of Tiris, extending from Cape Blanco inland to Adrar, and along the coast northwards to about 26° N. lat., forms a vast granite plateau dotted over with hillocks and in part strewn with quartz sand, home of the nomad Uled-Delim, "pirates of the desert." Vegetation occurs only in the sandy depressions, in which great numbers of gazelles are seen. Captain Vincent counted as many as a hundred in a single day. During his journey farther inland Vincent found some large Berber settlements with several hundred inhabitants, who supported themselves on the produce of their date groves, millet, maize, barley, and wheat crops, watered by shallow but extremely copious wells.[2]

At the point of this coast intersected by the Tropic of Cancer occurs the little marine inlet which has long

[1] The Arabic مرابط, marabût, literally means "bound," hence an ascetic devoted to a solitary life of contemplation and abstinence; the term is also applied to the tombs or shrines of these "saints."

[2] *Bulletin de la Soc. de Geographie*, 1861, pp. 5-37.

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figured on the maps as the *Rio de Oro* or "River of Gold," although it is neither a river nor auriferous. The name originated with some Portuguese traders who here obtained a little gold-dust from the natives in 1442, and forthwith transformed the creek to the golden "Pactolus," which was supposed to form a branch of the Nile in this part of the continent. Hence on the old maps a great river continued to be traced in a straight line under this latitude right across the Sahara to its confluence with the true Nile somewhere in Nubia.

North of the Rio de Oro the inhospitable surf-beaten coast continues to trend in an unbroken line for hundreds of miles north-eastwards beyond Cape Bojador to Cape Juby, where an English Company has recently founded a trading station and made treaties with the local chiefs. But no permanent relations are likely to be established at this point, which lies on the most dangerous part of the seaboard and is inaccessible to shipping from October to April, when, under the influence of the prevailing west winds, the sea is lashed into huge billows which break in 50 feet of water, miles from the shore. Here also the marine current, setting from north to south at a normal velocity of little over half a mile all along the west coast, is greatly accelerated in the narrow channel where the Atlantic waters are contracted between Cape Juby and the Canary Islands.

The Adrar Uplands: Tafilelt, El Juf

Eastwards the Tiris plateau rises from a mean altitude of 1300 or 1400 feet to 1800 or possibly 2000 feet above sea-level in the Adrar uplands. Anyhow Adrar or Aderer, that is, in the Berber language, the "Mountains," is the largest and most important centre of population

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in the Western Sahara south of Tafilelt and Twat. Its Berber inhabitants own herds of camels and oxen and flocks of sheep, cultivate dates, wheat, barley, and melons, and have formed several settlements, such as *Shingeti* (*Shingit*) on the eastern slopes and *Usheft* in the south, which may almost be called towns. At Shingeti, largest of these places, there is a depot of rock-salt brought from the inexhaustible beds of the Sebkha Ijil which lies in the wilderness a five days' journey to the north-east. From Shingeti the salt is conveyed by caravan to South Marocco and to the Sudanese lands situated between the Upper Senegal and the Niger. The settled populations pay tribute to the dominant nomads of the surrounding wastes, who, like so many other Saharan tribes, live chiefly by plundering or levying blackmail on the settled communities and on passing caravans.

Although Adrar lies high, rain falls in some years only once or twice during the month of October, while none of the numerous springs are sufficiently copious to develop perennial streams. On the north Adrar is enclosed by a desolate zone of sandhills, known as *Maghter*, or *Murthir*, which extend through the Igidi dunes north-eastwards to the Ergs of South Algeria (p. 192). From Shingeti many thousand camel-loads of salt are yearly conveyed through these dismal wastes by the route followed by Panet in 1850 northwards to Tafilelt.

In Tafilelt (Tafilet), which comprises a number of separate oases, there are altogether about three hundred fortified villages. The chief centre of population is *Abuam*, where the market-place of *Sultu* outside the gates presents a curious sight; from a distance it might be supposed covered with great mole-hills, which on examination prove to be an immense number of stone booths or stalls with round roofs. The market, which is held three

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days in the week, is the largest south of the Great Atlas, and here are exposed for sale all the products of the south, besides European wares imported from Fez. Two great caravans are equipped every year for Timbuktu, which lies about 1000 miles nearly due south of Tafilelt.

After crossing the Igidi dunes the route skirts the eastern verge of the vast *El Juf* depression, a frightful region known as the "paunch of the desert," abounding in rock-salt but apparently altogether destitute of vegetation. Barth's statement that El Juf lies considerably below the normal level of the Sahara is confirmed by Lenz, according to whom the lowest part stands only 390 feet above the sea, whereas the altitude of Timbuktu in the south is 803, and that of the Igidi region in the north nearly 1300 feet. In El Juf the only known village is *Taudeni* on the caravan route, whose salt-mines were formerly of some importance. These mines, Caillié was informed, lie from three to four feet below the surface of the ground. The salt forms thick strata, and is quarried in blocks and then broken into more convenient slabs for conveyance to Timbuktu and Sudan.

El Hodh, Taganet, Azawad, Aherer

South-west of Taudeni is the waterless district of *Akela*, ten days' journey in extent. Farther on in the same direction follows *Baghena*, the southern and most favoured district of the region which takes the name of *El Hodh*, or "The Basin," because encompassed by a chain of rocky heights. Here is met not only the date-palm, but also the gigantic baobab (*Adansonia digitata*), while in the swamps are raised crops of durrha or saba and wild rice,

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which spring up in the rainy season. Thus Baghena, like Damerghu farther east, forms a zone of transition between the Sahara and Sudan.

In the sterile country north-west of El Hodh lies the well-built but most unhealthy town of *Walata* or *Biru*, the chief centre of population in the whole region. Walata is a converging point of several trade routes radiating to Adrar, Timbuktu, Segu, and although now decayed was a great trading place when visited by Ibn Batuta in 1352-3. But it lost most of its business in the fifteenth century, when for political reasons the Arab merchants removed to Timbuktu and Gogo. Some trade is nevertheless still done in gold, ostrich feathers, and honey.

Between El Hodh and Adrar lies the almost unknown region of *Taganet*, the northern section of which takes the name of "White," from the colour of the surrounding sands. It is a barren country, yielding little but fodder for camels and some dates in a few favoured spots. But "Black Taganet," as the southern district is called, belongs to the transitional zone between the Sahara and Sudan. The surface is reported to be mountainous, its wooded slopes affording cover to large animals such as the lion, if not even the elephant. *Tishit*, its chief town, is a noted salt-mart, with a reputed population of 3000. There is another Taganet, a much smaller district, a long way to the west and north of Timbuktu. This Taganet is the southern section of the region known by the name of *Azawad* (properly *Azawagh*), which comprises an extensive tract stretching north-westwards as far as El Juf. Although described as a sterile region, it yields abundant fodder for camels and even for some cattle, as well as two different kinds of dates. Here is the small but important settlement of *Arawan*, on the Timbuktu-Tau-

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deni route, where "a great deal of business is transacted, principally in gold" (Barth).

Northwards Azawad is separated from the waterless *Tanezrufet* hamada by the two small districts of *Afelele*, or Afelle, that is, "Little Desert," and *Aherer*. Afelele, despite its name, is an excellent camel-breeding country with several fertile valleys. Aherer also is described by the Arabs as a fine country diversified by hill and dale, with numerous wells and even temporary torrents. It was in the Wady Aherer that Major Laing was nearly killed by the Tuaregs.

Hydrography of the Sahara

The best illustration of the past and present condition of the Saharan climate is afforded by the actual state of its fluvial system. Not only are there now no perennial surface streams traversing the desert in any direction, but with the exception of the Draa on the north-west frontier, and a little farther south the *Shibika* and *Saghiet el-Hamra*, there appear to be no rivers which even intermittently reach the ocean. During the rainy season these are flushed throughout their whole course; but at other times their bed is indicated here and there only by short chains of stagnant pools or swampy depressions. The Saghiet el-Hamra, with its numerous ramifications, must nevertheless have formerly been a copious watercourse, which joined the Atlantic a short distance below Cape Juby. But between this valley and the Senegal no water is now seen along the seaboard, except in a few sebkhas or dhayas without any outflow.

Farther inland the now dry channel of the Wed Ighiden, formed in its upper course by several branches converging at the El-Daura depression, has been traced

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a long way south in the direction of the Igidi sandhills. East of this valley follows the better-defined and far more extensive Wed Saura (Messaura, Messawara), which in the Twat district takes the name of Mesaud, and which about 20° N. lat. receives on its east bank the Akaraba with all its numerous head-streams descending from the southern slopes of the Tademait plateau. The Saura, which flows from the inner slopes of the Atlas at first in a south-easterly direction by Tafilelt and Garara, turns south and west beyond the confluence of the Tighehert from the Ahaggar uplands, and then disappears in the desert. Such an extensive fluvial basin must necessarily have had a seaward outlet; but whether it reached the Atlantic in an independent channel, or through the Senegal or Niger, can no longer be determined with certainty.

In this region of the Sahara the chief water parting was the Ahaggar plateau, where were the sources of the Igharghar flowing north to the Mediterranean (see p. 49), and of the Talassasset flowing through the Sakerret and perhaps the Gulbi-n-Sokoto to the Niger. Farther east the great watercourses have been mainly effaced, while the Libyan desert beyond Tibesti is in this respect an absolute blank. Even the Bahr el-Ghazal is regarded by Nachtigal merely as a dried-up emissary of Lake Chad, whereas at some remote epoch it must on the contrary have formed the common channel through which the streams descending from the Ennedi and Bodele found their way into that lacustrine basin.

At present the Saharan "rivers" are mere intermittent torrents, which after every downpour rush with tremendous fury from the uplands, sweeping everything before them, and then rapidly disappearing in the sandy plains. Here they are largely protected from evaporation, and

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consequently in some districts continue their underground course probably to a greater distance than they could have done as surface streams. Hence it is that water is constantly found wherever wells are sunk to a sufficient depth along the sandy beds of the old rivers. At some points these hidden arteries reach vast rocky recesses, where they are collected in inexhaustible underground reservoirs, which when tapped by Artesian wells are copious enough to supply many flourishing oases, and even enable them to enlarge their bounds, as at Wargla and elsewhere.

Climate, Winds, Sandstorms

At present the climate of the Sahara differs in several important respects from that of other parts of inter-tropical Africa. It is at once both hotter and colder, immeasurably drier, and at the same time subject to far more violent oscillations of temperature within the twenty-four hours. Its salient characteristics, in fact, are not heat, moisture, and uniformity, but heat, dryness, and change. The change, as elsewhere explained (p. 181), is due to nocturnal radiation; the heat to latitude counteracted by no local features, such as lofty ranges or plateaux standing at great altitudes above sea-level; the dryness to the play of the aerial currents.

In the Sahara the winds are of two kinds: (1) the outer, which, setting inwards, are the main cause of the present climatic conditions; (2) the local, which, being generated on the spot and setting outwards, are to be regarded not as a cause, but as an effect of the prevailing conditions. But from whatever quarter they blow, the outer winds bring very little moisture. The north-eastern and northern, which prevail in summer, have already lost

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most of their moisture in their passage over Asia and Europe. Coming also from colder to hotter regions, their vapour-bearing capacity is increased, so that the clouds drift away without discharging much of their contents, except perhaps where arrested by such uplands as the Tibesti and Asben highlands.

In the north-west again the mighty Atlas range intercepts most of the humidity coming from that quarter, so that while the northern slopes facing the Atlantic are clothed with magnificent forest growths, the southern facing the desert are for the most part covered with a sparse scrubby or herbaceous vegetation. The plains at their foot already belong to the desert, where the mean rainfall scarcely anywhere rises to ten inches. Hence the prevailing aridity, and an atmosphere so dry that electric sparks are emitted by any slight movement, such as the switch of a horse's tail, or the sudden flap of a burnoose. So destitute of vapours is the air, that fog is almost an unknown phenomenon. Even dew is seldom seen, except on the plants before dawn, when the bulb stands at its lowest point. The difference between this and the highest point at noon is at times so great that the reports of the early travellers were disbelieved till fully confirmed by the careful observations of their successors. Beneath the blazing sun the sands are often heated to 150° or 160° F., and even in the shade readings of 112° or 114° have been recorded, followed during the night by five or six degrees of frost, that is to say, within a few hours an extreme range of no less than 134° F.[1]

These conditions are intensified by the local winds, which bear many names, but which are all alike a terror to man and beast. They sweep over the wilderness at

[1] V. de Saint-Martin, *Le Sahara*.

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times with incredible velocity, and blow outwards in all directions, making their influence felt across the Mediterranean as far north as the Alps, and, as seen (p. 182), down to the very bed of the Atlantic Ocean. The prodigious quantity of sand, that is, of disintegrated rock, during the course of ages carried beyond the periphery by these winds may be judged from the fact that at times the plains of North Italy are found strewn with a thin layer of dust after the prevalence of the sirocco, as the hot damp wind from the Sahara is called in the North Mediterranean lands. The "sirocco's damp,"[1] however, is not brought from the arid desert, but is acquired by the hot current on its passage across the Mediterranean waters.

All these hot suffocating winds blowing outward from the Sahara take the general name of *simoom*, properly *samûm*, from the Arabic *samma*, to poison. In Egypt it becomes the *khamsin*, that is, "fifty," because usually prevailing for about fifty days, from the end of April to the rising of the Nile in June. This is the same wind which in Tunis is called *sheely*, and which here causes much ophthalmia by filling the air with impalpable dust. It prevails in Algeria especially in July, and from July to September in Marocco, where the *shume*, as it is locally called, crosses over to Spain as the *solano*. Still farther round, in Senegambia and Upper Guinea, the *harmattan*, an intensely dry hot wind charged with much sand, blows seawards at intervals during the months of December, January, and February. Steamers with freshly-tarred rigging or newly-painted bulwarks running along the coast north of Sierra Leone at this season, often find the

[1] "But come, the board is spread; our silver lamp
Is trimmed, and heeds not the sirocco's damp."
The Corsair.

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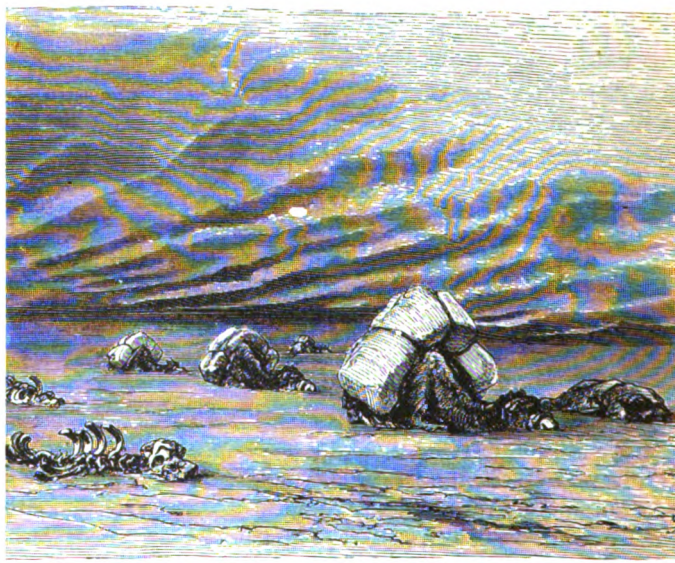
landward side powdered with fine dust as if covered with sand-paper. This is the sand derived from the disintegrated rocks of the old Saharan plateau, which now forms a thick ooze on the bed of the Atlantic a long way from the coast (p. 182).

When blowing over those parts of the Sahara which are covered with moving sands, all the high winds raise



SANDSTORM.

dense clouds of dust in the air. Thus originate those fearful sandstorms, to which caravans are often exposed in crossing the desert. In South Fezzan, Gerhard Rohlfs encountered such a storm from the east, in which the drift was so dense as to make his hand invisible when held close to the face. Such was the violence of the gale that the tents could not be pitched, and nothing could be

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done under shelter of the crouching camels but wait till the storm had blown over.

"As I was travelling," writes Count d'Escayrac, "on a fine July night through the desert of the Bishari people, I was astonished at the extraordinary clearness of the unclouded starry sky. The atmosphere was perfectly still, when suddenly in the east a black cloud began to rise with frightful rapidity, and soon covered half the heavens. Presently a strong gust of wind enveloped us in sand, and threw little pebbles large as peas into our faces. Soon we were surrounded by a dense sand cloud, and stood still in impenetrable gloom. Our eyes were filled with grit every time we ventured to open them. The camels sank moaning on their knees and then lay down. I leant against my camel, whose high saddle afforded some shelter, but did not dare to lie down for fear of being buried in sand. The storm passed, and by dawn the sky was again clear and the air at rest. But the camels and their drivers lay up to their necks in sand."

Changed Climatic Conditions

The general process of desiccation, which appears to have been in progress for ages throughout all the desert zones of both hemispheres, has also produced a marked change of climate in the Sahara, though not, as is often assumed, within the historic period. In many now desolate districts of the north there still survive the ruins of cities, highways, tombs, aqueducts, citadels, and numerous inscriptions, all bearing silent witness to a high state of prosperity in certain districts during Roman times. Dams built across the bed of now dry watercourses attest the former presence of civilised peoples, while the

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numerous fulgurites [1] found by Rohlfs in the sands of the Libyan Desert are evidence of frequent thunderstorms in a now almost rainless region. In the Wady Mia, a branch of the Igharghar south of Wargla, recent French explorers have come upon the remains of old cities with monuments of the Berber period. Interesting rock inscriptions at the station of Anai, on the trade route between Fezzan and Asben, point at the development of wheeled traffic along the road which is still partly preserved between these districts. Other rock carvings at Enneri Udeno in the Tarso hills represent the horned cattle, which were once employed with horses and elephants, but which are now everywhere replaced by camels as pack animals. Buffaloes and ostriches are also sculptured on the surface of the rocks in several districts, while elephants, trained to battle by the Carthaginians, mentioned in the *Periplus* of Hanno on the coast of Marocco, and hunted by King Juba, are still referred to as late as the second century of the Christian era. Even crocodiles appear to survive in some of the chains of lagoons now marking the course of former rivers.[2]

But the strongest evidence of a change in the direction of greater dryness is the presence of these sandy river-beds themselves, which with their numerous ramifications formerly traversed the Sahara in all directions. The disappearance of these great river systems must, however, date back to a remote period, for the evidence of

[1] Vitreous sand-tubes, generally atrributed to the action of lightning.

[2] The Miharo ponds, North Tasili, are infested by crocodiles six to eight feet long, much dreaded by the natives. They were not seen by Von Bary, who explored this region ; but he detected distinct traces of their presence. Elsewhere, as in the so-called "Lake Menghug," in the valley of the Tijujelt tributary of the Igharghar, large fishes survive belonging to species still found in the Nile and the Niger. Some of these were captured during the first expedition of Colonel Flatters in 1880.

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Herodotus alone is sufficient to show that at the very dawn of history the wilderness already existed in all its essential features. Hence the changes indicated by the above-described archæological remains are probably confined to special localities and to a few important trade routes, all of which were maintained in a habitable condition, partly by the presence of forests surviving from remote times, partly by extensive irrigation works already begun by the early Phœnician settlers on the coast of Tripolitana, and afterwards extended in various directions by the Romans. To the reckless destruction of the forests, and to the neglect of the waterworks by the nomad Arab invaders, rather than to any marked general deterioration of the climate within the comparatively brief historic period, must be attributed the reversion of these specially favoured localities to the desert state. Speaking broadly, the altered climatic conditions are due to an extremely slow process of desiccation dating back at all events to the quaternary epoch. The changes that have taken place during the few centuries that may be called historical have not appreciably affected the character of the Sahara as a whole. They are purely local, and mainly due to a somewhat sudden lapse from a high state of culture under the Romans to the comparative barbarism ushered in with the Mohammedan irruption of the seventh century.

Flora and Fauna

These secular changes of climate have resulted in an impoverished but highly specialised indigenous flora, slowly modified by adaptation to a slowly altered environment. Hence instead of forming a transition between the Mauritanian and Sudanese zones, it differs profoundly from both, and in fact presents an impassable barrier be-

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tween them. In parts of the hamadas stunted specimens are met of plants belonging to the Salsolaceous and Lilianthemum families, while the alfa of the northern plateaux is replaced farther south by the equally vigorous drin, supplying excellent fodder for camels. Mimosas and acacias are characteristic of the southern regions, and even in the Mader district are met tall gummiferous trees over 40 feet high. A species of tamarind, the *Arish* of the Arabs, flourishes on the crests of the loftiest dunes, and the depressions at their base are often carpeted with a rich herbaceous vegetation, all of which tends to confirm Courbis' theory regarding the origin of these formations (p. 186).

The date-palm, growing in thickets and even extensive forests, is the characteristic plant of all the oases, where many cultivated species have been introduced both from the northern and southern regions. Hence here are found intermingled such diverse alimentary and economic plants as barley, sorghum, wheat, millet, tobacco, henné, cotton; the melon, cucumber, onion, beet, carrot, turnip, tomato, pulse, clover, luzerne, besides the pistachio, fig, almond, apricot, peach, vine, olive, lemon, orange, and other fruits. The oases, which cover a collective area of about 80,000 square miles, probably yield as much agricultural produce as any other region of equal extent in the whole world.

The Saharan fauna is both poorer and less characteristic than the flora. It shows, however, little analogy with that of Sudan, and the indigenous species have an organism specially adapted to the necessities of their exceptional surroundings. It is doubtful whether the lion has anywhere survived except in the Tibesti and Ahaggar uplands, and in Asben, where a maneless variety like that of North-West India is met in troops. The

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other predatory animals are chiefly the panther, wolf, hyena, jackal, and fox. The elephant has everywhere disappeared; but the wild boar still finds a cover in the thickets, which are also enlivened by several species of monkey. But the baboon keeps to the more inaccessible rocky districts, while the gazelle, wadan, and other members of the antelope family frequent all the steppe lands in large numbers. The ostrich as well as most other birds are rare; but reptiles are numerous in all the large oases, and the neighbouring Atlantic waters abound in fish.

GAZELLE.

Of domestic animals the most important are the horse, ass, goats and sheep, a small breed of cattle, besides the humped variety from Sudan, the dog, and the camel introduced from Arabia since the new era, and employed both as a mount and a pack animal. Some tribes own large herds, which yield them milk, hair woven into cloth and tent canvas, leather, and occasionally meat. The *Mehâri*, trained for riding, is a special breed distinguished by its height, shapely form, great speed and wonderful staying power, occasionally covering distances of ninety or even one hundred miles in the

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twenty-four hours. The usual pace of the pack camel ranges from two to three miles an hour, and rarely exceeds sixteen miles in the day's march. The intercourse maintained between the Mediterranean seaboard and Sudan, as well as between the habitable parts of the wilderness itself, depends chiefly on the camel. Hence it would seem that no regular commercial relations had been developed across the Sahara with Negroland in ancient times.

Inhabitants of the Sahara

The popular idea that the Sahara is occupied exclusively by a few Arab marauders, who pass their time careering over the sands and swooping down on belated wayfarers, has little foundation in fact. It has already been observed (p. 106) that formerly the Negro domain probably included the greater part of the desert, and at some points even approached the Mediterranean seaboard. The primitive Negro populations have certainly been effaced in many districts, but in others they still persist, and have been strengthened by later importations of slaves from Sudan. The Songhay Negro language is still current in Agades and Timbuktu, while a great part of Baghena continues to be inhabited by Aswanek tribes, who are full-blood Mandingan blacks from Senegambia.[1] The Negro element also forms the substratum not only in Asben, but as far north as the Twat oases.

But since the overthrow of the Songhay empire three hundred years ago no Negro people have held political power in the wilderness, where Mohammedan tribes of Hamitic and Semitic stock have long been everywhere

[1] According to Barth (v. 536) the Azeriyeh (Mandingan) language is still spoken by the aborigines of Aderer (Adrar) in the Western Sahara.

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dominant. The Semites are all intruding nomads of Arab descent mainly confined to the Western Sahara, while the Hamites comprise two distinct divisions—Tibus in the extreme east, and Tuaregs (Berbers) in the central and western regions. Owing to the uninhabitable character of the Libyan Desert the Tibu is far less extensive than the Tuareg territory, and in fact is at present practically confined to the Tibesti highlands, the neighbouring oases of Yat and Kawar, with the steppes extending thence south and south-east to Sudan. The parting line between the Tibus and Berbers thus roughly coincides with the direct caravan route running from Fezzan due south to Lake Chad, though this unstable frontier is overlapped at some points by both races.

There are very few Arabs in the Central region (Tasili, Ahaggar, Asben); but, on the other hand, their influence is paramount throughout the Western Sahara, where most of the Tuaregs have become assimilated to them in speech, religion, traditions, and often even in their tribal names. To these mixed populations the term "Moor" is commonly applied, and so great is the ethnical confusion that it is seldom possible any longer to distinguish an Arab from a Berber tribe amongst the numerous hordes that roam the desert from Marocco to Senegal. The substratum is doubtless Berber, sometimes complicated with a Negro strain; but the conquering Arabs have often imposed not only their language but their very names on the vanquished. Some of these Tuareg tribes have, moreover, fabricated genealogies tracing their descent straight from Arabia. Even the distinctive physical traits have been largely effaced, so that a new race has been evolved partaking of the qualities of the two constituent elements.

Like all nomad and semi-nomad peoples, both the

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Semites and Hamites still everywhere retain the tribal organisation, and are consequently broken into innumerable little family groups, some absolutely independent, some loosely bound together in large political confederacies. Of the Arab or Arabo-Berber confederacies the most powerful are the *Ulad-Delem*, who are dominant in the Western Sahara from the Wed Draa to the Adrar heights; the *Ulad Bu-Sba*, "Sons of Lions," from the head-waters of the Sakiet el-Homra to the Juf depression, and the *Ulad Sidi esh-Sheikh*, who claim all to be Marabouts descended from the first Calif, Abu Bekr, and who rule along the northern verge of the desert from Marocco to Tunis, and are also powerful in Twat.

Since the reduction of the *Beni-Mzab* of the Algerian Sahara by the French in 1850, the great Berber confederacies have been reduced to four — the *Askars* (*Azjars*) of the Tasili plateau with Ghat and neighbouring wadys; the closely related *Ahaggar* (Hagara, Hogar) of the Ahaggar uplands; the *Kel-Owi* of Asben, and the *Awellimmiden*, whose influence is felt throughout all the southern regions from Agades to the Lower Senegal.

But quite independent of these political groups are numerous other Arab, Tuareg, and mixed tribes, the more important of which will be found in the subjoined

Table of the Saharan Populations

ARABS, PURE AND MIXED

Ulad Sidi esh-Sheikh Confederacy { Asla; Shellala Dehrani; Shellala Guebli; Bu Senghum; Arba and others along the southern borders of Mauritania from Marocco to Tripolitana, and in Twat.

Hamian Gharba, Geryville district, south frontier Oran.

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Dui-Menia, *Ulad-Jerir* } Zis valley, Tafilelt; akin to the Hamian.
Meharia, Tin er-Kûk oasis, Twat.
Zwa, Gurara oasis, Twat.
Kenafra, *Ulad Abd el Mulat* } Augwerut oasis, south of Gurara.
Shaamba, *Hab er-Rih* } El Golea, Wargla, Metlili, and the Algerian Sahara generally.
Gendnema, Ulad-Raffa oasis, Wed Messaura, 28° to 29° N. lat.
Ulad-Delem Confederacy } Tiris, Western Sahara, between Wed Draa and Adrar: two great divisions: Maref and El Ahmar.
Ulad Bu-Sba Confederacy } On the water-parting between the Sakiet el Homra and El Juf.
Meribda, Steppe south of the Wed Draa.
Ulad el-Haj Mukhtar, Maghter district, Tiris.
Reguibat, Coastlands south of Wed Draa.
Yahia Ben-Othman, Steppe round about Adrar.
Ergebat, El Gada district between Tiris and Wady Nun.
Zergiyin, Shebeka district, south of Wady Nun.
El Aarib, El Haha district, east of Shebaka.
Kuntha, Azawad and Taganet.
Berabish, between Arawan and Bu-Jebeha.
Mehajib, Walata district, El Hodh; speak Azeriyeh (Mandingan).
Kobelat, Akela district between Arawan and Walata.
Welad-Alush, Eriggi district north-west of Akela.
Welad Mebarek; Fata, Funti; Yadas; Mazuk El Imghafera; Teghdaust Gesima; Tenwaijio; Zemarik; Welad Billc } Baghena district, El Hodh.
Agelal; Ulad en-Nacer; Laghallal; Ulad Mahmud; Ulad Embarek; Ijuman } El Hodh.
Ulad Bu-Sef; Ulad Sidi Bu-Bakr; Habib-Allahi; Ulad Sidi Wafi } Taganet.

Tuaregs, Pure and Mixed

Beni-Mzab, Wed Mzab and Ghardaya, Algerian Sahara.
Ait-Atta, Ertib district, Tafilelt.
Beni-Guil; *Beraber.* } South frontier, Tafilelt.
Beni-Sissin; *Beni-Waggin*, *Beni-Brahim*; *Haratin* } Wargla and Ngusa oases.

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Tajakant, Tenduf district south of Wed Draa.

Askar (*Azjar*) *Confederacy* } Tasili plateau and Ghat. Five main sections: Uraghen; Imanang; Ifoga; Hadanarang and Manghassatang.

Ahaggar (*Hoggar*) *Confederacy* { Ahaggar uplands and surrounding steppe. Six main sections: Kel-Ghalla; Bu-Ghelan; Tai-tuk; Tegehin-usidi; Inemba; Ikdeyen.

Kel-Owi Confederacy { Asben uplands. Chief sections: Kel-tedele; Kel-Tidik; Kel-Ghazar; Kel-Elar; Kel-Ulli; Kel-Fadenak; Kel-Baghzen; Ikadmawen; Kel-Ajeru; Kel-Idakka.

Kel-Geres Itisan Dinnik } West and South-west Asben; at feud with the Kel-Owi. Chief sections: Kel-Teghzeren; Kel-Ungwar; Kel-Garet; Tadada; Kel-Tagay; Telamse; Mafinet; Tesidderak; Alaren.

Buzawe (*Abogelits*), South and south-east of Asben.

Daggatun, Adghagh uplands; reputed Pagans or Jews.

Ikazkezan, Asben and Damerghu.

Tagama, Damerghu.

Awelimmiden Confederacy { Adghagh, and thence west to the Niger. Chief branches: Kel-Ekimmet (the royal sept); Targhay-tamut; Tahabanat; Eratafan; Igwadaren; Imedidderen; Kel-Gosi; Auraghen; Kel e-Suk; Ighelad; Isakkamaren.

Tademekket { Tingeregef, north of the Niger. Iregenaten, south of the Niger, within the great bend.

Ighdalen, Ingal and Tegedda districts, west and south-west of Agades.

Brakena (*Brakna*); *Limtuna*; *Terarza* (*Trarza*); *Temmekket*; *Elleb*; *Abiyeri*; *El Barek-Allah* } Coastlands south of Tiris and along the right bank of the Senegal.

Idaw-el-Haj, Walata district, El Hodh.

Idaw-Aish (*Zenagha*), El Hodh.

Idaw-Idderen (*Limtuna*), El Haha district, west of Igidi.

Tibus

Teda (Northern Tibu), Tibesti; Yat, Jebado, Kawar and Agram oases; and in Ennedi.

Daza (Southern Tibu), Ennedi, Borku, Bodele, and thence south to Lake Chad (Kanem and Bornu).

Bedeyat Baele } Ennedi, Wanyanga and Ani district, Borku.

Zoghawa, between Ennedi and Darfur.

Bulzeda, Southern districts, Borku.

Negroes

Goberawa, aborigines of Asben, a branch of the Sudanese Hausas extinct or absorbed in the Kel-Owi.

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Songhay, Agades, Timbuktu, and both banks Niger between Timbuktu and Say.

Aswanek (*Swaninki*, or *Azer*) — Mandingans from Senegambia; Walata district, El Hodh, and Baghena. Chief tribes: Kometen; Sise; Sasa; Konne; Berta; Kagorat; Jawarat; Fofanat; Darisat.

The Saharan Arabs

Some of the Arabs, enriched by trade, have formed settled communities in the chief centres of population in the north and west. But the great majority are essentially nomads, and more or less of predatory habits. The Shaambas of the Algerian Sahara are even typical marauders, and one of their tribes call themselves the "Breath of the Wind," by which their victims are to understand that they may as well seek the wind as hope to recover their stolen property. They are generally at feud with the Tuaregs, but in 1881 took part with them in the murder of the three French missionaries who were endeavouring to reach Ghat from Ghadames.

According to their pursuits, and the extent to which their racial purity has been sullied, all the Saharan Arabs are grouped in four classes: 1. The full-blood nomads, who call themselves *Arab*, or *Harar*, free lances of the desert, owing allegiance to no man. 2. The *Zuwaye*, peaceful tribes, settled in the oases, where they answer to the Moors of the Mauritanian towns, and like them are of mixed Arabo-Berber descent, but of Arab speech. 3. The *Khoddamân* or *Lahme*, degraded and servile tribes, more Berbers than Arabs, though rarely of Berber speech. These are the serfs, who toil for the free and "noble" tribes that do no work. In the south-western districts (El Hodh, Baghena) they are known as *Zenaghas*, itself an indication of their preponderating

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Berber affinities, for the Zenaghas were one of the great historical Berber peoples, whose name and fame have spread from the Mediterranean lands to the confines of Sudan (see p. 78). 4. The *Harratín*, whose dark complexion betrays a distinct strain of Negro blood, though they are not necessarily either degraded or dependent tribes. The distinctive mark of the Moorish tribes is the *guffa*, or full tuft of hair, whereas the Zenaghas adopt the *gataya* fashion, shaving both sides of the head, and leaving nothing but a single tress, which hangs from a crest on the crown sometimes down to the ground, or else is coiled round the waist.

Apart from miscegenation, the Arabs of the Desert differ to no appreciable extent from their forefathers of the Nejd plateau. The climate of the habitable parts of both regions is much the same; the conditions of the environment necessitate the same pastoral pursuits, the same simple diet of milk, cheese, dates, and other fruits, varied now and then with a little goat or camel flesh. Hence there is no reason why their physique should undergo any marked change, since the eighth century, when these nomads first made their appearance on the northern verge of the wilderness. After that time, and especially after the great invasion of the eleventh century, the general movement of migration appears to have been, first along the Mediterranean seaboard westwards to the Atlantic, and then along the Atlantic seaboard southwards to Senegambia. Thus it happens that at the present day the Arabs are found, not in the eastern and central regions, as might have been expected, but in the extreme west, farthest removed from their primeval seats in the Arabian peninsula. So true is this, that from the ethnical standpoint the Sahara might be roughly divided into three zones—the western, occupied by the Arabs;

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the central, by the Berbers; and the eastern, by the Tibus.

The Tuaregs

But the term "Berber" is not current in the Sahara, where it is replaced either by the Arabic *Tarki* (*Targi*),

TUAREG BERBERS.

plural *Tawârik* (*Tuareg*),[1] or by the true national name *Amoshagh* (*Amohagh*), plural *Imoshagh* (*Imohagh*), "Free"

[1] That Tawârik is not of native origin, but a name imposed upon the Saharan Berbers by the Arabs, appears certain. But its meaning is not clear, and Barth's explanation that it may have reference to people who have "abandoned" their religion (i. 227) is not satisfactory.

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or "Noble" (p. 75). All, however, are not "free," and many, like the Saharan Arabs, have, so to say, lost caste by inevitable interminglings with the primitive Negro populations of the desert. Hence these are no longer Imoshagh, but *Imghad*, degraded and servile tribes, standing in the same relation to the full-blood Tuaregs that the Khoddamân do to the full-blood Arabs. When they conquered Asben about the year 1740, the Kel-Owi[1] certainly belonged to the free class, and they even still pride themselves on their descent from the noble Auraghen nation, whose dialect (*Auraghiyeh*) they speak. But in Asben they intermarried with the indigenous Negro population, and by the true Imoshagh the Kel-Owi are now contemptuously called *Ikelan*, "slaves." This is a signal instance of the tenacity with which these Libyan Hamites have kept alive the national sentiment, and endeavoured to preserve unsullied the purity of their race. Yet circumstances have been too strong for them, and they are themselves fain to confess that they are now "mingled together and interwoven like the tissue of a tent-cloth in which camel hair and sheep's wool are so combined in one texture that the expert alone can distinguish between the hair and the wool."

Nevertheless, they are a very fine race, above the average height, with slim symmetrical figure, regular features, a complexion scarcely darker than that of the average South European, even an occasional sprinkling of blue eyes, as amongst their Mauritanian kindred. They are long-lived, subject to few disorders except the ophthalmia caused by their sandy environment, and are

[1] The common prefix *kel* means "people," hence Kel-Owi = People of Owi, which place, however, has not been identified. This is not surprising, as they came from the north-west, that is, from a region that has not yet been explored.

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of robust constitution, thanks to their frugal diet of milk, fruits, herbs, occasionally varied with a little meat.

The costume is far from uniform, the close-fitting garments of the western tribes being replaced farther east by loose, flowing robes, mostly made of the dark-blue "kano" cotton from the Sudan. Highly characteristic is the *litham* or *tessilgemist*, a kind of veil wound twice round the face in such a way as to protect eyes, mouth, and chin from the blown sands of the desert, leaving little exposed except the tip of the nose. The Imoshagh wear a black, the Imghad a white veil, whence the "black" and "white" Tuaregs of the Arabs, who apply to the whole race the expression *Ahl el-Litham*, "Veiled People." This veil, the origin of which is obvious enough, has by long usage acquired an almost sacred meaning, so that, like the *Agnus Dei* and other charms of devout Roman Catholics, it is never laid aside by the men even at night.

The hair, either cut short or forming a pigtail, remains uncovered on top, while the beard sometimes peeps out below. Sandals are worn only on the borders of the desert, and some tribes are distinguished by a complete leather costume. Those to the east wear a leather bag attached to a leather belt, and those in the west a dainty little pouch round the neck to hold their pipe, tobacco, pen, and other odds and ends.

The Imoshagh carry a very long, straight sword, a dagger suspended from the left wrist, a spear six feet long, this arsenal of weapons being often supplemented by a rifle. Despite their bellicose spirit and the chronic state of warfare maintained between the confederate tribes, they are not naturally cruel, and treat their slaves kindly. They are, or at least till recently have been,

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strict monogamists, which may possibly be a reminiscence of the pre-Mohammedan period, when a large section of the Berbers were certainly Christians. The women in other respects enjoy great personal freedom, go unveiled, and take part in the communal affairs of the tribe; for all Hamites are democrats, the commune with its public assembly taking the place of the autocratic sheikh amongst the Semites.

The Saharan Berbers are to some extent a cultured people. Their Tamasheght or Tarkiyeh[1] dialect, which is related to the Kabyle of Algeria as Spanish is to Italian, has been written from remote times with the so-called Tafinagh characters, whose Phœnician origin is now established, and indeed revealed in its very name. Numerous rock inscriptions have been found in various parts of the desert written with this rude and defective alphabet, which is also still used by the natives in their correspondence. But for most literary purposes it has long been superseded by the Arabic, although this script is scarcely better suited for expressing the peculiar phonetic system of the Tarkiyeh language.

The Tibus

Reference has already been made (p. 175) to the probable connection of the Tibus with the ancient Garamantes, whom Ptolemy regarded "rather as Ethiopians"[2] than Libyans. Many modern writers also class the Tibus[3] with the Ethiopians, that is with the Negroes,

[1] *Tamasheght*, from *Amoshagh*, is the native *Tarkiyeh*, from *Tarki*, the Arab name of this language.

[2] Ὄντων δὲ καὶ αὐτῶν ἤδη μᾶλλον Αἰθιόπων, i. 8.

[3] That is, people of Ti, Tu, or Tibesti, the word *Tu* meaning "rock"; hence the variants Ti-bu, Tu-bu, Tibbu, Tubbu, etc., all answering to the pleonastic Arabic expression Tubu Reshâdeh, "Rock People of the Rocks," rock-dwellers, and even cave-dwellers, for some are troglodytes.

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and it cannot be denied that the question of their true affinities presents great difficulties. But Ptolemy was probably thinking of the Leukaethiopi or "White Ethiopians," a term applied by the Ancients to various Libyan peoples, who seemed to form a transition between the Hamitic and Negro races. If this view be correct, the position of the Tibus could not have been more accurately defined, for the *Teda*,[1] or northern branch, is distinctly Hamitic, differing in no essential respect from the normal Tuareg type, while the Daza, or southern branch, is Negroid, merging gradually in the true Negro type of Central Sudan. The inhabitants of Tibesti, which from time immemorial has been the centre of their power, and apparently the cradle of the race, are shorter, but not less shapely and scarcely darker than their Imoshagh neighbours. The long black hair is slightly crisp and the beard full, while the regular features show no trace of the everted lips, flat nose, and other characteristics of the Negro peoples. The young women especially are described as quite charming, unrivalled in North Africa for "their physical beauty, pliant and graceful figures." The Tedas are obviously true Hamites, of the same original stock as the Berbers, from whom they differ less than do the southern from the northern Europeans.

But the language is not Berber, or at least can no longer be traced to a common Hamitic source, whereas it passes southwards through the Daza by imperceptible gradations to the Kanem, Kanuri, and other Negro tongues of Central Sudan. All these languages are grouped by Nachtigal in a separate linguistic family, of which he regards the *Modi Teda* of Tibesti as the proto-

[1] The *Teda* may perhaps be identified with the *Tedamensii*, a branch of the Garamantes placed by Ptolemy south of the Samamycii in Tripolitana.

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type. But he is uncertain whether to affiliate this archaic form of speech to the Hamitic or to the Negro connection, leaving the student to choose between a possible "extremely remote connection with the Negro languages, or, if it be preferred, to regard it as a distinct species which has held its ground between the Negro and Hamitic linguistic types."[1] The latter seems to be the more reasonable inference, and in this case the Tibus may still be regarded as a Hamitic people, who branched off from the parent stem at such a remote epoch that the connection is no longer apparent between their language and the other members of the Hamitic linguistic family. They pursued an independent evolution during long isolation in the rugged Tibesti uplands, and during later migrations southwards both the race and the language became gradually assimilated to the Negro types of Central Sudan.

But in Tibesti the Teda is still a true Hamite, active, vigorous, and enterprising, inured to hardships, and with the mental faculties sharpened almost to a preternatural degree by the hard struggle for existence in their arid, rocky homes. In making their way across the trackless solitudes they seem endowed with that "sense of direction," the existence of which has recently been discussed by students of psychology. Their surprising tact and skill, combined with much natural cunning and shrewdness, enable them to get the better both of the Arab and Negro in the markets of the surrounding oases. Greed and harshness are stamped on their hard features, and, unlike the Negro, the Tibu "takes his pleasures sadly," the national feasts being seldom enlivened with song or dance. Like the prairie Indian, he is always wary, and the measures formerly taken to guard against

[1] *Sahara und Sudan*, ii. 201.

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surprise are still observed as a matter of form or etiquette, just as the removal of the hat in Europe is a reminiscence of times when the act meant a declaration of peace and goodwill. Hence two friends on meeting in the wilderness, after an absence it may be of a day or so, will first stop suddenly short, as if in the presence of a possible foe; "then, crouching and throwing the litham over the lower part of the face in Tuareg fashion, they grasp the inseparable spear in their right, and the shangermangor, or bill-hook, in their left hand. After these preliminaries they begin to interchange compliments, inquiring after each other's health and family connections, receiving every answer with expressions of thanksgiving to Allah. These formalities usually last some minutes," [1] though it all means nothing more than "Hail, fellow, well met!"

Although ranging over a domain some 200,000 or 300,000 square miles in extent, the collective population of all the Tibu oases falls probably short of 70,000 souls.

Communications: The Caravan Trade

In the whole of the Sahara proper there is not a single carriage road, not a mile of navigable waters, not a wheeled vehicle, canoe, or boat of any kind. There are scarcely even any beaten tracks, for most of the routes, though followed for ages without divergence to right or left, are temporarily effaced with every sandstorm, and recovered only by means of the permanent landmarks—wells, prominent dunes, a solitary eminence crowned with a solitary bush, or else a line of bleached human and animal bones, the remains of travellers, slaves, or camels

[1] Reclus, xi. p. 430.

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that may have perished of thirst or exhaustion between the stations. Few venture to travel alone, or even in small parties, which could offer little resistance to the bands of marauders hovering about all the main lines of traffic. Hence the caravans usually comprise hundreds or even thousands of men and pack animals, all under a *kebir* or guide, whose word is law, like that of the skipper at sea. Under him are assistants, armed escorts and scouts, to spy out the land in dangerous neighbourhoods, besides notaries to record contracts and agreements, sometimes even public criers and an *imâm* to recite the prescribed prayers to the faithful.

The day's march is usually from 18 to 20 miles, though it may at times be extended to double that distance in places where the wells are far between or the district more than usually exposed to the attacks of predatory bands. Besides the ordinary provisions for the whole journey, the passengers are furnished with ox or goat skins to take in supplies of water at the wells or springs. These skins give the water a disagreeable flavour, but keep it at a tolerably low temperature, even when it has to last several days. Catastrophes are caused far less frequently by sandstorms or raiders than by the failure of the sources, when the whole convoy runs the risk of perishing of thirst.

Nearly all the more frequented routes run north and south between the Mediterranean seaboard and Sudan, and a few obliquely from north-east to south-west, though one or two explorers have also made their way from west to east along the northern verge of the desert. But all attempts to cross from east to west in the heart of the wilderness have hitherto failed. Rohlfs' experience in 1874 shows that the eastern section is quite impassable in this direction.

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The most important tracks, taking them in their order from west to east, are :—

Marocco to Senegal, starting from the Wad Nun, following the coast to Arguin, whence Saint Louis is easily reached. There is a branch from Arguin to Wadan, the chief place in Adrar.

Marocco to the Niger, also starting from the Wad Nun, and passing by Termassun south of the Wad Draa and by the Turine wells to Wadan; then south-east to Walata, where the line branches off in one direction south through Jenné and Sansandig to Segu-Sikaro on the Joliba (Upper Niger), in another south-east straight to Timbuktu, or else east to Arawan for Burum on the Niger, where it bends round to the south-east.

An alternative route runs from the Wad Nun through Tajakant, Tenduf, Igidi, Bir el-Abbas to Taudeni or the wells at Telig, where it joins the track from Fez through Tafilelt, Majara, and Marabuti, for Arawan and Timbuktu.

Algeria to the Niger, runs by In-Salah in Tidikelt either through Mabruk straight to Timbuktu, or round by Arawan, or else through Timissao and Kelijit to Burum.

Algeria to Central Sudan, from In-Salah through El-Hajar, Ideles, and Bir el-Gharama to Agades, whence various routes diverge on Sokoto, Katsena, Sinder, etc.

A more direct route runs from Tugurt or Wargla due south through El-Biodh, Temassint, Amgid, etc.

Tripolis to Central Sudan, two lines, one through Ghadames, the other through Murzuk, converge at Ghat for Agades, Sokoto, etc.; but the direct route runs from Murzuk through Kawar, Bilma, and Agadem for Kuka on the west bank of Lake Chad. According to the preliminary Anglo-French Convention of 1890 this line coincides with the east frontier of French Sahara.

Cyrenaica to Wadai, starts from Benghazi and runs

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through Jalo to Wara or Abeshr. This route was opened by the enterprising Abd el-Kerim, Sultan of Wadai, in 1810, and continued to be frequented till 1873, when the caravans from Wadai turned from Jalo east to Egypt.

With the exception of salt, the only commodity contributed by the desert itself, all the Sahara-borne trade consists of an interchange between the produce of Sudan and the merchandise partly produced in Mauritania and Tripolitana, partly imported from Europe. The chief articles forwarded by Sudan are ivory, ostrich feathers, oleaginous seeds, alum, skins of wild animals, benzoin, musk, incense, and especially gold and slaves, these last being now restricted to the routes between the Niger and Marocco, and between Kuka and Tripolis. In exchange the caravans take back cotton fabrics of various kinds, some silk, linen, and woollen goods, raw silk, tea, sugar, tobacco, rugs, carpets, leather-ware, arms and ammunition, crockery, glass-ware, cutlery, iron, copper, and tin-ware. Since the restrictions imposed on the slave trade by the French occupation of Algeria and Tunisia, and by the action of the British Chartered Companies in Sudan, the general transit traffic across the Sahara has greatly fallen off. Its annual value is at present estimated at from £80,000 to £100,000,[1] and it will probably continue to diminish according as European enterprise is developed in Sudan itself. The tedious and costly Saharan routes can never compete with the ocean highway, by which goods at low freights can now be imported from Liverpool or London in a few weeks into the very heart of the "black zone."

[1] That is, exclusive of slaves. J. S. Keltie thinks that "probably £300,000 would represent the total annual traffic between the Central Sudan and the Mediterranean countries west of Egypt" (*The Partition of Africa*, 1893, p. 291).

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CHAPTER V

THE BLACK ZONE: WEST, CENTRAL, AND EAST SUDAN

Name, Extent, Population — Political Divisions: Egyptian Sudan, French Sudan, British Sudan, German and Portuguese Sudan—Native States: Liberia, Bornu, Wadai, Kanem, Baghirmi—Historic Retrospect; Geographical Exploration, Arab Period—Modern Period: West and West Central Sudan—Discoveries in East and East Central Sudan—Physical Features: General Survey—West Sudan Uplands—West Sudan Seaboard: Guinea and Senegambian Coastlands—Rivers of West Sudan: The Senegal—The Gambia and West Coast Fjord Formations—The Liberian and Guinea Coast Streams—The Niger-Benue Basin—Physical Features of Central and East Sudan—Kordofan and Darfur—Lake Chad—The Shari-Logon Fluvial System—South-east Sudan: The Zeriba Lands and Bahr el-Jebel—The White Nile—The Welle-Makua Fluvial System—Geology and Mineral Resources of Sudan—Climate of Sudan—Flora and Fauna.

Name, Extent, Population

THE elastic expression *Bilád es-Sudán*, "Land of the Blacks," was applied by mediæval Arab writers in a general way to the whole region south of the Sahara, which was mainly inhabited by Negro or Negroid populations. Until comparatively recent times our knowledge of that region inland from the western seaboard was entirely derived from Arab sources, and the terms *Nigritia*, *Negroland*, formerly figuring on our maps, were in fact close translations of the Arabic expression worn down by use

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to the single word *Sudan*. Of its actual extent the Arabs themselves could have no clear notion, and as none but Negro populations were everywhere met in the direction of the south, the whole of the Continent beyond the Sahara was for them a Bilád es-Sudán, a Negroland. Nor would it be possible even now to assign it any definite southern limits on purely ethnical grounds, but for the very broad distinction observed between the peoples of the "Black Zone," with their endless diversity of speech, and those of the rest of the Continent, who with trifling exceptions speak more or less closely related dialects of the Bantu stock language. As already seen (p. 8), the parting-line between their linguistic domains also coincides roughly with the parting-line between the elevated southern and the relatively low northern section of Africa. Consequently this parting-line will everywhere form the natural southern limit of Sudan as far west as the head of the Gulf of Guinea, beyond which it is bounded south and west by the Atlantic Ocean. From the Atlantic the Black Zone extends without any bold physical break right across the Continent eastwards to the foot of the Abyssinian highlands, which on geographical as well as political and ethnical grounds form the eastern frontier, from Kaffaland northwards to about the parallel of Khartum. This parallel may also be taken as vaguely indicating the ill-defined northern frontier towards the Sahara, where, however, it is nowhere possible to draw a hard and fast line between the actual desert and the fertile plains of Sudan. At some points there are even overlappings, as in the Baghena district south of El Hodh, which seems already to form part of the Black Zone, and in the region between Lakes Chad and Fitri, and in Kordofan farther east, where rivers such as the Bahr el-Ghazal have become wadys, and

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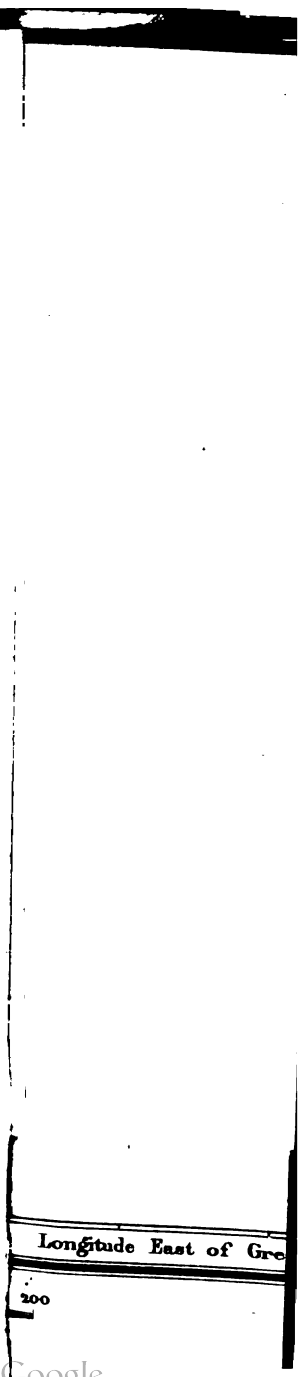

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where many cultivated tracts have been invaded by the sands of the desert. Within the assigned limits Sudan has an extreme length east and west of somewhat over 3500 miles, with a mean breadth of 600 miles—a total area of at least 2,000,000 square miles, and a population approximately estimated at about 80,000,000.

Political Divisions: Egyptian Sudan

Except along the seaboard, where Portuguese, French, English, German (Brandenburg), Danish, and Dutch factories, fortified stations, and even "colonies" had long been founded at various points between the Senegal and the Niger delta, no part of the Black Zone was brought under European influences till the present century. About the year 1840 the Egyptians, who may here be regarded as in some respects the representatives of European culture, began to penetrate from their Nubian possessions up the White Nile, successively reducing those regions which were later officially designated as Egyptian Sudan. Between 1840 and 1874 they had occupied most of the "Mesopotamia" between the White and Blue Niles, Kordofan, a considerable portion of the Sobat valley, and the whole of the "zeriba country" about the Nile-Congo watershed, where the *zeribas*,[1] or fenced Arab trading-stations, had been bought up and transferred to the Khedival administration. Darfur was also reduced, and preparations were being made for the conquest of Wadai, when the Egyptian officials were surprised by the Mahdi's revolt of 1882, and everywhere swept from the

[1] In Arabic *zeriba* means any kind of rough and ready fenced enclosure; hence the expression "zeriba country" applied by some geographers to the northern slope of the Nile-Congo divide, where the Arab traders and slave-hunters had founded numerous palisaded stations long before the establishment of the Egyptian administration in that region.

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land except in the Equatorial province held by Emin Pasha. But the English, forced to interfere in the affairs of Egypt, where the Khedival authority was threatened by the military revolt of Arabi Pasha, have become virtual masters of that region and heirs to all its possessions in the Nile basin. Hence Egyptian Sudan, temporarily under Mahdist rule, is now regarded as entirely within the British sphere of influence, and this position is fully recognised in the Anglo-Italian conventions of March and April 1891, by which the line of demarcation is laid down between the Italian and English spheres in North-East Africa.

French Sudan

While the Khedival forces, led by Gordon, Gessi, Lupton, and other European officers, were creating an "Egyptian Sudan" in the extreme east, France was making vigorous efforts to create a "French Sudan" in the extreme west. Long mistress of the Lower Senegal basin, and of numerous other points on the west and south coasts, she entered on a career of conquest about the year 1880, which, combined with the display of an aggressive commercial activity in the Lower Niger region, threatened for a moment to make her supreme throughout the whole of the Niger basin. As it is, the French have, by the overthrow of Behanzin, King of Dahomey, in January 1893, and of the Mohammedan chief Samory in the Upper Niger region inland from Sierra Leone, in March 1893, nearly completed a cordon of military stations sweeping round from the Slave Coast to Senegambia. An effectual barrier has thus been built up against the inland expansion of all the other European settlements on the Guinea seaboard at least beyond

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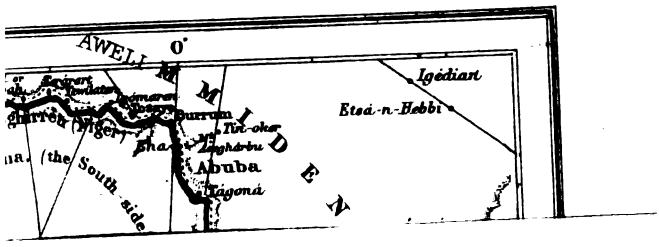

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the limits already secured by treaty rights, and the greater part of the vast region comprised between the Niger and the Atlantic is now virtually French territory, and already officially named "French Sudan." Here the old British Crown Colonies of Gambia, Sierra Leone, and the Gold Coast have become mere political enclaves within the French domain, enclaves which, thanks to the supineness of the Home Government, have lost their opportunity. They are henceforth mainly confined to the malarious coastlands, and even the Gold Coast, acquired at the cost of so much blood and treasure, is barred by the humiliating Anglo-French Treaty of August 1889 from spreading inland beyond the 9th degree of North latitude.

That section of the French possessions which is officially designated "French Sudan," and which comprises by far the greater portion of the whole region, has been placed under a superior military commandant, and the colony may be regarded as mainly held by military tenure. Hence it continues to be a constant burden to the Home Government, requiring a heavy yearly outlay, beyond the revenue derived from all sources. There are grand railway projects, and commercial projects, and schemes for agricultural settlements of French peasantry, who do not emigrate and who could not found permanent homes in these tropical lands. There are also dreams of further military conquests, and visions of a vast colonial empire stretching from the Mediterranean to the Gulf of Guinea. But there are no practical projects for the development of the land already acquired; no chartered companies or other private associations, by which the administration might be relieved of a constant annual drain, and the colony made self-supporting. While the flag advances trade lags behind, and, "except on the

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coast, and at one or two stations on the river, France is represented by a number of military officials and a considerable military force. Her occupation—where it exists—of the immense territory claimed by her is so far purely military, involving an annual expenditure on the part of the mother country of about half a million sterling."[1]

The French Sudanese possessions are officially classed as lands "occupied," lands "annexed," and lands "protected," with a total area of nearly 600,000 square miles and a population of probably over 11,000,000 as under :—

	Area in Sq. Miles.	Population.
Senegal with Rivières du Sud	50,000	250,000
Parts of Ivory and Gold Coasts	7,000	200,000
Slave Coast (Benin and Dahomey)	4,000	250,000
French Sudan	530,000	10,500,000
Total	591,000	11,200,000

British Sudan

On the other hand, nearly all the rest of the Black Zone, from about the meridian of Say on the Kwara (Middle Niger) eastwards to Lake Chad, has been secured to Great Britain either by actual occupation, by treaties with the native states accepting the British Protectorate, or by international agreements delineating the British sphere of influence in the interior of Sudan. The parts actually occupied are chiefly the Crown colony of Lagos, with which may now be included nearly the whole of Yorubaland, that is the region stretching from Dahomey eastwards to the Lower Niger. Here much vigour has recently been displayed, and numerous treaties have been made with the local potentates, establishing

[1] J. S. Keltie, *The Partition of Africa*, p. 293.

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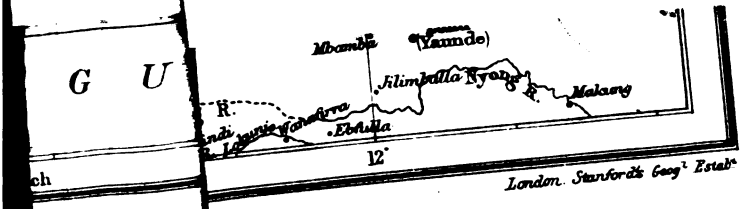

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the supremacy of Great Britain and safeguarding all these lands from the interference of any other Powers. Thus by the treaty of January 1893, the Egbas, of Abeokuta, most powerful of all the Yoruba peoples, agreed to refer all future differences to the Governor of Lagos, to establish free trade, to protect the missionaries, and to cede no part of their territory to any foreign Power. In 1891, Mr. G. C. Denton, acting Governor of Lagos, had already made treaties at their own request with the powerful chiefs of Addo, Igbessa, and Ilaro, whereby their territories became portions of the British Protectorate, which now practically embraces the whole of Yorubaland.

Numerous customs and trading stations have also been established in the Oil Rivers Protectorate, which, besides the thickly peopled region of the "Oil Rivers" between the Niger delta and the German territory of the Cameroons, comprises nearly the whole of the delta itself and Benin. It is thus conterminous with Lagos and Yoruba towards the north-west, and extends from the coast for about sixty miles northwards in the direction of Nupé. This territory was constituted a British Protectorate by treaties made with the local chiefs by Edward H. Hewett in 1884, and in 1889 nearly all the merchants trading in the Oil Rivers merged their interests in the African Association, with a capital of £2,000,000. In 1891 the district was placed under an Imperial Commissioner and Consul-General, under whom are six Vice-Consuls stationed in the several rivers. By this arrangement the Oil Rivers Protectorate, which on May 13, 1893, took the official title of the "Niger Coast Protectorate," was practically constituted a Crown Colony. The limits towards the Cameroons were finally settled by the Anglo-German Agreement of April 14, 1893.

The vast region stretching from the Oil Rivers up

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the Niger to the Sahara and up the Benue to the Chad basin, has also been recently brought within the sphere of British interests, and is now administered by the Royal Niger Company, chartered in 1886. In Sudan this Association occupies the same commanding position that the South Africa and the Imperial British East Africa Companies do in other parts of the Continent. It had its origin in the action of Sir George Goldie, who in the year 1879 effected the amalgamation of all the rival firms trading in the Lower Niger basin, which were merged on equitable terms in the "United African Company." Later this Association was thrown open to the public, and became the National African Company in 1882, when, with a capital raised to a million sterling, it found itself powerful enough to treat on equal terms with the Fulah Sultans of Sokoto and Gando, joint rulers of nearly all the land between the Niger and Lake Chad. The treaties obtained from those potentates by the Company's envoy, Mr. Joseph Thomson, in May 1885, not only secured the Niger-Benue basin to British enterprise, but practically placed the two Fulah empires under the British Protectorate. This achievement, which marks a great epoch in the political and commercial development of the Continent, was followed by another important step in 1886, when "our Government, now awake to the errors of the past, and recognising the incontestable claims and magnificent patriotic enterprise of the National African Company, granted it a Royal Charter, and the right to the title of Royal Niger Company, which it now bears." [1]

The subsequent career of this Corporation has fully justified the prophetic words of James M'Queen, who, so far back as the year 1816, declared, while correctly

[1] Joseph Thomson, *Mungo Park and the Niger*, p. 329.

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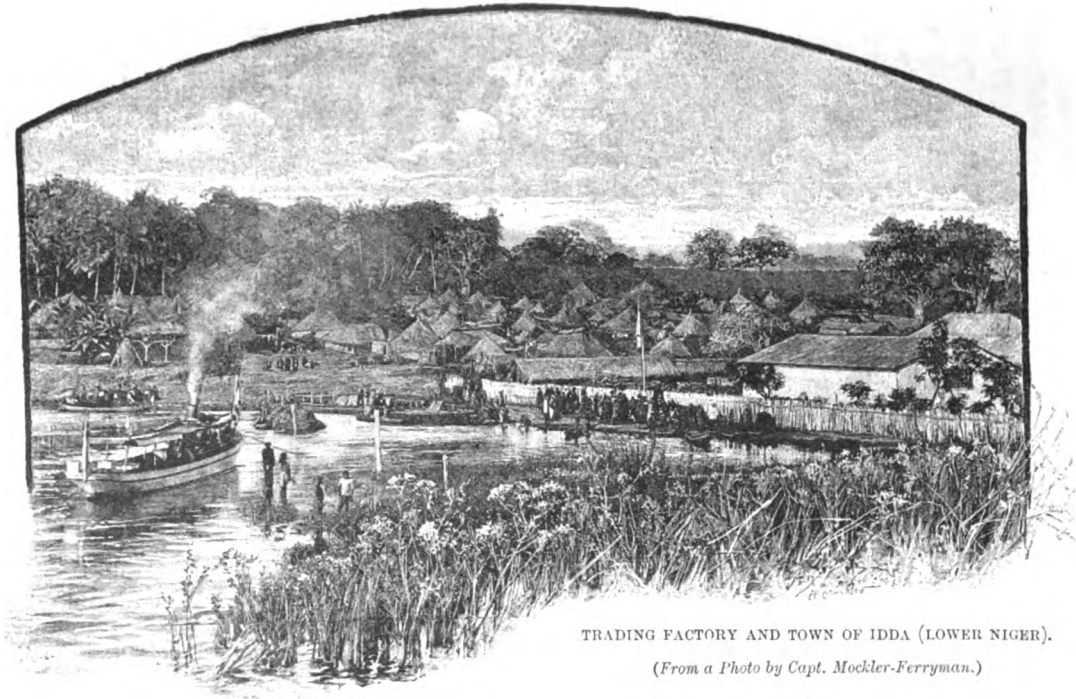

TRADING FACTORY AND TOWN OF IDDA (LOWER NIGER).

(From a Photo by Capt. Mockler-Ferryman.)

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laying down the course of the Niger in anticipation of later discoveries, that if ever the mission of Great Britain in the Niger lands was to be carried out, it could only be by means of a Chartered Company. As many as three hundred separate treaties have been made with the various kings and chiefs tributary to the two Fulah Sultans, and also with the independent State of Borgu, which lies between Gando and Dahomey North and South, and which extends from the Niger, about Bussa (Bussang), for an unknown distance westwards. In virtue of these treaties the whole of the Niger from Burrum, at its north-eastern bend, to the delta, now flows through British territory, although the section between Burrum and Say is disputed by France. From the Niger base the Company's domain stretches eastwards to Bornu, between the French and German spheres, north and south, the frontiers here being laid down by the Anglo-German Agreements of 1886, July 1890, and November 1893, and the Anglo-French Convention of August 1890, as described at p. 174. Eastwards the boundary coincides with the irregular frontiers of the sultanates of Bornu and Baghirmi, the south shore of Lake Chad being left to Germany as far as 14° E. long. By the 1893 treaty the Germans also secure the command of the Benue and the Faro confluence with territory comprising the important commercial town of Karua. On the other hand, Yola, capital of Adamawa, and the surrounding district are definitely recognised as within the British sphere of influence. France also surrenders to England the greater part of Bornu, while Rubaga, the Niger Company's farthest station, lies within 200 miles of Lake Chad. The Company, which disposes of a military force of one thousand natives, chiefly Hausas, with headquarters at Lokoja, facing the Niger-Benue confluence, administers

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its estate on strictly "business principles." Hence its financial position is sound, while its commercial transactions tend to the material and moral improvement of the native populations. Trade is practically free, except for arms and spirits, while legitimate dealings are everywhere making the old traffic in slaves unprofitable.

Apart from Bornu and the other still independent States in the Chad basin, the British territories in West and Central Sudan now cover a total area of about 570,000 square miles, with a population roughly estimated at 37,000,000, as under:—

	Area in Square Miles.	Population.
Gambia	2,700	50,000
Sierra Leone	15,000	180,000
Gold Coast with Ashanti	20,300	1,910,000
Lagos with Yorubaland	30,000	5,000,000
Niger-Benue, with Oil Rivers	500,000	30,000,000
Total British Sudan	568,000	37,140,000

German and Portuguese Sudan—Guiné

Setting aside her claims to an undefined Adamawa Hinterland towards Baghirmi, Germany has secured nothing in Sudan proper except the thriving little colony of Togoland on the Slave Coast, wedged in between Dahomey and Ashanti, with a shore line of 37 miles, an area of 16,000 square miles, and a population estimated at 500,000. Since its occupation as a German Protectorate in 1884, it has been placed under an Imperial Commissioner, while the frontier towards the interior has been advanced to the station of *Bismarcksburg*, about 130 miles inland from the town of *Togo*, which gives its name to the territory. The present capital, however, is *Little Popo*, so called in contradistinction to Great Popo, now included in the French territory of

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Dahomey. The frontier towards British Guinea, as determined by the Anglo-German Agreement of July 1890, mainly coincides with the course of the navigable river Volta, leaving, however, unsettled the rival claims of England, France, and Germany to the important inland market-town of Salaga. Eastwards a purely conventional line separates Togoland from the conterminous French territory of Benin and Dahomey, while in the interior the expansion of the colony in the direction of Mossi and the Niger has been arrested by the progress of French enterprise in that region.

The Portuguese, by whom the whole seaboard was discovered and first settled, whose flag had been hoisted on the stronghold of Elmina in the year 1482, and whose king, John II., had received the title of "Lord of Guinea" from the Pope over four centuries ago, have successively withdrawn from all their possessions in this region, except the Bissagos Archipelago and the neighbouring district on the mainland between the Caches and Rio Grande rivers, which still bears the name of Portuguese Guinea. This territory, which has an area of 14,000 square miles and a population of 150,000, lies a little south of the British colony of Gambia, and like it is now entirely hemmed in by the French possessions in Senegambia—the Casamanza valley on the north, Futa Jallon towards the interior, and the district known as the Rivières du Sud on the south.

But even of this reduced domain not more than 30 square miles are actually occupied, and scarcely 10,000 of the inhabitants recognise the Portuguese authority in a "colony," the whole annual trade of which is valued at less than £15,000. This trade is almost entirely in the hands of French merchants, and the time cannot be remote when the land itself will pass to the masters of

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Senegambia. The term "Senegambia," originally denoting the French territory between the Senegal and the Gambia, is thus continually receiving a wider significance, while "Guiné," originally applied by the Portuguese to all their settlements, from the Senegal to the Orange, is now confined by them to the few square miles on the west coast of Sudan over which their flag still waves. One consequence of this restricted use of the word Guiné (Guinea) is that there is no longer a "Lower Guinea" south of the equator to correspond with the expression "Upper Guinea" north of the equator. Hence the now meaningless "Upper" tends to disappear, and on recent maps the region north of the Gulf of Guinea, hitherto called Upper Guinea, either appears simply as Guinea, or else is merged in the general designation West Sudan, from which it was formerly supposed to be separated by the mythical "Kong Mountains." The restriction of the word to the region north of the equator is a return to correct usage, for there can be little doubt that it had reference originally to the famous city of Jinni (Guinni) [1] in the Joliba basin, which was founded in 1043, and which was from the first associated with the trade in gold and slaves. The name was everywhere current throughout Negroland; it already figures under the form of *Ginyia* in the Catalan map of 1375, and when the Portuguese founded their first factories on the west coast, in the 15th century, they fancied they were taking possession of the land of Guiné, which would give them the coveted monopoly of the trade in slaves and gold. Beyond this they looked and cared for nothing, and Portugal, which has sat for over four

[1] In Arabic the initial letter of this word, now pronounced *j*, was at that time still a hard *g*, as in *give*; hence *Ginni*, now *Jinni*; c.f. *Zang*, *Zanj*; *gebel*, *jebel*; *Augila*, *Aujila*, etc.

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hundred years on these shores, has never sent a single scientific expedition into the interior, has never approached the ancient city on the Upper Niger from which her kings took the title of "Lords of Guiné."

Native States: Liberia, Bornu, Wadai, Kanem, Baghirmi

Conterminous on the north side with Sierra Leone is the Negro-American State of Liberia, which, if it has not fully realised the expectations of its philanthropic founders, has at least preserved its political autonomy amid the general partition of the Continent. Liberia extends along the Grain or Pepper Coast south-eastwards to the French possessions on the Ivory Coast, where the common frontier has recently been modified in favour of France. It stretches some 200 miles inland to the States of the Mohammedan chief Samory, who has lately been compelled to accept the French Protectorate. Liberia has an area of over 14,000 square miles, and a population of about 1,000,000, of whom not more than 20,000 represent the dominant English-speaking class, descendants of the freedmen removed in 1820 from the United States to this region by the Washington Colonisation Society. This first effort to solve the Negro question has met with but indifferent success. The emancipated slaves have made scarcely any advance in general culture, and have done nothing to improve the moral status of the surrounding pagan populations, whom they affect to regard as mere "Niggers."[1] The resources of the country have also

[1] It has even been asserted that the "civilised" class has shown a tendency, like the Negroes of Hayti, to revert to the savage state of their ancestors. But accurate information is wanting on this point, and it is but fair to state that hitherto the bulk of the immigrants have at least resisted absorption amongst their heathen kindred.

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remained undeveloped. No interest has ever been paid on the debt of £200,000 contracted in 1871, while the money raised for public purposes has been wasted. The revenue, mainly raised from customs, appears to balance the expenditure, which averages about £34,000, and the whole trade of the republic, imports and exports combined, scarcely exceeds £500,000.

In the extreme south-east the powerful Monbottu (Mangbattu) kingdom about the Congo-Nile divide had already been dismembered and reduced by the Egyptians before the Mahdi's revolt. Here also several of the Niam-Niam (Zandeh) princes had recognised the Khedive's authority. But Ndoruma and others had maintained their autonomy, though many have since accepted the protectorate of the Congo Free State, whose officials have penetrated up the Ubanghi-Welle right into the Upper Nile basin.

Farther west no large native States appear to have ever been developed, and the region about the recently explored Shari-Congo water-parting is entirely occupied by rude pagan populations, broken into endless tribal groups, incapable of political cohesion. North of these are the still independent Mohammedan Sultanates of Bornu and of Wadai, grouped round the Lake Chad depression, and, next to Morocco, forming by far the most important section of what may still be regarded as autonomous Africa. Of the two, Bornu is the more cultured, Wadai the more powerful, its supremacy having in recent years been extended to the former independent but now vassal States of Kanem and Baghirmi. No accurate statistics are available for these territories, which appear to have a collective area of about 340,000 square miles, and a population roughly estimated at over 9,000,000, as under:—

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	Area in Sq. Miles.	Population.
Bornu	56,000	5,000,000
Wadai	180,000	2,500,000
Baghirmi	70,000	1,500,000
Kanem	34,000	150,000
Total	340,000	9,150,000

Historic Retrospect; Geographical Exploration: Arab Period

Until the introduction of the camel, the Sahara continued to present an impassable barrier between the outer world and Negroland, which, however, could be reached by the Nile Valley in the east, and by the ocean highway in the west. Hence our first faint knowledge of this region is derived from Egyptian and Phœnician sources. From remote times the Egyptians had constant intercourse with "Æthiopia Interior," that is, East Sudan, from which they drew most of their slaves; and it is recorded of Amenhoptu III. (1524-1488 B.C.) that he reduced twenty-four Negro tribes. There is good ground for accepting the statement of Herodotus that the Egyptian Admiral Necto (600 B.C.) really circumnavigated the Continent, while a hundred years later the Carthaginian Admiral Hanno coasted the western seaboard possibly as far south as the equator. Thus some little information was obtained respecting both East and West Sudan several centuries before the new era, whereas the central districts were still unknown to Ptolemy so late as 140 A.D. Before his time, however, an expedition sent by Nero (60 A.D.) to discover the sources of the Nile, ascended the river apparently as far as the Sobat confluence, where it was arrested, like some expeditions in our own time, by the *sudd* or tangled masses of floating vegetation constantly accumulating in the upper reaches of the White Nile. Towards the

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close of the first century B.C. two Romans, Septimius Flaccus and Julius Maternus, passed southwards from Phazania, and Maternus, escorted by a chief of the Garamantes, reached the extensive and well-watered land of Agisymba. This place, the remotest of which the Ancients had any knowledge, is located by some inland from the present Swahili coast, where there were no Garamantes. It may with more probability be identified with Agades, or with Kanem in the Chad basin, where the Tibu descendants of the Garamantes (p. 160) are still numerous. In any case Julius Maternus may claim to be the first European known to have crossed the Sahara and visited any part of Central Sudan. He was followed in 37 A.D. by the Roman general, C. Suetonius Paulinus, who penetrated to Negroland, and wrote a description of the country, which has been partly utilised by Pliny.

The early appearance of the Arabs in Nigritia has already been referred to (p. 232). They reached this region both from Marocco and from Egypt up the Nile Valley, where some of the present tribes claim to have been settled in the country since the first and second centuries of the Hejira. Under Mohammedan influences powerful States were soon founded, one of which, Bornu, still exists, with records dating from the ninth century. In the same century Islam had been widely diffused throughout the pagan kingdom of Ghana (Ghanata) in the Joliba basin, where twenty-two kings had reigned before the Hejira. Trading relations had been established about the year 893 between Wargela (Wargla) on the northern verge of the Sahara and Gogo, long the capital of the Songhay State in the Middle Niger basin; and in 1009 Za Kasi, 15th ruler of the first Songhay dynasty, embraced Islam. The great Mandingan empire of Melle

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(Mali) which comprised a great part of West Sudan and much of the inhabitable part of the Sahara beyond the Niger, was founded on the ruins of Ghana, in the thirteenth century, and by this time most of the Black Zone had been visited and even described by Arab geographers. For the first comprehensive account of Negroland we are indebted to El-Bekri (*Description of North Africa*, 1068). Then came Edrisi's Geography (1154), prepared for Count Robert of Sicily, and accompanied by a curious map with all the points of the compass reversed, but already showing such now familiar names as Kuku, Kanem, Kwara, besides the Jebel el-Komr ("Mountains of the Moon") at the sources of the Nile.

With Ibn Batuta of Tangier we seem almost to enter on the era of modern exploration. Commissioned by the Sultan of Marocco to visit Timbuktu, at that time capital of the Songhay empire, this learned traveller set out in June 1352 from Fez, crossed the West Sahara to Timbuktu, descended the Niger to Gogo, and thus reached Tekadda and Agades. He also visited Melle, and pushed eastwards to Zanzibar, returning by another route across the desert. Unfortunately his "Travels," written on his return in 1354, have disappeared, all but the portion found by Burckhardt at Cairo early in the present century.

The Arab epoch of exploration closes with El-Hassan Ibn Mohammed el-Wasas, better known as Leo Africanus, who in his own person forms a sort of transition from the Mohammedan to the Christian era. As envoy of the Court of Marocco to the Sudanese kings, he twice visited Timbuktu, and even penetrated to Bornu in the heart of Negroland. But having been captured in 1517 by Christian corsairs on the Tunis coast, he was brought to Rome and presented to Leo X., who had him baptized by

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the name of Johannes Leo. His *Description of Africa*, written in Arabic, and by himself done into Italian (1526), has been translated into Latin, English, French, and other European languages. The historical part is of permanent value, his Arabo-Berber nationality having enabled him to give an authentic account of the migrations and affinities of the North African peoples.

Geographical Exploration: Modern Period—West and West Central Sudan

The first rough survey of the Sudanese seaboard was begun and nearly completed in two years by the Venetian Ca da Mosto, who was sent by Prince Henry of Portugal to discover the kingdom of the mythical Prester John. In 1455 he reached the mouth of the Senegal, and in 1456 passed beyond the Gambia and Rio Grande round by Cape Palmas to the Gold Coast. Later, John II. sent envoys on the same quest to the West Sudanese chiefs, and about the same time (1481) the Wolof prince Bemoy visited the Portuguese Court, and in his account of those parts referred especially to the land of Mossi, whose king and people "greatly resembled the Christians." A fresh stimulus was thus given to the search for Prester John, which however was discontinued when the attention of the Portuguese was withdrawn from Sudan by the discovery of America (1492) and by Vasco da Gama's voyage to the Indies.

The heroic but disastrous efforts of the English (Richard Thompson and Richard Jobson) to reach Timbuktu and the Niger from their settlements on the Gambia in 1620-21, were followed by the more successful expeditions of the Sieur Brue, director of the French African Company, who in 1697-99 ascended the Senegal

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river, founded the fort of St. Joseph, and opened trade with merchants from Timbuktu. Thus were laid the foundations of French dominion in Senegambia; but the geographical results were of a purely negative character. They showed that neither the Senegal, the Gambia, nor any other of the west coast streams was connected with the Niger, and the mystery of the great river remained unsolved until it was attacked a hundred years later by the "British African Association" (1788). D'Anville, however, had already foreseen that the Niger flowed east, and not west as had hitherto been supposed. His map of Africa (1749) no longer shows the river rising in a "lacus Niger," which, if it existed, would be the "Libya Palus" of Ptolemy. The "lacus Borno" was also now detached from the Niger system, and correctly located in the Chad depression, with a Bahr el-Ghazal emissary, the existence of which, though now a dry wady, has since been proved by Nachtigal.

Reference has already been made (p. 177) to Ledyard, Lucas, and the other pioneers of modern exploration, who either never reached Sudan, or, like Hornemann, never returned to report their discoveries. Such also was the fate of Major Houghton, who reached Medina from the Gambia, and after collecting some particulars regarding the course of the Joliba, was assassinated at Yarra (Yawára), former capital of the Melle empire, in 1792. Watt and Winterbottom, sent by the British Government to the Niger in 1794, got no farther than Timbo, capital of Futa Jallon. The way was, however, thus partly prepared for the young Scotch doctor, Mungo Park, the first African explorer whose efforts were crowned with a large measure of success. Charged with a mission to the Niger by the African Association in 1795, Park still followed the old highway of the Gambia

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to the factory of Pisania above M'Carthy's Island, whence, accompanied only by an interpreter, he passed through Bondu and Kayes on the Upper Senegal to Koniakary, at that time capital of Khasson, and so on through Kaarta and Ludamar to Yarra, scene of Houghton's murder, and thence, after many marvellous adventures, to the Niger over against Segu,[1] capital of Bambaraland. His goal now was Timbuktu, but owing to Mohammedan fanaticism and the disturbed state of the country, he was unable on this occasion to get beyond Silla, over eighty miles below Segu, and already almost within measurable distance of the famous Saharan mart. But the Niger had at last been reached, and its easterly trend placed beyond doubt, and the "pilgrim of geography" had thus fulfilled one of the main objects of his mission.

Starting again from Pisania in 1805, Park, now accompanied by his brother-in-law, Dr. Anderson, and five other Europeans, made his way by a more southerly route through the Mandingan country to the Niger at Bamaku, over 130 miles above Segu. All his European followers had perished, and he made his way alone down the river to Sansandig, some miles beyond Segu. Here he built a boat, fittingly named the *Joliba*, and sent home despatches, which brought the last accurate information ever received of Park's second expedition. Later, however, it was ascertained from native reports that the *Joliba* had followed the course of the main stream past Kabera, the port of Timbuktu, and around its great northern bend down to Bussa (Bussang) about 10° 30′ N. in the Borgu country, where it became entangled in

[1] It was here that occurred the pathetic incident with the kindly Bambara negress, who gave the weary traveller food and shelter in his dire distress, and lulled him to rest, as she sat spinning, and still singing, far into the night, the plaintive burden of her improvised song: "Let us pity the white man; no mother has he."

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the rapids, and the whole party cut off by the natives. The Niger problem thus remained still unsolved, although intelligent observers like Richard (1808) and M'Queen (1816) now clearly saw that it must discharge into the Gulf of Guinea, and could not flow either east to Lake Chad or south-east to the Congo. But to settle the matter the British Government sent Captain Tuckey on his disastrous expedition to the Congo estuary in 1816, and Major Peddie in the same year to the Rio Nunez with equally disastrous results.

Later the problem was attacked from the north, and although the Oudney-Denham-Clapperton expedition of 1821-25 (p. 178) failed to reach the Niger, it vastly increased our knowledge of Sudan, and for the first time lifted the veil from the whole of the central region between Lake Chad and Sokoto. It is unnecessary to enter into the details of the pioneer expedition, as the ground was again gone over perhaps somewhat more thoroughly by Barth, and partly also by Nachtigal, although most of his wanderings lay more to the east. Enough to say that on his return to England, Clapperton, sole survivor of all his associates, was again sent out, this time to the Gulf of Guinea, commissioned to explore the tangle of waters already known to constitute the Niger delta, and follow it up to Bussa, where Park had perished. He was also instructed to pass on to Sokoto (the farthest point reached by him coming westwards on his first expedition), and establish friendly relations with the Fulah Sultan Bello, by whom he had been well received on that occasion. But instead of ascending the river from its mouth, the party went from Badagry on the Slave Coast, through Yoruba, overland to Bussa, and thereby Clapperton lost the chance, already within his reach, of completing the survey of the Niger from the

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point to which Park had brought it. From Bussa he continued the land journey through Nupé and round by Kano to Sokoto, where, exhausted by fever and hardships, and disappointed at the changed attitude of Bello, he closed his earthly career in April 1827. All his companions had already fallen victims to the deadly climate of the coastlands, his faithful servant, Richard Lander, alone excepted.

On his return to England with Clapperton's journal Lander expressed such an eager desire to complete his master's work that he was again sent out with his brother John, and following the previous route found himself at Bussa in June 1830. Here procuring two frail canoes the brothers Lander earned the coveted honour of solving the Niger mystery by floating down the broad stream to its mouth, which was reached on November 24, 1830, a little over two months after embarking at Bussa.

Thus was closed the first great chapter in the history of African exploration in recent times. The less brilliant but scarcely less useful work of filling up the details was at once taken in hand, and continued with little intermission down to the present day. In 1832 Macgregor Laird placed two specially constructed steamers on the Niger, which was navigated to a point some distance beyond the Benue confluence, and next year as far as Rabba, below Bussa, while the Benue was ascended for 104 miles from the confluence. But of the forty-nine European members of this first commercial undertaking as many as forty were swept away by fever. Almost equally disastrous was the attempt made to establish a model farm at Lokoja in 1841; but Dr. Baikie's expedition of 1854, when the Benue was ascended a distance of 340 miles from the confluence,

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THE NIGER AT SAY.

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proved that these inland waters could, with ordinary precautions, be navigated with little or no loss of life. With this expedition the participation of the English Government in the work of exploring and opening the Niger lands to British enterprise was brought to a close.

But the already-mentioned Richardson-Barth expedition had started from Tripoli five years previously, and Dr. Barth, its only survivor, had in 1851 struck the Benue at the Faro confluence, 75 miles above the point reached by Dr. Baikie. It was, in fact, upon the reports sent home by Barth of his discoveries in this region that the expedition was sent out which, under Dr. Baikie, steamed up the Benue to the point down to which Barth had been able to delineate the course of the river with some degree of certainty.[1]

After exploring Kanem, Bornu, Baghirmi, Logon, and Fumbina (Adamawa), as far south as Yola, Barth passed from Kuka through the heart of the Hausa (now Fulah) States of Kano, Katsena, Sokoto, and Gando westwards to the Kwara (Middle Niger) at Say. Here he entered the still almost unknown region, which is enclosed by the great northern bend of the Niger, and which he traversed in a north-westerly direction through Yagia, Libtako, and the romantic Hombori district to the Joliba, a little above Kabara, whence Timbuktu was reached on September 7, 1853. From Timbuktu the course of the Niger was followed down to Say (July 1854), whence the great traveller returned by the Sokoto-Kuka and Kuka-Murzuk routes to Tripoli after an absence of five years and five months (March 24, 1850 to August 28, 1855).

The central and western parts of the Sudan were again visited by Rohlfs (1867), who passed from Kuka through

[1] Barth, *Travels*, ii. p. 475.

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Yakoba in a south-westerly direction to the Lower Niger and the Gulf of Guinea. Four years previously E. Mage and Dr. Quintin had crossed the Senegal-Niger water-parting, thus preparing the way for Captain Gallieni's military expedition of 1880 to Bamaku on the Joliba, followed by a treaty with the Sultan of Segu, placing the Niger from its sources to Timbuktu under French rule. In the same year the sources themselves were discovered by Josue Zweifel and Marius Moustier, who found that the Tambi-Kundu, farthest head-stream of the Niger, rises in the Loma range, 8° 36′ N., 10° 30′ W., 193 miles west by north of Sierra Leone. Below its junction with the Faliko the main stream takes the name of Joliba. Much light was thrown upon this district of the Joliba head-waters by Captain Binger, whose expedition of 1887-89 from the Upper Niger to the Gulf of Guinea is by far the most important geographically, politically, and commercially that has yet been made within the region enclosed by the Niger bend. Starting from Bamaku, the explorer struck south-eastwards through Sikaso, capital of Tieba, to the famous town of Kong, which he was the first European to enter on February 20, 1888. In this section of the journey several streams were crossed flowing, not north to the Joliba, but south to the Lahu and Akba (Comoé), which fall into the Gulf of Guinea. It was thus shown that the divide between these coast streams and the Niger system lies much farther inland than had hitherto been supposed, and that it is formed, not by a huge mountain range, but by rising grounds of moderate elevation. Thus vanish the famous "Kong Mountains" which have figured on our maps since the time of Mungo Park, who had traced them by report under 11° N. lat. and 3° to 4° W. long.

After a three weeks' stay in Kong (or Pong), a great

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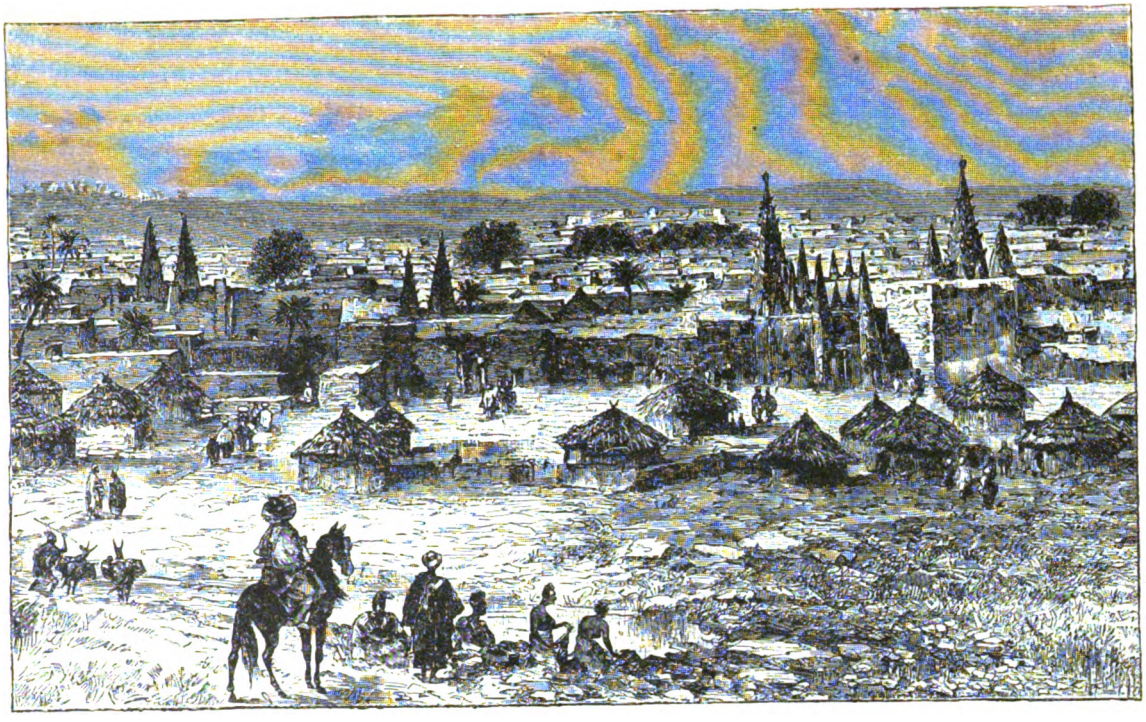

KONG.

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Mohammedan trading centre with a population of from 12,000 to 15,000, Captain Binger went north to Wakara in the Dafina district, crossing the upper course of the Comoé and Black Volta, westernmost head-stream of the Volta. From Wakara the route ran through the wasted Gurunsi country east by north to Wagadugu, capital of the flat Mossi country. Here his intention to push still to the north and connect his itinerary with Barth's at Libtako (p. 267) was thwarted by the distrustful Mossi king, who compelled him to turn south. After crossing the Red and White head-streams of the Volta, the explorer reached Salaga in October 1888, and thence made his way through Kintampo and Bonduku along the north frontier of Ashanti westwards to Kong, which was re-entered on January 5, 1889. A complete circuit was thus made round the hitherto unvisited region back of the Gold Coast, and after concluding a treaty of protection with the ruler of Kong, Captain Binger, now joined by M. Treich Laplène, followed the course of the Akba due south to the Ivory Coast at Grand Bassam. Treaties were also made with the kingdoms of Tieba and Bonduku, and with several other smaller States, so that the whole region from the Senegal to the Ivory Coast has been brought under French protection, and a vast field opened to French commerce by connecting the great trading centres of Kong and Bonduku with the coast by the Akba river, which is navigable as far up as Attakru, about midway between Kong and Grand Bassam. The natural result of these successes was the annexation of the whole of the Ivory Coast between Grand Bassam and Liberia, and a fresh display of military enterprise in the Upper Senegal and Joliba basins, where Colonel Archinard successively captured Segu and Nioro, capital of Kaarta, in 1890-91. Thus was crippled the power of

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the troublesome Mohammedan chiefs, Ahmadu (Samadu) and Samory, hitherto the main obstacles to the advance of the French, who may be said to have completed the conquest of West Sudan by the occupation of Timbuktu early in the year 1894.

Discoveries in East and East Central Sudan

To George Browne, of whom so little is now heard, belongs the honour of having ushered in the modern epoch of geographical exploration in the eastern parts of the Black Zone. After a preliminary excursion to the Siwah oasis (1792), this intrepid pioneer went in quest of the Darfur, of which he had heard from James Bruce and Ledyard. He left Siut, on the Nile, in May 1793, in company with a caravan bound for Sudan, and in two months reached El Fasher by the direct southerly route through the Khargeh oasis, a route which has never since been followed by any European. Here he was not only prevented from advancing farther into Darfur, but was kept in virtual captivity for three years. Returning by the same route, he re-entered Siut in the summer of 1796, bringing back much authentic information on all the lands round about Darfur, westwards to Waday and Bornu, eastwards to Kordofan and Senaar. Darfur was again reached from Egypt by Sheikh Mohammed Ibn Omar El-Tunsi, who passed thence to Waday, whence he made his way through Tibesti and Fezzan to the Mediterranean (1805-11). El Tunsi, *i.e.* "The Tunisian," is the only modern traveller who has crossed the Sahara by this particular route, though much of the ground has been covered by Nachtigal.

The erudite Swiss traveller, J. L. Burckhardt, although sent out by the African Association, may be said to have

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prepared the way for the Egyptian conquest of East Sudan. Furnished with "letters of introduction" from Mehemet Ali to the local chiefs, he passed, under the name of "Sheikh Ibrahim," from Assuan through Nubia up the Nile to Shendi and Berber (1813-14). The return journey was made with a caravan by the now familiar route from Berber to Sawakin. Burckhardt, who died in 1817, while preparing to cross from Egypt through Fezzan to Timbuktu, paid special attention to archæology, hence the permanent value of his *Travels*.

After the Egyptian occupation people were at first too busy with administrative matters to do much for scientific exploration in the Upper Nile region. But Kordofan, having been conquered in 1820, was visited so early as 1825 by Rüppell, and again by Holroyd and Parkyns (1837-49), by Dr. Cuny (1857-58), and Munziger (1861-62). Later much statistical matter and other details were supplied by the Khedival officials, Stone, Prout, and Colston (1875-76). J. Petherick appears to be the first European who penetrated up the White Nile into the Zeriba lands. Although his object was mainly the quest of ivory, he collected much valuable information, which appeared in his *Egypt, the Sudan, and Central Africa* (1861). The Upper Nile was ascended to Lake Albert by Sir Samuel Baker in 1864, and about the same time the Nile-Congo water-parting was for the first time crossed by Piaggia, who reached the Niam-Niam territory and some of the Welle affluents in 1863-65.

The way was thus prepared for the memorable expedition of Dr. Schweinfurth, who in March 1870 discovered the Welle itself, which he supposed to flow through the Shari to Lake Chad, but which is now known to belong to the Congo system (p. 273). The results of Schwein-

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furth's labours amongst the Dinkas, Bongos, and other Nilotic Negroes, as well as in the Niam-Niam and Mombuttu (Mangbattu) lands, were published in his popular work, *Im Herzen von Africa* (1872), of which there is a good English edition. His explorations have been extended by Miani, who died near Ndoruma's in 1872; by Felkin and Wilson, whose journey through Dar Fertit north to El Fasher (1876) connects with the itineraries of Browne and Nachtigal in Darfur; by Lupton Bey, who before his capture by the Mahdists had advanced from Mbanga westwards to Foro in Dar Banda (1883); by Casati and Emin Pasha, who in their official capacity more than as explorers visited the equatorial province west of Lado; but, above all, by Dr. W. Junker, who completed Schweinfurth's work by accurately determining the Nile-Congo water-parting, and surveying nearly the whole of the Welle basin as far west as Abdullah, where his itinerary has since been connected with those of the Belgian officers ascending the Ubanghi and other Congo affluents. Including his excursions in Lower Egypt and Nubia, Junker's wanderings extended, with little interruption, over eleven years (1875-86), and his carefully laid down routes have filled up one of the large blank spaces till then existing on the map of Africa.[1]

After his failure to reach the south end of Tibesti (p. 179), Nachtigal returned through Borku and Egai to Kanem, and then turned his attention to Lake Chad and all the surrounding lands (1871-74). In Bornu, Baghirmi, Logon, and Mandara his itineraries frequently crossed or coincided with those of Clapperton and Barth.

[1] The results are embodied in his large work, *Reisen in Afrika*, Vienna 1889-92, Englished by A. H. Keane, London, 1890-92. Soon after revising the last proofs Dr. Junker fell a victim to the disease the germs of which had been contracted in Central Africa.

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But although he advanced farther south both in Adamawa and the Shari basin, he returned to Europe through Waday, Darfur, and Kordofan without reaching the headwaters of the Shari, or determining the actual relations of its lower course to the Benue. The divide between the two systems is at some points so imperceptible that the Benue was supposed to send some of its overflow through the Kebbi eastwards to the Tuburi swamps, which drain through the Logon, that is, the western branch of the Shari, to Lake Chad. Partly with a view to settling this point, one of the few still unsolved problems of African hydrography, Major C. M. Macdonald, commissioner to the Oil Rivers, ascended the Benue in August 1889 in the *Boussa*, a steamer drawing five feet of water, a distance of 600 miles to Garua in the Rubago district, ten miles below the confluence of the Kebbi from the north-east. The journey was then continued in the *Benue*, a stern-wheeler drawing two feet, with which the Kebbi was navigated to the Nabarah lagoon, a shallow expanse which even at high-water period shoals to a depth of two feet, and which appeared to be within a mile or so of the source. But this lagoon is quite thirty miles from Dawa in the Tuburi district, the farthest point reached by Barth's companion, Dr. Vogel, advancing from the north in 1854. "It was a matter of regret to me that we were unable to reach the Tuburi marsh, and thus join hands with European exploration from the north; but I venture to think that we established the fact that the Kebbi has no communication with the Chad basin, and that we had arrived within a few miles of the watershed that here divides the basin of the Niger from that of the Chad." [1]

There still remained the Congo-Chad water-parting,

[1] Major Claude M. Macdonald, *Proc. Roy. Geo. Soc.* 1891, p. 476.

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and that also has now been crossed by M. J. Dybowski, sent in 1891 by the French Government to support the expedition of M. Crampel, who had endeavoured the previous year to pass from the Congo to Lake Chad. Although informed at Brazzaville that Crampel, with nearly all his followers, had been massacred soon after leaving Bembe on the Ubanghi, Dybowski determined to push forward. Starting from the same point, he struck due north, and soon reached El Kuti, the scene of the disaster, and after punishing the murderers, a band of Mohammedan slave-hunters, he advanced across the chain of ferruginous rocks forming the divide between the Congo and the Shari basins a little north of 6° N. lat. Lack of means prevented him from descending the Shari beyond 7° 26′ N., where it was found to be sixty to seventy yards broad, and thirteen to sixteen feet deep. Here Dybowski came within fifty or sixty miles of Gundi, the southernmost point on the Shari reached by Nachtigal advancing from Lake Chad. Dybowski was followed in 1892-3 by the French political agent, Maistre, who also started from the Ubanghi, and successfully traversed 300 miles of unknown land, reaching Baghirmi early in 1893, and thus connecting Dybowski's and Nachtigal's itineraries. Maistre's expedition puts, so to say, the keystone to the work of exploration in the interior of the Continent, for it fills up the last space which still separated the routes of travellers penetrating from the Mediterranean southwards, and from the Congo basin northwards. As he also claims to have made treaties with several chiefs on the Shari and the Logon rivers, his expedition is likely to be followed by important political consequences. The avowed object of French activity in this region is to establish a cordon of stations from their Congo possessions round to Baghirmi and Lake Chad. The result, if successful, will be

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to arrest the further advance of British enterprise in the Chad basin, and to isolate the German territory of the Cameroons by depriving it of its natural hinterland towards Central Sudan, just as German Togoland has already been deprived of its natural hinterland towards West Sudan.

Physical Features: General Survey

It was seen (p. 5) that the northern stands at a much lower elevation than the southern section of the continental plateau. The whole of the northern section between the Mauritanian uplands in the north-west and the Abyssinian uplands in the south-east is roughly disposed in two broad zones, the arid Sahara in the north, and the fertile Sudan in the south. In accordance with the general uniformity of the Continent, these zones have about the same mean altitude of from 1500 to 2000 feet, whereas that of the great southern plateau, apart from the Congo depression, ranges from 2000 to 4000, or even 5000 feet. The result is that, while the ascent from Sudan northwards to the Sahara is slight and in places scarcely perceptible, the ascent southwards to the equatorial regions is rapid, and in places precipitous, as, for instance, from the Benue basin to the Adamawa plateau, and from the Bahr el-Jebel to the Nile-Congo divide.

The contrast between the respective altitudes is seen in Lake Chad, central depression of Sudan (850 feet), and Lake Ngami and neighbouring salt vleis, central and lowest depression of the old Zambesi inland sea (2700 feet). Between Lake Victoria and Khartum, a distance of over 1000 miles in a bee-line, the Nile falls altogether about 2600 feet (3800 to 1210), but 2300 of this total occurs in the short space of ninety miles between Lakes

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Victoria and Albert (3800-1500), where the descent from the southern tableland to the Sudanese plains may be best studied. On the other hand, the difference of altitude between Khartum in East and Timbuktu in West Sudan is only 390 feet (1210 and 820 respectively), showing both great uniformity throughout the whole of the Black Zone, and a general mean altitude somewhat less than that of the Sahara.

Thus, speaking broadly, Sudan may be described as a vast plain or plateau of moderate elevation, with generally level or rolling surface in the east and centre, and somewhat more diversified in the west, but nowhere falling below 800 or rising above 2000 feet, except in a few hilly districts in the east and west. There are three natural, or at least hydrographic, divisions, here designated WEST, CENTRAL, and EAST SUDAN, which correspond in a general way with the three basins of the Niger, Chad, and Nile.

West Sudan Uplands

West Sudan comprises the whole region within the great bend of the Niger, together with the neighbouring coastlands of Senegambia and Guinea, which drain through numerous independent coast streams west to the Atlantic, and south to the Gulf of Guinea. It lies mainly between 5° to 17° N. lat., and 5° E. to 20° W. long., its extreme points being Burum in the north, Cape Verd in the west, Capes Palmas and Formoso in the south, and the Niger-Benue confluence in the east.

Since the effacement of the "Kong Mountains," which are merely the escarpment of the plateau falling somewhat abruptly down to the Gulf of Guinea coastlands, there appears to be not a single mountain range in the whole of West Sudan. The "Hombori

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Mountains" traversed by Barth on the route between Say and Timbuktu (p. 178) are merely a group of romantic hills presenting the most diverse and fantastic shapes, but apparently nowhere rising more than 800 feet above the surrounding plain, or 1500 above sea-level.

HOMBORI HILLS.

Seen from a distance the rocks look like hands and fingers pointing upwards. But on a nearer approach they assume the aspect of colossal artificial structures, square pillars with bold rugged vertical walls springing from cone-shaped crags, so that every summit resembles a ruined castle resting on a sugar-loaf base. In one place,

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"on a sloping ground consisting of rubbish and boulders, there rose a wall of steep cliffs like an artificial fortification, forming, as it seemed, a spacious terrace on the top, where there are said to be three hamlets inhabited by a spirited race of natives, who in this rocky retreat vindicate their independence against the overbearing intrusions of the Fulbe (Fulahs). After passing this mound, and following a more north-westerly direction, we approached another mound rising from the plain like an isolated cone and with its steep narrow and rugged crests looking exactly like the ruin of a castle of the Middle Ages. Leaving this mound, we approached the southern foot of another castellated mound, which stretched out to a greater length, but offered in its rugged and precipitous cliffs exactly the spectacle of crenellated walls and towers."[1]

Between the Hombori Hills and the west coast the only conspicuous elevations are the rugged Futa Jallon uplands north of Sierra Leone, where the farthest headstreams both of the Niger and Senegal as well as of the Rio Grande and some smaller coast rivers have their source. Here the plateau rises to an elevation of over 3000 feet, while several isolated peaks range from 4000 to perhaps 6000 feet. These may be called the "Highlands" of West Sudan, although several summits in the district north of the Gold Coast recently visited by Binger (p. 268) rival them in absolute elevation. Such are the granite Komono Peak (4757 feet), by which the Akba river is deflected from its easterly course southwards, and the Nauri Peak (5905) south-east of Wagadugu in Mossi Land, source of the Red and White branches of the Volta. Nauri was the highest mountain anywhere seen by Binger, and is probably the culminating

[1] Barth, *Travels*, iv. p. 134.

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point of West Sudan. Mount Natinian Sikasso in Tieba's territory farther west is only 2560 feet, although it forms the divide between the Niger and Akba basins. In the whole region traversed by Binger there are nowhere any distinct ranges, but only isolated granite peaks rising above the plateau. The Mossi country, which occupies the whole space between the routes followed by Binger and Barth within the great bend, is described as quite flat. As this is the only large tract not yet actually traversed it is evident that there remain no more "mountains" to be discovered in West Sudan.

West Sudan Seaboard: Guinea and Senegambian Coastlands

From the southern escarpments of the plateau the land falls in a succession of terraces down to the Gulf of Guinea. Here has been developed a remarkable system of lagoons, which are separated by narrow strips of sand from the sea, and which afford with slight interruption a continuous line of inland navigable waters stretching for 500 miles from the Benin branch of the Niger delta all the way to the Volta river. It is evident that this lagoon formation, which also prevails farther west along the Ivory Coast between Capes Three Points and Palmas, is of relatively recent origin. The old sea-beach, masked by the present shore-line, may still be followed for miles on either hand of the roads ascending from the coast to the first inland terrace. "To the influence of the sheltering headlands which jut out towards the south; to the rapid Guinea current which tears away the face of their rocky shores and hurries towards the east a ceaseless stream of sand; to the almost tideless ocean and the absence of high winds; and above all to the enormous growths of floating papyrus

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and water-grass which line the inner banks of the lagoons and prevent the swollen waters from breaking through into the ocean, are due the formation and continual development of this strange delta-system. For these rivers are in most instances choked for many miles by a floating papyrus-sod, bound together by wild water-figs and palm-wine palms (*Raphia vinifera*), and when the floods come down from the interior great masses of this floating vegetation are torn away and carried down to the lagoons, where they lodge and grow and eventually become anchored in their places by more permanent vegetation. By this means the frail barrier of sea-sand is strengthened, and the inland waters, although they frequently rise to a height of five to six feet above the sea-level, are effectually prevented from bursting through their banks."[1]

There is abundant evidence that even within historic times the land has encroached largely on the sea, especially on the Slave Coast, where the Nyin-sin swamp, now a muddy plain, appears on the map accompanying Dalzel's *History of Dahomey* (1793) as a broad lagoon communicating through the Denham waters eastwards with the Lagos lagoon. This old lacustrine bed of alluvial clay and crystalline sands extends thirty-five miles inland from Whydah to Toffo, and is everywhere strewn with marine shells. Beyond it the Ko, or Great March, is also undoubtedly an old lagoon bed six or seven miles broad and formerly extending south-east to the Denham waters and south-west to the Togo Lake (Hacco Lagoon) at Porto Seguro. Thus in Dahomey the old coast-line lies north of the Ko Swamp near Kana below Agbomi, over forty miles inland from the Gulf of Guinea.

[1] Alvan Millson, "The Yoruba Country," *Proc. Roy. Geo. Soc.* 1891, p. 580.

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In the Oil Rivers district east of the Niger delta the lagoon formation is not developed. Although the ground is here also low and swampy, the rivers themselves, Bonny, New and Old Calabar, are little more than tidal estuaries intermingling their waters with those of the delta, or rising too near the coast to bring down much sediment from the interior. Nor are there any lagoons on the Gold Coast between the Volta and the Comoé (Akba), for here the plateau escarpments approach the coast, and assume the aspect of a moderately elevated and densely wooded hilly district with steep cliffs rising in some places several hundred feet above the sea, and culminating farther inland in the Adansi Hills. For similar reasons no lagoons occur anywhere on the west coast, except at the mouth of the Senegal, next to the Niger, largest of all the West Sudanese rivers.

The west coast from Cape Verd to Cape Palmas, being exposed to the full brunt of the Atlantic gales, takes the name of the *Windward Coast*, while the somewhat more sheltered southern seaboard, developing a series of graceful curves between Cape Palmas and the Niger delta, is known as the *Leeward Coast*. But these terms are mainly confined to nautical language, and the various sections between Sierra Leone and Benin are better known as the *Grain* (*Pepper*), *Ivory*, *Gold*, and *Slave Coasts*, being so named from the produce for which they were formerly most noted. Most of these terms have now little more than a historic interest, although still useful in geographical nomenclature for more accurately determining the several sections of the Guinea seaboard. Human cattle of course have long ceased to be shipped from the lagoons on the Slave Coast for the Brazilian and West Indian plantations; very few elephants' tusks now find their way to the Ivory Coast; the Liberian re-

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publicans export but little pepper from the Grain Coast, and the Gold Coast alone still justifies its name, for this region is undoubtedly the most auriferous in the northern section of the Continent.

Rivers of West Sudan: The Senegal

The Senegal, the first perennial stream that occurs on the west coast for a distance of over 1300 miles between the Um er-Rabiah in Marocco and Sudan, marks throughout its whole course of about 1000 miles the limits of the zone of heavy periodical rains. It is formed by the junction of the Bakhoi ("White") and Bafing ("Black"), both of which rise on the Futa Jallon uplands about 2500 feet above sea-level. The Bafing, the larger of the two, flows first south, and then makes a great sweep round to the east and north, coming at one point within a few miles of the Joliba. During the rainy season, from May to August, it descends from terrace to terrace over a series of rapids, which during the dry season serve as so many natural dams to retain the water in the upper reaches; but for this formation the Bafing would be nothing more than a dry wady for the greater part of the year. Its several sections are navigable for small craft; but all continuous navigation is prevented by the rocky ledges leading like steps from the higher to the lower levels of the plateau.

At the Bafulabe ("Two Rivers"), as the confluence is locally called, the main stream stands still 480 feet above the sea-level; but this elevation is soon reduced by another series of rapids, two of which at Guina and Felu assume the character of tremendous falls each 50 feet high. The Felu Falls, 600 miles from the sea, mark the head of the navigation for small steamers throughout

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the year, and for larger vessels during the floods. Lower down, the Senegal is joined by the Kuniakare (Tarakolé) from the Sahara, mostly a dry watercourse 120 miles long, and farther on by the Falémé, its last perennial affluent from Futa Jallon. At the junction the Falémé is 1000 feet wide and twenty-six deep, and this branch appears to be navigable for hundreds of miles by light craft.

In the rainy season the Senegal rises as much as fifty feet in its middle course below the Bafulabé, and from fifteen to twenty in its lower course, where at this period it occasionally expands to a great inland sea twelve or fourteen miles wide. As it approaches the coast it ramifies into a maze of sluggish channels and backwaters, forming a kind of delta, which however is masked seawards by a strip of sands, the so-called "Langue de Barberie," some fifteen miles long and 400 or 500 yards broad, with dunes from fifteen to twenty feet high. Thus is formed a long narrow coast lagoon which is said to have extended formerly from above St. Louis to Dakar under the Cape Verd headland, but which is now arrested at a point about ten miles south of St. Louis. Under pressure from the surf, the winds, the marine and fluvial currents, the frontal barrier is continually yielding now at one point now at another, but seldom at more than one simultaneously. The shifting channel thus formed varies in depth from eight to fourteen feet at ebb, giving access at flow to vessels drawing from fourteen to twenty feet; but being exposed to the full fury of the Atlantic gales, it is often inaccessible to shipping for weeks together. Including the Saharan part of its basin, the Senegal drains an area of about 180,000 square miles, and during the floods sends down a volume of many thousand cubic yards per second.

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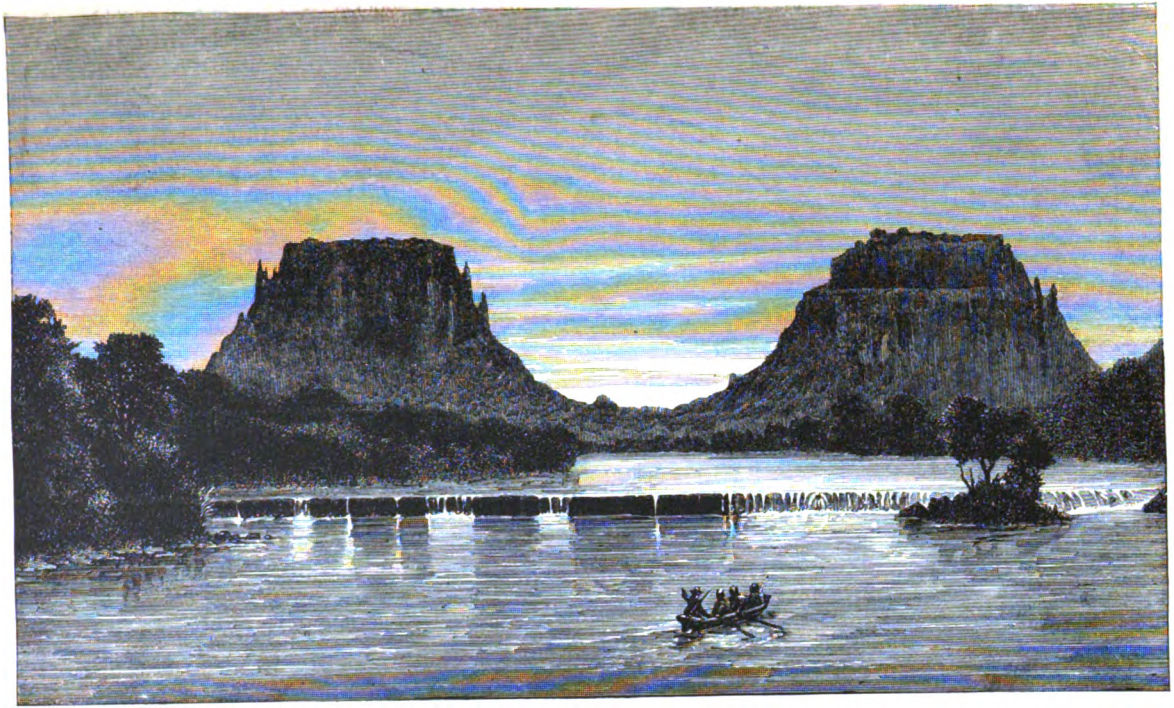

VIEW ON THE UPPER SENEGAL.

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The Gambia and West Coast Fjord Formations

Below the Senegal flows the historical river Gambia, which was so long supposed to be the Niger, and which even so recently as Moll's map (1710) is made a branch of the Senegal and traced right across the Continent to a lake about the meridian of Lake Chad. But although now known to rise at Labi in Futa Jallon, not far from the sources of the Falémé, the Gambia is nevertheless an important river, with a catchment basin of over 70,000 square miles, and a total length of 450 miles, of which 300 are permanently navigable for light craft from its mouth to the Barrakunda rapids above Medina. From its source to these rapids it flows mainly in a north-westerly direction, and thence nearly due west in a winding rocky bed to its estuary at Bathurst, where it expands to a breadth of 10 or 12 miles.

Similar broad estuaries are characteristic of most of the other streams on the west coast, which, however, are often more important as political frontiers than as navigable arteries. Such are, in their order from north to south, the Casamanza, now a French river; the Cacheo, separating French Senegambia from Portuguese Guiné; the Geba and Rio Grande, converging on a common estuary between Guiné and the French territory of *Rivières du Sud;* the Scarcies and Rokelle in Sierra Leone. The fiord-like formation developed in their lower course by these coast streams has been attributed by some geographers to the scouring action of glaciers descending in the Ice Age from the Futa Jallon highlands, and depositing frontal moraines,[1] such as the Bissagos Archi-

[1] At Sierra Leone Burton noticed "blocks and boulders apparently erratic, dislodged or washed down from the upper heights, where similar masses are seen" (i. p. 340).

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pelago and Sherbro Island, in the shallow waters along the coast between Cape Verd and Liberia. These highlands have certainly been subjected to an enormous extent of denudation by the numerous streams scoring their flanks in all directions; consequently in the Ice Age they may well have been lofty enough to give birth to large glaciers, capable of indenting the coast with the now flooded fluvial estuaries which bear such a striking resemblance to the fiords of higher latitudes. It is noteworthy that along this section of the coast, between Cape Verd and Sherbro Island, the water shoals considerably, so that the 50-fathom line is deflected some distance seawards, as if the marine bed had been raised by the sedimentary matter washed down from the Futa Jallon uplands.

The Liberian and Guinea Coast Streams

The St. Paul's, St. Mary's, and other Liberian rivers, which descend, not from the highlands, but from the continental plateau, develop no estuaries, while the Gulf of Guinea streams fall into the already described coast lagoons. "Were all the rivers which feed the lagoons freed from their natural obstructions, as is the case with the Ogun river, near Lagos, the interior to a distance of 30 to 70 geographical miles would be thrown open to commerce, and the wonderful system of inland navigation which fosters the coast traffic would be still further developed. The Oshun river, for instance, which carries even in the dry season more water than the Thames at Kingston, would enable launches and lighters to penetrate to the Ibadan farms in the heart of the most populous and promising commercial tribe in West Africa. The Oni, in a similar manner, would open up more than 50 miles

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of Eastern Yoruba, whose rich mountains and valleys will some day be a source of great agricultural wealth, while the Addo, the Opara, and the Eso (Is-au) rivers would serve to tap the commerce of Western Yoruba and Eastern Dahomey." [1]

Since the explorations of Krause and Binger in the region back of the Ivory and Gold Coasts, the Comoé and the Volta have acquired quite an exceptional economic importance. Their valleys have been advanced far into the plateau at the expense of the Niger basin, and the Comoé, or Akba, affords a navigable highway from Grand Bassam to Bunduku, considerably more than half-way to the busy market town of Kong. The Volta, familiar to English readers in connection with the Ashanti war, is formed by the confluence of the Black, Red, and White Voltas, which have their sources in the hilly Dafina, Gurunsi, and Gurma districts south of Mossi, and converge in the Gonja country not far from Salaga, one of the great centres of trade within the Niger bend. Below the confluence, the main stream, which is navigable for 200 miles, forces its way through the plateau escarpments down to the Songo lagoon, near Cape St. Paul. The Volta has a course of over 300 miles, and a drainage area of at least 20,000 square miles between Mossi and the Gold Coast. It was first ascended for 60 miles in the early part of the present century by Colonel Starreburg of Elmina, at that time a Dutch station; in 1861 Lieutenant Dolben, of H.M.S. *Bloodhound*, explored 80 miles of its lower course, which was again surveyed by Captain Croft in 1872. The French trader, M. Bonnat, led an expedition up the Volta for 200 miles in 1875 immediately after the Ashanti war. In this long distance the most serious obstruction are the Labellé

[1] Alvan Millson, *loc. cit.*, p. 580.

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Rapids, about 7° 30′ N., where there is a fall in the dry season of 25 feet in a space of 700 yards. But during the September and October floods, when the river rises 50 feet, the obstruction disappears, and steamers can easily ascend to within 20 miles of Salaga.

Like the west coast of the Sahara, the Senegambian and Guinea seaboards are exposed to the constant roll of the Atlantic surf. The navigation is further endangered by the general absence of good or easily accessible harbours, and by the fierce tornadoes which, especially in the dry season, sweep the whole of the Guinea coast from Cape Palmas to the Cameroons. One of these short-lived cyclonic storms, which occurred in the neighbourhood of Lagos, has been vividly described by Mr. Winford: "The forenoon had been very bright and very hot. We were seated in the verandah, after mid-day breakfast, enjoying the sea-breeze, when suddenly the rumble of distant thunder was heard. On looking inland towards Abeokuta, we observed inky clouds streaked with vivid lightning coming up rapidly against the sea-breeze. The sea-breeze ceases suddenly, and calm ensues—a calm that you can feel by the sinking of your own spirits. Presently all animals get under cover. English rabbits in their protected enclosure scurry into their holes; lizards, catching butterflies, flee out of sight; land-crabs stop excavating and go home. The fox-bats, asleep during the day, clinging by their claws to the branches of trees of dense foliage in the court-yard, with their bodies suspended, as is their nature, may be observed clawing a tighter hold. All labour is stopped, and everybody takes shelter. Suddenly the sun disappears, and the ensuing darkness is appalling. The theatre of heaven bursts into tempest. Hiss, hiss, comes the lightning, flash after flash dancing over ironwork like momentary

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blue flames of sulphur, totally blinding you while it lasts, while the thunder so crashes that you cannot hear anything else.

> The wind blew as 'twad blawn its last,
> And rattling showers rose on the blast.

Trees are broken and branches fly through the air, and the roofs of many houses disappear. The weather doors and windows rattle almost to bursting. The rain is driven nearly horizontally, and a deluge covers the country. In half an hour the sun returns with his silent beams, and all nature is once more calm and bright."

The Niger

All the West Sudanese coast streams, except those rising on the Futa Jallon uplands, have their sources within the great bend of the Niger, which sweeps from the east frontier of Sierra Leone in a vast curve round to the head of the Gulf of Guinea. Both in the length of its course and the extent of its catchment basin, the Niger ranks as the third of the four great African rivers, while for the volume of water discharged through its delta it takes the second place, being in this respect superior to the Nile and surpassed by the Congo alone. In a course of about 2600 miles it drains a total area of some 900,000 square miles, exclusive of the Saharan regions, which have long ceased to send it any contributions. Rising at an altitude of little over 3000 feet above sea-level, it enjoys the immense advantage of a gentle incline throughout the greater part of its course, which is less obstructed by rapids than any other large river in Africa.

It is doubtful whether the great artery to which

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modern geographers give the name of Niger is identical with the Niger of Ptolemy. But it is a convenient general designation, answering somewhat to the *Nil el-Abid*, "Nile of the Slaves," by which it is known to the Arabs. Like all great rivers flowing through regions inhabited by peoples of diverse speech, it has no comprehensive native name, although the numerous epithets applied to it by the various riverine populations appear to have all much the same meaning of "great water," "great river," or else "the river," in a pre-eminent sense. Such are the *Joliba* (*Dhioli-ba*) current amongst the Mandingan peoples inhabiting its upper course from near its sources to the neighbourhood of Timbuktu; the *Issa* and *Eghirren*, given to it respectively by the Songhays and Tuaregs of its middle course from Timbuktu round to about the parallel of Say, where it becomes the *Mayo* ("River") of the Fulahs; lastly *Kwara* (*Quorra*), which appears to prevail generally along its lower course jointly with several local names, such as the *Shaderba* of the Hausas, and the *Edu* of the Nupé people.

The Tambi, farthest head-stream of the Niger, is joined about 86 miles from its source in the Tambi-Kundu Hill (p. 268) by the Faliko to form the Joliba, which flows north by east to its junction with the Tankisso from the Futa Jallon uplands. At this point, scarcely 260 miles from its source, the Niger has already reached a level of little over 1000 feet above the sea, and the current is already so gentle that, at high water, steamers of light draught ply easily on these upper reaches to some distance above Bamaku, where the main stream has a width of 500 yards, and a depth ranging from 3 to 6 or 7 feet.

At Sansandig, below Segu, the Joliba enters the broad laterite plain, which extends with great uniformity

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and very little incline in the direction of the Sahara. Here is consequently developed a sort of inland delta, where the sluggish stream ramifies into numerous channels and backwaters, all converging in the Debo morass, a broad expanse which is possibly the *Nigritis Palus* of Ptolemy, and which, like others farther down, teems with fish during the floods, and yields abundant crops of rice in the dry season. In this lacustrine region the Joliba is joined on its right bank by its great tributary or upper branch, the Bakhoi (Ulu Ulu, Ba-Ule, Mahel), which was formerly supposed to drain all the northern slopes of the "Kong Mountains" from Liberia to Ashanti, but whose basin has recently been greatly reduced by Binger (p. 268).

Below the confluence the united stream still continues its north-easterly course to the vicinity of Kabara, the port of Timbuktu, where it strikes the scarp of the Saharan plateau. Here it is deflected nearly due east, flowing for about 250 miles along the foot of the escarpments to the Burrum gorges, where at one point the stream is confined to a rocky bed scarcely 300 feet wide. At Burrum, which lies under the meridian of Greenwich, the Issa is again intercepted by a southern extension of the plateau, causing it to trend sharply round to the south-east. This direction is maintained with slight deviations as far as the Benue confluence, below which it runs south by west to the delta.

From Timbuktu to the Benue the Niger is almost a Saharan river, receiving no contributions on its right bank—that is, from the arid region within the great bend—and only one perennial tributary, the Gulbi-n-Sokoto ("River of Sokoto"), on its left bank. Even this tributary, although descending from the Katsena heights in Central Sudan, sends down very little water during the

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dry season. In this section the stream is also obstructed by several rapids, the most dangerous of which are those of Bussa, where Mungo Park perished (p. 263). Rabba, 450 feet above sea-level, and 460 miles above its mouth, marks the head of steam navigation throughout the year. From this point the Kwara flows in a broad tranquil stream 50 or 60 feet deep at low water and nearly 100 during the floods. At the Benue confluence its volume is more than doubled, and here, about 300 miles from the coast, it broadens out into an extensive hill-encircled lake, which at high water has a discharge of certainly over a million cubic feet per second.

Of all African rivers the Benue ("Mother of Waters") possesses the greatest economic value, flowing in a deep placid stream for hundreds of miles through fertile and thickly-peopled lands. Had it reached the coast in an independent channel, without becoming entangled in the intricacies of the Niger delta, it would have given easy access ages ago to the very heart of the Continent, and thus altered the whole current of African history. Although recent exploration (p. 274) has shown that its farthest eastern head-stream, the Mayo Kebbi, is not connected through the Tuburi lagoon with the southern affluents of Lake Chad, still the water-parting appears to be here very low and narrow, so that it would probably not be difficult to connect both basins and thus obtain a continuous navigable highway from the Gulf of Guinea to the shores of the lake. So contiguous are the two hydrographic systems that they have been merged in one in the popular estimation, as shown by the name of the lake often wrongly extended under the form *Chadda* to the Benue.

The main stream has its farthest source in the Bub'n Jidda hills, close to the left bank of the Logon affluent

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of the Shari, whence it flows as a mountain torrent north-west to the Kebbi confluence, 10 miles above Garua in the Ribago country. Here, over 600 miles from the Niger, the Benue is already a noble stream, "six or seven hundred yards wide and six or seven fathoms deep"[1] in the rainy season. Above Yola, capital of Adamawa, it is joined on its left bank by the Faro (Paro), which sweeps round the east foot of Mount Alantika, and which, at the confluence, is broader but shallower and more rapid than the Benue. At Taepe, just below the junction, the united stream is contracted to a narrow channel 300 yards wide and 16 fathoms deep, flowing in a swift current between banks overgrown with dense jungle. Below Yola the Benue follows a south-westerly course, flowing in a deep valley between the plateau escarpments which assume the aspect of rocky ranges or detached mountain masses, in some places approaching, in others retiring, some distance from the river, but everywhere bounding the horizon. After receiving the Taralba and the Katsena Allah from the south (Adamawa), and several smaller affluents from the north (Central Sudan), the Benue joins the Niger opposite Lokoja after a total course of about 850 miles. At the confluence it is a larger river than the main stream, to which it contributes a volume of from 12,000 to 16,000 cubic yards per second during the rainy season. The total incline is only about 600 feet in as many miles, or from 900 feet above sea-level at the head of steam navigation to 270 at the confluence.

There are still 230 miles of clear navigation from the confluence to the head of the delta, where the Niger-Benue ramifies at a distance of 60 miles from the sea into some twelve branches, communicating with each

[1] Major C. M. Macdonald, *loc. cit.*, p. 466.

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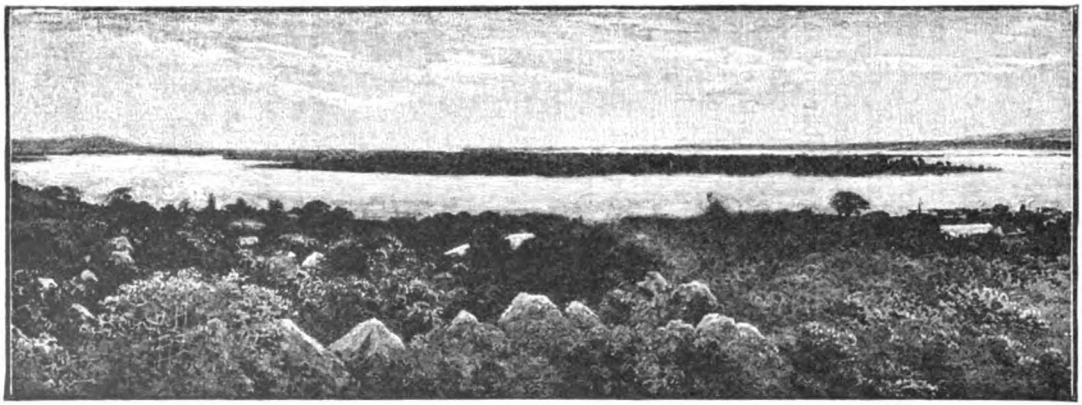

CONFLUENCE OF NIGER AND BENUE.

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other and with the coast lagoons through innumerable shifting channels and backwaters. The chief and almost only permanently navigable branch is the Nun, which flows nearly due south—that is, in the normal direction of the main stream below the confluence—to Akassa, present capital of the Niger Chartered Company, close to Cape Formoso, southernmost point of the delta. The Nun gives easy access to vessels drawing 14 feet, which are aided in crossing the bar by the sea-breezes setting inland for ten months in the year and stemming the fluvial current. The rapid growth of the delta, which has an area of some 10,000 square miles and a shore line of considerably over 200 miles, is largely due to the action of these winds, preventing the natural scour of the river and causing it to deposit large quantities of sediment, much of which would otherwise be carried seawards. Inside the bar the mangrove forests work as in stagnant waters, collecting the solid particles of matter about their roots, and thus forming new land, which steadily encroaches on the gulf, and already advances considerably beyond the normal coast-line between Benin and the Old Calabar river.

Physical Features of Central and East Sudan

The central section of the Black Zone scarcely anywhere presents any clearly-defined natural frontiers, except on its eastern border, where the Marrah range forms the divide between the Chad and Nile basins and a distinct geographical limit towards East Sudan. The Middle Niger, which is taken as the parting-line towards West Sudan, flows for the most part through a uniform plateau region, presenting on both sides the same general aspect of a level or slightly rolling surface broken here

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and there only by a few granite or sandstone masses of moderate elevation. The same conditions prevail throughout all the northern lands between the Chad and the Niger, where even the water-partings are so imperceptible that it is often difficult to determine the direction of the sluggish waters left after the floods. Owing to this absence of a decided incline, all the depressions are in some districts filled by dangerous bogs and quagmires obstructing the communications and emitting noxious exhalations. The monotonous aspect of the land is, however, somewhat broken about the divide between the Sokoto river flowing west to the Niger and the Yeou (Waube, Komadugu),[1] which, next to the Shari, is the most copious affluent of Lake Chad. The district about the head-waters of these streams is thickly strewn with granite blocks or boulders, the intervening spaces being covered with an umbrageous forest vegetation. The Waube, which drains the whole of West Bornu, has an easterly course of about 500 miles, and during the floods is an imposing stream, in some places overflowing its banks for miles. But in the dry season it appears to send no water to the lake, although its bed is still indicated by a chain of lakes or lagoons.

Southwards West Central Sudan assumes a mountainous character in the Bautchi district which forms the divide between the Kaduna flowing west to the Niger and the Kaddera flowing south to the Benue. Here the plateau is dominated by several lofty ridges and isolated summits, "domes, needles, or quadrangular blocks, with vertical walls, red, grey, or blackish granite crags

[1] The real name of this river Barth tells us (ii. p. 221), is Komadugu Waube, that is "River Waube.' Yeou or Yó is merely the name of a town on its banks, from which it is often called the river of Yeou. Nachtigal calls it the Yoobé.

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towering 4000 to 5000 feet above the gorges, their slopes clothed with impenetrable primeval forests." [1] These romantic uplands culminate in Mount Saranda (7000 feet), just west of Yakoba. The space between this point and the sources of the Kaduna is occupied by other elevated masses disposed in various directions, and the whole of the plateau escarpments skirting the right bank of the Benue at various distances are similarly intersected by short ranges, or dominated by detached heights, most of which have received English names from their British explorers. Such are MacIver Peak, a sharp cone near the Faro confluence over against Mount Alantika, followed lower down by Mount Forbes, Mount Roderick, highest summit in the low Murchison chain (1660 feet), Mount Ellesmere, above Loko, the Clarendon Hills on the left bank of the Kaduna above its junction with the Niger, and the Oldfield, Stirling, and other heights round about the Niger-Benue confluence.

From Lake Chad the ground rises southwards to Mounts Mindif (Mendefi) and Magar (3000 feet?), highest summit of the little-known Wandala uplands. Eastwards these uplands fall to the low-lying Baghirmi country which stands little above the level of Lake Chad (about 1000 feet), but which again rises north-eastwards through Waday to the Marrah Mountains of Darfur, forming the Chad-Nile divide and the natural frontier of Central Sudan towards East Sudan. This section of the Black Zone comprises most of Darfur, the whole of Kordofan, and the lands extending southwards along the White Nile and the Bahr el-Jebel to the Monbuttu and Niam-Niam regions about the Nile-Congo divide.

[1] Reclus, xii. p. 327.

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Kordofan and Darfur

Most of Kordofan preserves the aspect of a level and somewhat arid plateau, standing at a mean altitude of 1300 feet, but rising southwards in the hilly Dar-Nuba district to heights of 2000 feet and upwards. Although comprised within the basin of the Nile, which forms its eastern limit, Kordofan is geographically scarcely distinct from the Sahara, possessing no perennial waters and sending scarcely any contributions to the Nile even during the rainy season. A chief factor in the destruction of General Hicks's forces by the Mahdi in 1883 was the great aridity of the waterless plains, of which sufficient account was not taken on the march from the Nile to El Obeid, although the difficulty had been anticipated before the start.[1] In fact, the whole country has the appearance of a vast undulating steppe dotted over with gum-trees and patches of prickly herbage, but with very little water. Here and there occur bare sandy tracts on which crops of durra are raised in the rainy season. But the scarcity of water limits even the extent of pasture-lands, so that gum is a more important product of the land than cattle or hides. The red colour of the soil, so general throughout the upper Nilotic regions, bespeaks the presence of iron, and some 25 miles east of Hursi (north-east of El Obeid) iron ore occurs in irregular masses at depths of from 6 to 10 feet below the surface.

In Darfur the plateau formation assumes a rugged and even mountainous character, standing at a mean altitude of over 2000 feet, and in the Marrah highlands

[1] "He [Hicks] expects to encounter great difficulties in supplying his force with water" (Sir E. Mallet to Earl Granville, Cairo, 10th September 1883).

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acquiring an extreme height of not less than 6000 feet. North-eastwards the volcanic Marrah range is continued by the Jebel Medob and the Jebel Tagabo (3500 to 3700 feet), which are also of igneous origin, with an extinct crater of considerable size in the Bir el Malha district under the fifteenth parallel. Detached crests and cones extend north-westwards in the direction of the Tibesti highlands, of which the Marrah Mountains appear to be a south-easterly continuation. Several spurs of moderate elevation run also from these uplands south-westwards to the almost unknown Dar-Runga country, where they form the water-parting between the streams flowing east to the Nile, south to the Congo, and west to the Chad basin.

Lake Chad

The vast depression or area of inland drainage, the central part of which is flooded by Lake Chad,[1] stands at a mean level of about 1200 feet above the sea. It comprises the whole region enclosed on the north by the Asben and Tibesti highlands, on the east by the Marrah range, on the south by the Adamawa uplands, on the west and south-east by the low water-partings towards the Niger-Congo and Nile systems. In quaternary times, when it was fed by copious perennial streams from the north as well as from the south, Lake Chad must have rivalled in extent if not in depth the great

[1] These terms *Chad* or *Tsad*, *Shari*, *Komadugu*, and *Ba* answer to the *Nyanza*, *Nyasa*, *Nyanja* of the regions where Bantu idioms are current, all meaning *river*, *lake*, *sheet of water*, like the equally vague Arabic word *Bahr*. Hence the Bahr-Mele, Bahr-Asu, etc., are merely Arabic translations of Ba-Mele, Ba-Asu, etc., by which the natives of Baghirmi distinguish the various sections of the *Ba* flowing through their country, such sections being so named from the different towns or villages on its banks.

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equatorial lacustrine basins. But since it has ceased to receive any contributions from the Sahara, it has been

LAKE CHAD.

transformed to a shallow, swampy, sweet-water lagoon studded with islands, rising and falling with the seasons, and ranging in extent from about 10,000 to over

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20,000 square miles, probably less than half its former size.

The margins are so overgrown with dense forests of tall reeds that it is difficult at any time to determine its shifting contour lines; but its mean level may be taken at about 800 feet. It is generally supposed that this is the lowest depression in the whole of the Sudan; but Nachtigal's measurements show that in the Bodele district, 250 miles to the north-east, the ground falls 160 feet lower at the foot of the Borku hills. Here the shells and fish-bones strewn over the surface point at the former presence of a flooded basin, to which Lake Chad must have sent its overflow through the now dry sandy bed of the Bahr el-Ghazal. The numerous oases in this fluvial channel also attest the presence of water at a remote epoch, when the Central Sudanese lacustrine basin extended north-eastwards in the direction of Borku.

"The surface of the lake," writes Nachtigal, "is not everywhere open water, but about one-third is occupied by an archipelago of numerous islands grouped especially along the east side. Open water no doubt prevails on the west side; but even here it is seldom visible from the flat banks. The view is almost everywhere bounded by chains of islands, some bare, some overgrown with brushwood, or else the eye sweeps over reedy, swampy surfaces. The tapering north side of the lake is to some extent confined between sandhill formations, and the farther the contour line is followed from this point along the margin belonging to Kanem, the more uncertain become the limits of the lake. Here, in fact, there is no longer a question of a lake in the strict sense of the word, but rather of a lagoon, whose labyrinthine channels are sometimes quite dry, but sometimes also encroach on the

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usually dry land of the neighbourhood. Similar relations appear to prevail along the east half of the south side, between the mouth of the Shari and the head of the Bahr el-Ghazal emissary. But the hilly and rolling character of the district bordering on the north-east side of the lake is followed by low-lying ground on the west, south-west, and south sides. Here a shallow backwater becomes flooded with the rising waters, or rather the lake expands along the margins of an inlet, which again contracts its borders with the subsidence of the waters till the beginning of the summer rains" (*op. cit.*)

The Shari-Logon Fluvial System

Nachtigal estimates the volume of water annually sent down to the lake by its affluents at 70 cubic kilometres, and of this fully six-sevenths would appear to be contributed by the Shari alone. Till the middle of the eighties the Shari was still supposed by many geographers to be the lower course of Schweinfurth's Welle; but now that the Welle is known to belong to the Congo system, the farthest head-waters of the Shari must be sought between 6° to 8° N. lat. and 22° to 24° E. long. in the almost unknown region of Dar Banda, which has hitherto been visited by Lupton alone, but of which Lupton never returned to give us any detailed account. Nachtigal, who followed the course of the Shari as far south as Laffana (10° 40′ N.), was informed by the natives that its head-streams converge north-east and south-east of Dai, but that the Ba-Bai or Logon[1] again ramifies north-

[1] This is the same river as the *Serbewuel*, the name given to it by the Musgu people; it is also sometimes called *Shari*, though this term meaning "river" in a pre-eminent sense, is more properly restricted to the large eastern branch (Barth, iii. p. 209).

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westwards, returning to the Shari near the delta, where it enters Lake Chad through seven branches. Here the sedimentary matter deposited by the Shari is forming new land, which is continually encroaching on the lake, and which, according to Nachtigal, has already silted up the Bahr el-Ghazal. But in wet seasons this emissary is still flooded for a distance of 50 or 60 miles, and it would seem more probable that its transformation to a nearly dry wady is due rather to the general process of desiccation going on for ages throughout the northern or Saharan section of the Chad catchment basin. Barth tells us that scarcity of water seems to be one of the great disadvantages even of Baghirmi on the south side of the lake, although the Logon-Shari fluvial system ramifies in all directions through this low-lying region, flooding it far and wide during the rainy season. At other times the country often suffers from long droughts, when the people have to depend on deep wells several miles distant from their villages.[1]

During the floods, which extend over the period from July to the end of November, Lake Chad rises, according to the seasons, from 20 to 30 feet, and the lower course of the Logon-Shari overflows its banks, laying a great part of Baghirmi and Wandala under water. At the town of Logon, whence it takes its name, the smaller western branch is at this period "a very extensive sheet of water, unbroken by any sand-banks or islands, which, while it certainly was exceeded in breadth by the river Shari, surpassed it in its turn in swiftness, the current being evidently more than $3\frac{1}{2}$ miles an hour."[2]

[1] Barth, iii. pp. 330-336.

[2] *Ib.* p. 465.

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South-East Sudan: The Zeriba Lands and Bahr el-Jebel

In the Zeriba lands, forming the south-eastern section of Sudan, the hydrographic predominate to such a marked extent over the orographic features that the whole region has by French geographers been called the *Pays des Rivières* ("Land of Rivers"). A good map of the continental relief here shows an extensive tract nowhere exceeding 1650 feet above sea-level, almost entirely encircled by elevated plateaux and even Alpine lands, ranging in altitude from 3000 to 18,000 feet, and traversed by a labyrinth of streams descending from these uplands, and converging from west, east, and south on the main artery of the Nile nearly under 9° N. lat. Northwards the plateaux and highlands recede to west and east, thus leaving a broad strath, through which the great river and its *cortége* of western and eastern affluents pursues its sluggish course northwards to the Mediterranean.

But at the northern extremity of Lake Albert Nyanza, where it escapes from the lacustrine equatorial region, the Nile has not yet reached the level of the "Land of Rivers," although already a broad stream from 500 to 1500 yards wide, and from 6 to 10 feet deep. The Bahr el-Jebel, or "Mountain River," as it is here called, has still to descend from the last escarpments of the south continental tableland (p. 5) through a series of deep gorges and rapids by which the navigation is entirely arrested between Dufilé (Dufli) and Lado. Steamers easily ascend from Dufilé to Lake Albert, where the total fall is only 200 feet (2300 to 2100); but even during the floods they are unable to stem the current between Lado and Dufilé, where the total fall is 575 feet (2100 to 1525). The first rapids ascending

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from Lado occur at a distance of about 27 miles, and although others follow, it has still been found possible to steam up as far as the confluence of the Asua (Ashua), a little below Dufilé. But for a stretch of 10 miles higher up, the passage is quite impracticable. At the Fola (Mekade) Falls in 3° 40′ N. the stream narrows between the advancing hills to a width of less than 400 feet, and rushes along a rocky gorge over and amid reefs 30 or 40 feet high. These rapids just below Dufilé are the only absolutely insurmountable obstacle to the navigation of the Nile at all seasons for light craft throughout its whole course from the Mediterranean to Lake Albert Nyanza.

About 180 miles below Lado the Bahr el-Jebel throws off a branch from its right bank, which takes the name of the Bahr el-Zeraf (Giraffe River), and after a winding and somewhat uncertain course in a district of slight incline again joins the main stream above the Sobat confluence. The whole country enclosed between the two branches, and for an unknown distance east of the Bahr el-Zeraf, is intersected by countless channels and backwaters, which in the rainy season merge in one vast swamp swarming with mosquitoes, and with its masses of floating vegetation and dense fringe of reeds offering formidable obstacles to the navigation. At the confluence the Bahr el-Zeraf flows in a deep sluggish stream between high banks overgrown with the wild sugar-cane (*Saccharum ischæeum*). But higher up the grassy steppes stretch away on both sides beyond the horizon, relieved only by a solitary tree or patches of brushwood, and dotted over with the conic mounds of the termite or white ant.

From the neighbourhood of Lake Albert a rising-ground of moderate elevation extends north-westwards

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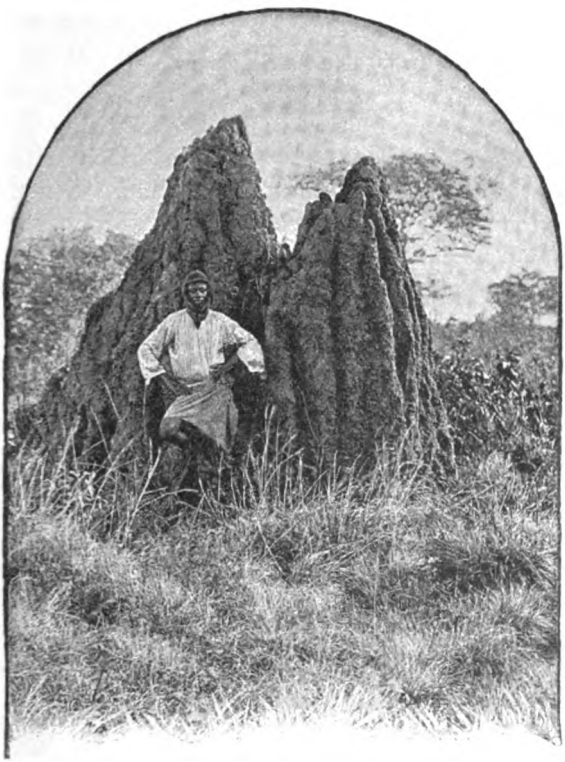
through Dar-Fertit in the direction of Dar-Runga and Waday. This rising-ground, ranging in absolute mean height from 1250 to 4000 feet, but in many places standing little above the level of the surrounding table-



ANT HILL (11 feet high).

lands, forms the divide between the Congo and Nile basins, which, though previously crossed by Schweinfurth and others, was first accurately surveyed by Junker. It begins at Lake Albert itself, whose steep north-west

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bank stands at a height of 4600 feet, and in the group of hills about the sources of the Welle, named after the explorers Chippendale, Speke, Schweinfurth, Emin, and Junker, already attains an altitude of over 6500 feet. "A glance at the map shows that it [the divide] runs from about 2° N. latitude west of Lake Albert Nyanza north-westwards to 8° N., having a total length of some 745 miles. Where we crossed it the Nile-Congo divide presented the aspect of a broad-crested rising-ground, which sloped gradually eastwards, and which here sent its farthest little affluent down to the Wau. Beyond the rising-ground a broad prospect was unfolded towards the west, and here the Badua, the first tributary of the Congo, was soon crossed. Here also the change in the physiognomy of the watercourses and in the character of the riverine vegetation was very striking. Probably it was due to the southern aspect of the land, which, being exposed to the trade-winds, receives a more copious rainfall than the opposite (Nile) watershed. But it may perhaps be also due to the steeper incline of the divide on its south-west side. This would produce a tendency in the streams flowing to the Congo to excavate deeper channels along their upper course, whereas the gentler slope on the Nile side would diminish the erosive action of those trending northwards." [1]

These northern streams, of which the most important going westwards are the Yei, Rol, Tonj, Jur with its Wau affluent, Pongo and Biri, all present much the same aspect of steppe rivers winding between steep banks, which are almost everywhere fringed by narrow belts of dense forest-growths interlacing their branches so as to form shady avenues, beneath which the stream winds its way in perpetual gloom. Hence the expressions "gallery

[1] Junker, iii. p. 117.

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forests," "fluvial avenues," applied to these characteristic zones of vegetation, "where tropical forms, now intermingled with new species, display a scarcely expected development along the moist slopes of trough-like dales, cutting deep into the ground, and where half visible streams flow in everlasting gloom along the bottom lands lined on both sides by perennial swampy depressions promoting a rich vegetable growth" (*ib.*)

The Yei (Jemid of the Arabs) reaches the Bahr el-Jebel at the point where the Bahr el-Zeraf branches off, so that on the maps the Yei and the Zeraf present the appearance of a continuous stream intersecting the Bahr el-Jebel at an acute angle. The Rol also flows in an independent bed to the main stream; but all the other rivers descending from the Congo-Nile divide unite in a single channel, which is also joined by the Bahr el-Arab from the Marrah Mountains, Darfur, and by the Bahr el-Homr from the Dar-Fertit uplands, that is, from the Nile-Chad divide. In its lower course this channel, which takes the name of the Bahr el-Ghazal, flows not north and south, but west and east, so that it strikes the Bahr el-Jebel coming from the south nearly at a right angle. At the confluence the united waters take the name of the Bahr el-Abiad, or "White Nile," which it retains for about 400 miles to its junction with the Bahr el-Azrak or "Blue Nile," at Khartum.

The White Nile

But the intricacies of this remarkable fluvial system have not yet been exhausted. Between Lado and Khartum, a distance of about 800 miles, the total incline is only 275 feet (1525 to 1250). Consequently throughout the whole of this section the Nile Valley stands

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almost at a dead level, and at the Bahr el-Ghazal confluence, that is, about midway between Lado and Khartum, the incline is scarcely perceptible at all. Hence any slight obstruction, such as opposing winds or currents, or masses of floating vegetation, all of which are in fact either permanently or periodically present, suffices to stem the current and cause it to expand in broad shallow lacustrine basins. Below the Maqrên el-Bahûr, or "Meeting of the Waters," as the Jebel-Ghazal confluence is called by the Arabs, the White Nile still continues to flow west and east to its junction with the Sobat, which descends from the South Abyssinian and Kaffa uplands, flowing in its lower course nearly in the opposite direction, from east to west. The Sobat, which was carefully surveyed by Junker for a distance of 150 miles to the former Egyptian station of Nasser, is a copious and somewhat rapid stream 1000 yards wide and 26 feet deep at the confluence. Hence its whitish current, from which the White Nile probably takes its name, is strong enough to check, and in combination with the winds at times even to stem, the main stream advancing sluggishly from the west.[1] When to these influences is added any exceptional quantity of the so-called *sadd* (*sudd*), or floating vegetation brought down especially by the Bahr el-Ghazal, then the waters of the Bahr el-Abiad are arrested above the Bahr el-Jebel confluence, where they expand in the temporary Lake No, alternately a flooded basin and a swampy morass. So tenacious is the tangled mass of sadd, that at times it

[1] The Sobat "frequently sends down a greater volume than the main stream, whose waters during the floods are stemmed and driven back by its current. To judge from its whitish fluid contents, in which the blackish Nile water disappears, the Sobat has the best claim to the title of Bahr el-Abiad, or "White River" (Reclus, x. p. 46). Its discharge during the rainy season is estimated at 42,000 cubic feet per second.

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resists all efforts to break it up and send it drifting piecemeal down-stream, and then all navigation is arrested for months and even years together. "In 1874 the removal of the sadd had taken up the entire energies of Ismail Pasha Eyûb, and his men were at work for months after Sir Samuel Baker had in 1870 been forced by the grass-bars to make his way very laboriously to Gondokoro

FLOATING ISLETS OF VEGETATION ON THE NILE.

by the Bahr el-Zeraf. A year after my departure from Lado, the Equatorial Provinces were cut off from communication with Khartum for nearly two years (1878-80) by a series of extensive grass-bars which completely blocked the river. The sadd was the cause of a fearful famine, causing the death of several hundred men whom Gessi Pasha tried to bring from Mashra er-Rek to Khartum in September 1880, the flotilla being blocked

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for months, until Ernst Marno appeared on board a strongly-built steamer to rescue those who were still living."[1]

The above-mentioned Mashra er-Rek, that is, riverine port or station of Rek, stands at the head of the navigation of the Bahr el-Ghazal, that is, of nearly all the rivers traversing the *Pays des Rivières*, or Zeriba Land. Before the Mahdi's revolt steamers plied periodically, or whenever the current was not obstructed by the sadd, between Khartum and this place, which was the regular starting-point for all military, trading, and exploring expeditions in the direction of the Nile-Congo divide.

The whole region traversed by the Bahr el-Jebel with its innumerable western affluents shows every indication of having at one time formed the bed of a vast lacustrine basin, of which Lake No with its shifting contour lines may be regarded as the last feeble survival. The northern limits of the basin, which was gradually filled in by the alluvial matter and decayed vegetable growths brought down by all the southern streams, are clearly indicated by the course of the Bahr el-Ghazal flowing eastwards along the escarpments of the Kordofan plateau. When the bed of the lake was raised to a sufficient level, all its waters were discharged northwards through the trough now followed by the White Nile between the Kordofan and Senaar plateaux.

Below the Sobat confluence the White Nile again resumes its normal northerly course, which it mainly retains for the rest of its long journey to the Mediterranean. As far as Khartum it preserves the aspect of a sluggish steppe river, narrowing in some places to less than 300 yards, expanding in others to nearly three miles, with depths ranging from 10 to 30 feet. Through-

[1] Junker, i. p. 504.

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out this section it receives no permanent contributions from the arid region of Kordofan, where the chief water-course, Khor Abu Hableh, rising in the Dar-Nuba hills far to the south-west, runs out in the sands long before reaching the left bank of the Nile. Even on the right bank it is fed by only one perennial river, the Yal, which joins the main stream from the Dinka country a short distance below Fashoda under 10° N. lat. All the other streams between this point and the Blue Nile confluence are mere wadys (here usually called *Khors*), which are flushed only during the rainy season.

The Welle-Makua Fluvial System

All the streams belonging to the southern watershed of the Nile-Congo divide, which comprises the Dar-Banda, Zandeh (Niam-Niam) and Mangbattu lands, flow to the Congo through its great Welle-Ubangi affluent, the lower and middle courses of which are described in vol ii. ch. iii. The Welle has its farthest sources at the eastern extremity of the divide, where rise the Kibali (Kibbi), Dongu, and several other head-waters, which, after flowing through some still unexplored parts of Mangbattuland, converge in a single channel about 3° N. lat., 27° E. long. Here the united waters take the name of Welle, that is, the "River" in a pre-eminent sense, which lower down, after receiving the Werre, Mbruole, Bomokandi, and numerous other affluents on both banks, becomes known as the Makua Kuta and by many other names, according to the tribes and peoples through whose territories it flows. From its source to the sharp bend where it trends round to the south as the Ubangi, the main stream follows a westerly course, while nearly all its tributaries descend either from the north-

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east on its right, or from the south-east on its left bank. Thus the whole system presents the aspect of a huge tree-stem, with its endless ramifications filling up all the space between the Nile-Congo divide on the north, and the somewhat similarly disposed but much smaller Aruwimi system on the south.

Geology and Mineral Resources of Sudan

In its geological structure the Black Zone presents considerable uniformity. The underlying granite crust, which crops out in many places, is often associated with crystalline schists of various kinds, as well as with gneiss, porphyries, diorites, and other old eruptive rocks. These primitive formations prevail especially in the central region between the Niger and Chad, in the west within the Niger bend, and farther east in Darfur and Kordofan. Above them occur sedimentary rocks apparently from the close of the Paleozoic and beginning of the Mesozoic period, such as the so-called Nubian sandstone in the east, other sandstones with limestones in the Sokoto district, about the Niger at Say, on Lake Chad, and in the hills between the Niger and the Senegal. In the last-mentioned district some of the stratified rocks appear to belong to the Silurian or other early Paleozoic horizons. In many places, especially Darfur and the south-west coast, more recent eruptive rocks have come to the surface through these old formations. There is a remarkable absence of Jurassic, Cretaceous, and Tertiary rocks, while alluvial deposits cover the deeper depressions especially in East Kordofan in the form of ferruginous clays, and round Lake Chad as black peaty soil. In the Senegambian districts between the Senegal, Gambia, and Niger, and southwards to the Gold Coast, the clays and

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detritus are highly auriferous, and gold also occurs in the southern parts of Kordofan (Dar-Nuba), and perhaps elsewhere.

The whole of the West African seaboard is more or less auriferous, and gold is beyond question widely diffused throughout the Gold Coast, where it comes down to the very shore at Axim and other points, and is washed upon the sands. The three districts of Wassaw, Akim, and Gyaman are traversed by auriferous reefs yielding in some instances as much as five or six ounces to the ton. These have been worked for centuries by the natives, and before the discovery of the precious metal in California and Australia, they were the chief source of the supply. Since 1878 many of the old diggings have been reopened, and several productive mines are now being worked by English and French companies.[1] According to Bosman the annual export from Elmina alone amounted to £3,000,000 at the beginning of the seventeenth century, and the total yield of the Gold Coast since the arrival of the Europeans (1471) has been estimated at from £600,000,000 to £700,000,000.

Laterite is widely diffused throughout the Upper Nile lands, on the Niger and in Senegambia. An alluvial zone stretches along the west coast, and extends far inland up the Gambia and Senegal valleys beyond 13° W. longitude. Of other metals the most widely diffused are iron and copper, iron ores occurring almost everywhere from the White Nile to the Niger, while

[1] At the Takwa mines "the gold is sometimes visible in the gneiss, and I have seen pieces whose surface is dotted with yellow spots resembling pyrites. Select specimens have yielded upwards of eight ounces to the ton" (Burton, *To the Gold Coast for Gold*, ii. p. 295). Elsewhere the same observer remarks that "the whole land is impregnated with the precious metal. I find it richer in sedimentary gold than California was in 1859" (ii. p. 113).

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native copper abounds especially in Darfur and Fertit.[1] Lead, antimony, and tin are confined to a few isolated districts. Characteristic is the general absence of coal and salt; hence the great importance of the Saharan salt trade, although report now speaks of a large lake in the Marrah uplands, which yields considerable quantities of this indispensable commodity.

Climate of Sudan

Lying entirely within the northern tropic, and for the most part within the zone of tropical rains, Sudan has a distinctly tropical climate with two well-defined seasons —hot and dry from October to April or May, hot and moist for the rest of the year. The summer rains are usually accompanied by terrific thunderstorms, while the heavy downpours flush all the dry watercourses in Kordofan and other arid districts. At this season the perennial streams overflow their banks far and wide, flooding large tracts along the lower course of the Senegal, Niger, Bahr el-Jebel, White Nile, Logon-Shari, and Yeou, and interrupting the communications for weeks together in Bornu, Baghirmi, the Zeriba lands, and other low-lying regions.

Towards the beginning of the summer rains the glass rises to 98° or 100° F. in the shade, and even to 104° at noon, although the mean annual temperature is not more than 80° or 82°, even at Kuka on the low-lying west side of Lake Chad. During the dry winter months it often falls to 58° or 60°, and under the influence of

[1] Copper mines, Junker tells us, are worked by the Nsakkara people in the hilly district north of the Mbomu affluent of the Welle-Makua (iii. p. 232). But the copper skilfully wrought into various objects by the natives in most other parts of the Niam-Niam lands, is not mined in the country, but imported by the Khartum traders (*ib.* ii. p. 246).

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the cold north-east winds water constantly freezes on the uplands, snow falls in the Darfur highlands, and, as in high latitudes, fires have to be kept up even in the less elevated district of Kano and other parts of Central Sudan. Here the chief ailments are ague and other marsh fevers prevalent in all the alluvial lands subject to periodical floodings. These fevers are dangerous even to the natives themselves, who also suffer from the guinea-worm, leprosy, and other cutaneous diseases.

The coastlands from the Senegal to the Oil Rivers, where the rainfall is heaviest, ranging from 100 to 160 inches, are everywhere malarious, and not only absolutely unsuited for European settlement, but fatal to most Europeans obliged to reside more than three or four years continuously in the country. Careful attention to dress, diet, and habits will often ward off sudden attacks of malignant fever; but no precautions are of any avail against the generally debilitating effects of the climate, which attacks the liver, spleen, and other vital organs, and in course of time saps the strongest constitutions. Some districts, such as Sierra Leone and the Niger delta, are proverbially unhealthy, although to want of proper drainage at Freetown may to some extent be due the foul malarious fog which, under the fierce solar rays, spreads over the lowlands after heavy rains, breeding fever and death to such an extent as to have given to Sierra Leone the name of the "white man's grave." At Freetown the annual rainfall ranges from about 120 to 150 inches, and the mean temperature from 78° to 86° F. In other words, the climate is hot, muggy, and enervating, "the worst on the West Coast, despite the active measures of sanitation lately taken by the Department of Public Health, the ordinances of the Colonial Government in 1879, and the excellent water with which the

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station is now provided. On a clear sunny day the charnel-house is lovely, *mais c'est la mort;* it is the terrible beauty of death."[1]

These conditions largely prevail also in the watery region of the Upper Nile between Lake Albert and Khartum. Here the old station of Gondokoro, under 5° N. lat., was found to be so unhealthy that it had to be abandoned and replaced in 1875 by Lado (Lardo) and Rejaf, the former just below on the more elevated left bank, the latter fifteen miles higher up on the same side. Before that date the attempts made by the Austrians and Italians to establish Roman Catholic missions in the Bahr el-Jebel basin were frustrated by the deadly climate, to which nearly all the priests and nuns fell victims.

Farther south Dr. Junker suffered much from the climate during his wanderings in the Mangbattu and Niam-Niam lands, which, though less enervating than the northern slopes of the Nile-Congo divide, do not appear to be suitable for European settlement. Here the rains set in much earlier than in the White Nile basin, and are attended by frequent and heavy thunderstorms. "Such tropical storms as I have witnessed in A-Barmbo Land seemed to me overwhelmingly grand, for Nature here revealed herself in her full might and majesty. The massed clouds, ranging from grey-blue to deep black, roll up menacingly, and are often preceded by a light foggy wall of dense vapour, which seems to press sheer upon the spectator; and this lighter mass of haze drives incessantly before the storm fury, whose approach is heralded by a wild roar. Then, without an instant's delay, the whole firmament is overcast with the darkness of night, the hurricane whirls round, streaks of lightning resembling strings of pearls flash from every quarter;

[1] Burton and Cameron, *To the Gold Coast for Gold*, vol. i. p. 344.

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the storm rolls back, the peals of thunder grow louder, and at last the lowering welkin discharges a torrential downpour." [1]

In the Welle lands the temperature is always high even in the dry winter season. At his station of Lacrima in Ndoruma's territory, Junker found that in December the glass generally rose to 90° or 91° F. in the shade, and even at night seldom fell below 62°. Great uniformity prevails throughout the whole of this region, which for the most part consists of rolling steppes, or thinly wooded savannahs, with few forests except in the extreme south, and no lofty mountain ranges to modify the normal climatic conditions of low latitude and heavy summer rains followed by long winter droughts.

Flora

These conditions are far more favourable to a herbaceous than to an arboreal vegetation. Hence in Sudan, taken as a whole, grasses of all kinds prevail greatly over forest growths, continuous woodlands being mainly confined to the Guinea and Senegambian coastlands, to parts of the Upper Nile Valley, and to the southern districts of the Welle basin, where the great forest zone of the East Congo region extends uninterruptedly as far north as the Bomokandi and other river valleys draining to the left bank of the Welle-Makua. Some of the prairie grasses are tall enough to overtop the giraffe, the wild sugar-cane attaining a height of 12 or 14 and the adar 16 to 20 feet. They are associated along the margins of lakes and rivers with reeds, sedge, papyrus, ambatch, which, especially in the Chad and White Nile regions, form impenetrable brakes, hotbeds of fever, and

[1] Junker, ii. p. 347.

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infested by innumerable reptiles. In the marshy districts of the Niger delta and low-lying coastlands these growths are replaced by the mangrove (*Rhizophora Mangle*), which grows in dense thickets, and which with its tangle of roots and stout branches is a chief factor in building up new land by intercepting and fixing the alluvial deposits in the shallow brackish waters of the coast lagoons and fluvial estuaries.

The forest trees are noted rather for their bulk and massive wide-spreading limbs than for great height, although the khaya, a mahogany-like tree flourishing on the banks of the Gambia, attains a height of 100 or even 110 feet, while the so-called garraway (silk cotton tree) is said to reach 200 feet on the Liberian seaboard. Specimens of the baobab have been met with trunks from 20 to 26 feet in diameter; the kigelia also is distinguished by its enormous branches, while the foliage of the bananas is unrivalled for size by that of any other known plant. Other characteristic trees are the tamarind, indigenous in Central Africa, the shea or butter tree, the sycamore, banyan, and other members of the fig family. Mimosas, euphorbias, gummiferous acacias, and similar thorny or scrubby plants, prevail in the steppe lands of East Sudan, along the Saharan frontier, and within the Niger bend.

Palms are by no means so numerous as might be supposed in Sudan, which lies, roughly speaking, between the southern limits of the date and the northern limits of the oil palm. But the latter spreads from the Congo and Ogoway basins round all the coastlands of Guinea and Senegambia, as far north as about the latitude of Bathurst, in the Gambia basin. The other chief members of the family are the wine palm (*Raphia vinifera*), the dum and deleb palms, all widely diffused throughout the

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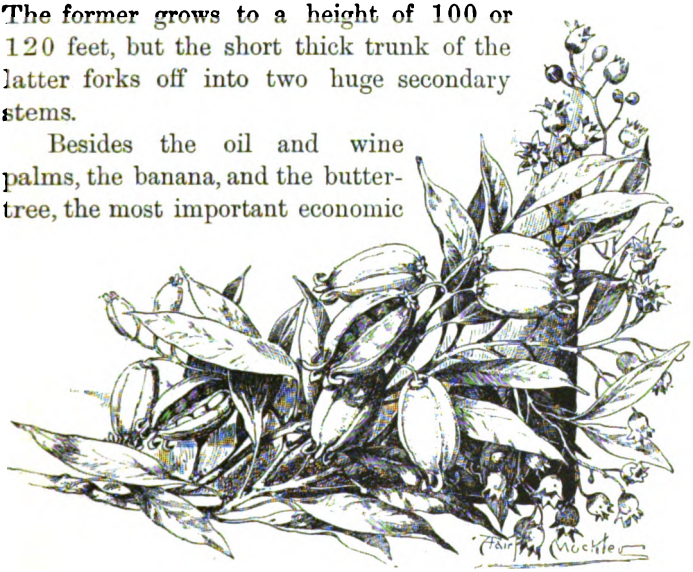
Sudanese lands. A line drawn from Cape Verd across the Continent to the Blue Nile will about indicate the northern limit of the deleb (*Borassus flabelliformis*), while the dum (*Hyphæne thebaica*) ranges north to Asben in the Sahara and down the Nile Valley to Upper Egypt. The former grows to a height of 100 or 120 feet, but the short thick trunk of the latter forks off into two huge secondary stems.

Besides the oil and wine palms, the banana, and the butter-tree, the most important economic



KOLA NUTS.

plants appear to be coffee, indigo, and cotton, which all grow wild, a valuable variety of the coffee shrub being indigenous in Liberia; several widely diffused cereals, such as pannicum (*Pennisetum distichum*), durra (*Holcus sorghum*), telebun (*Eleusine coracana*), dukhn (*Penicillaria* or *Pennisetum typhoideum*), maize,[1] and rice, which grows wild in several districts; manioc, several kinds of pumpkins, water-

[1] Some of the natives south of the Welle grow "a species of maize equal to our largest and best" (Junker, ii. p. 370).

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melons, sesame, kola, and ground nuts, both now largely exported; bamia (*Hibiscus esculentus*), yams, sweet potatoes, colocasia, lubia, and other beans; tobacco cultivated almost everywhere in small patches, rubber-yielding lianas in all the forest tracts, the oil-fruit (*Hyptis spicigera*), malochia (*Corchorus olitorius*), rijel (*Portulaca oleracea*), the sugar-cane and the *Helmia bulbifera*, whose tuberous roots resemble the potato in taste and appearance. At Lacrima station (p. 319) Junker raised good crops of radishes, turnips, beans, pease, beet, and other European vegetables. The fruit ("bread fruit") of the baobab is edible, and some varieties of the banana have a delicate flavour, but good fruits are comparatively rare. Amongst the fruits and vegetables offered for sale in the Freetown market Burton mentions the custard-apple or sweet-sop (*Anona squamosa*), the sour-sop (*A. muricata*), citrons, sweet and sour limes, and oranges, sweet and bitter, grown in the mountains; bananas, the staff of life on the Gold Coast, and plantains; pine-apples, more than half wild; mangoes, "terribly turpentiney, unless the trunk be gashed to let out the gum"; common guavas, rank and harsh; the strawberry guava, with a sub-acid flavour not easily equalled; the aguacate or alligator-pear (*Persea gratissima*); papaw, watercress, large mild onions, bengans or egg-plants, yams of all sorts, the sweet and bitter manioc, garlic, kokos (*Colocasia esculenta*), "tomatoes like musket-balls, but very sweet and wholesome," and the sweet potato (*Convolvulus Batatas*).[1]

In Guinea, Senegambia, the forest belts, and wherever the rainfall is abundant, the vegetation is mainly evergreen; but elsewhere the foliage is for the most part deciduous, giving to the landscape a somewhat dreary aspect during the dry winter months. Towards the close

[1] Burton and Cameron, i. p. 333.

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of this season the tall yellow grass of the steppe is fired by the natives, in order to stimulate its growth when the

BANANAS.

rains set in. But these steppe fires are not so destructive to the arboreal vegetation as might be supposed. Their progress is easily arrested by clearing a little space in advance of the flames, which seldom penetrate beyond the verge of the woodlands. The clumps of trees, however, which are dotted over the savannahs, giving them their characteristic park-like aspect, are at times swept away, and a transition thus effected to the true steppe, treeless grassy plains varied here and there with a few

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patches of thorny scrub or brushwood. But after deducting the forests, savannahs, and steppes, there still remains much land suitable for tillage, and in Sudan, as a whole, by far the greater part of the population is engaged in agricultural pursuits. Nearly the whole of Yorubaland, where the earthworms act as fertilisers by incessantly churning up and renovating the soil,[1] is under cultivation, and here, as well as in the Welle basin and many other parts, the Negro populations make excellent husbandmen

Fauna

A. R. Wallace divides the African Continent into two great zoological zones, the *Palearctic* reaching south to the Tropic of Cancer, and the *Ethiopic* thence to the Cape. Sudan is thus entirely comprised in the latter, that is to say, its primitive fauna is essentially and exclusively African. This is seen both negatively in the absence of the bear, deer, camel, mole, sheep and goat, except so far as introduced in comparatively recent times, and positively in the presence of old mammalian forms such as the elephant, hippopotamus, rhinoceros, giraffe, zebra, hyrax, all of which are indigenous and widespread throughout

[1] "In the dry season the whole surface is seen to be covered by serried ranks of cylindrical worm casts, which vary in height from a quarter of an inch to three inches. For scores of square miles they crowd the land, closely packed, upright and burnt by the sun into rigid rolls of hardened clay. There they stand until the rains break them down into a fine powder, rich in plant food, and lending itself easily to the hoe of the farmer. . . . We have a total of not less than 62,233 tons of subsoil brought to the surface on each square mile of cultivable land in the Yoruba country every year. Where the worms do not work the Yoruba knows that it is useless to make his farm. The earthworm which produces such surprising results has been identified as a new species of Siphonogaster, a genus hitherto known only in the Nile Valley" (Alvan Millson, *loc. cit.* p. 584).

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this region. Large herds of elephants still frequent the swampy brakes about Lake Chad, where the ordinary two-horned rhinoceros is also common, while the rarer one-horned species is reported to be found in Wadai and Darfur. Another highly characteristic mammal is the chimpanzee, which was met by Junker in the Welle basin, and which appears to frequent all the forest tracts about the Congo-Chad divide. The beasts of prey are represented chiefly by the lion, nowhere very numerous, the black panther, spotted leopard, hyæna, and jackal, many of which have a wide range. Crocodiles, some from 18 to 20 feet long, infest all the large rivers, and the sangwai, a web-footed species, occurs in the Niger. The hippopotamus is generally associated with the crocodile, and abounds especially in the Niger, Benue, Shari, Lake Chad, Upper Nile, and Welle basins. Equally widespread are the gazelle and many other species of the antelope family, the buffalo and several rodents, such as the porcupine, hare, squirrel, rats, and mice, which in some districts are as great a plague as the termites, mosquitoes, and blood-flies. These last take the place of the tsetse of South Africa, and their bite is specially fatal to the horse introduced by man, but apparently not to the wild ass, which is here indigenous. The woodlands swarm with reptiles, and amongst the characteristic snakes are the spitting serpent, 5 to 6 feet long, whose saliva causes severe inflammation of the eyes; the cerastes, a horned snake with short thick body like that of the puff-adder, and an extremely venomous cobra, or hooded viper, with broad, flat head.

The avifauna is rich in species peculiar to the Ethiopic zone, such as the Para Africana *Balæniceps rex*, the small Sudanese stork (*Sphenorhynchus Abdimii*), the sun-bird, weaver, widow, ibis, three if not four varieties of the

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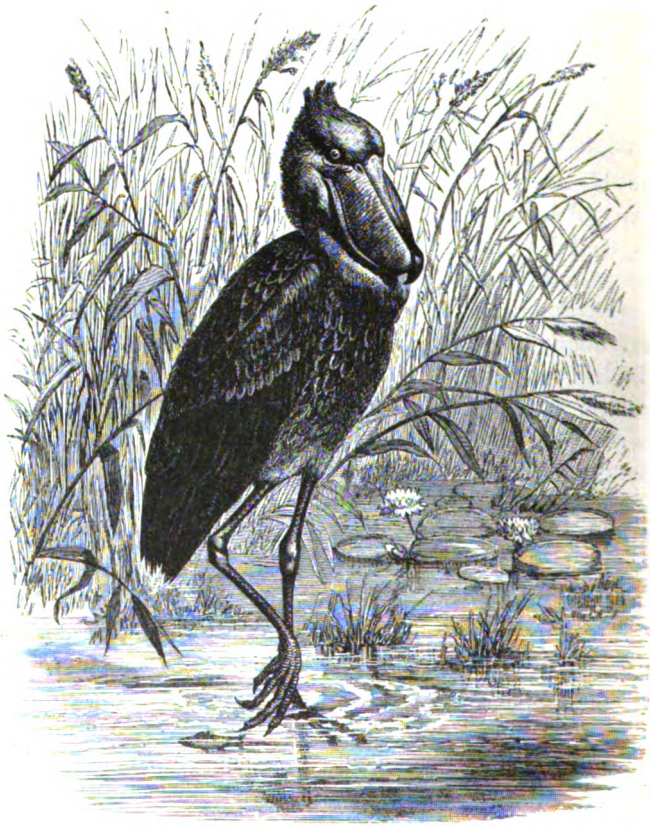
guinea-fowl, several kinds of finches, starlings, butcher-birds, pigeons, doves, and parrots, including the common grey species. Aquatic fowl, such as the flamingo, pelican,



BALÆNICEPS REX.

heron, ducks and geese, abound in Lake Chad, the Upper Nile, and other shallow waters, which teem with freshwater fish of all kinds. These form an important article of

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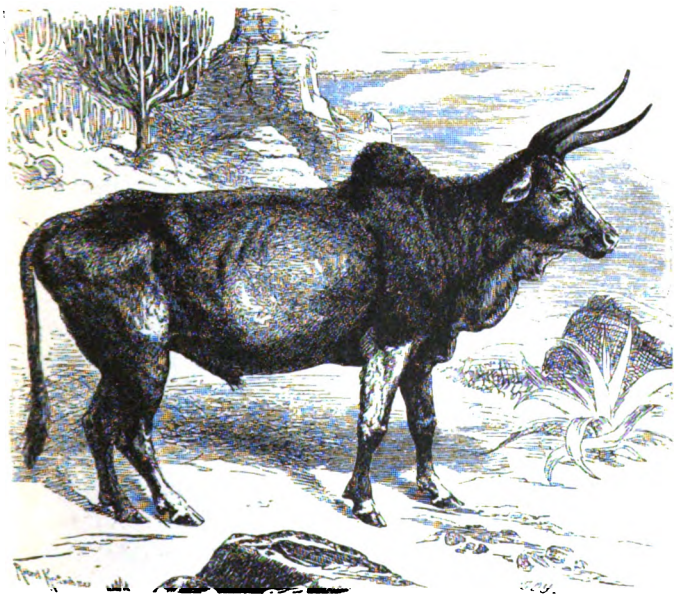
food, being dried and forwarded in large quantities to all parts of the Sudan.

The only indigenous domestic animals are the ubiquitous dog, the common variety somewhat resembling the European greyhound, but of coarser build; the cat, the ass, and poultry. The horse, camel, and pig make their



AFRICAN HUMPED OX (*Bos Africanus*).

appearance in comparatively recent times, the two former through the Arabs, the latter from Europe. At some remote period were introduced the ox, sheep, and goat, apparently from the East. At least the woolless Sudanese sheep (*Ovis aries steatopyga persica*) has the black head and fat tail of the Persian variety, while the sanga or

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humped Sudanese ox (*Bos Africanus*) somewhat resembles the Indian zebu. Magnificent herds of this variety are bred by the Dinkas of the Upper Nile and Bahr el-Ghazal, where the humpless Egyptian shorthorns appear to have died out. On the Gold Coast and in other parts of West Sudan there is another breed of shorthorns, small clean-limbed animals with perfectly straight backs, and no bigger than Alderneys.

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CHAPTER VI

INHABITANTS AND STATES OF SUDAN

Semite, Hamite, and Negro—Table of the Sudanese Populations—The Sudanese Arabs—The Fulahs: Empires of Sokoto and Gando—The Wolofs: French Sudanese Possessions—The Mandingans: British Gambia—Sierra Leone: The Timni and Mendi; The Sofas—Liberia: The Krumen—The Ivory Coast Natives: Kingdom of Anno; Jimini—The Gold Coast Natives: Ashanti; The Crown Colony—The Slave Coast Natives: Dahomey—The Natives of Yorubaland: Lagos—The Region within the Niger Bend: Mossi—The Kong States—Natives of the Chad Basin: Kingdom of Bornu—Baghirmi; Gaberi—Waday; Dar Runga—Dar Banda; The Welle-Makua Peoples—Dar Fur—Egyptian Sudan; The Mahdist Revolt—Inhabitants: The Sudanese Arabs—The Nilotic Negro Peoples.

Semite, Hamite, and Negro

In the Black Zone the Negro variety of mankind everywhere constitutes the distinct aboriginal element, in many places exclusively, in others associated or intermingled with Hamitic Berbers and Semitic Arabs from the north and east. Pure or almost pure Negro populations prevail throughout the Senegambian and Guinea coastlands, along the banks of the Lower Niger and of the Benue, in the Oil Rivers district, in all the southern parts of the Chad basin, in many parts of Waday, Darfur, and South Kordofan (Dar-Nuba), in the Upper Nile region as

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far south as about 3° N. lat., everywhere along the Congo-Chad and Congo-Nile divides, and in the Welle-Makua basin. Pure or nearly pure Hamites (Fulahs, Tuaregs, and Tibus) are found chiefly in the Futa Toro and Futa Jallon districts of Senegambia, within the Niger bend as far south as 15° N. lat., around the north-west shores of Lake Chad, and on the north-west frontiers of Darfur. Pure or nearly pure Semites (Arabs) are mainly confined to the north-east and east shores of Lake Chad, to parts of Waday, Darfur, and Kordofan, and to both banks of the White Nile between the Sobat and Atbara confluences. Lastly, mixed Negroid populations, which greatly outnumber all the rest, and which consist mainly of Negro and Hamite elements, occupy nearly all the central regions between Lake Chad and Senegambia.

In general the pure Negroes are pagans (fetish and nature worshippers), speaking an immense number of distinct languages and occupying a low stage of culture little removed from the savage state, even where they have founded powerful political communities, as till recently on the Gold Coast, in Dahomey, the Zandeh and Mangbattu lands. But for the most part the political organisation has not passed beyond the tribal state, with little cohesion and no sense of a common nationality. The nation, as distinct from the tribe, has nowhere been developed in pure Negroland.

The pure Hamites and Semites, not numerous though widespread in Sudan, are all Mohammedans, for the most part of a fanatical type, speaking only four distinct languages (Fulah, Tamashek, Tibu, and Arabic), and possessing sufficient culture to be regarded as semi-civilised. Intermediate between these and the pagan Negroes are the mixed Negroid peoples, who are little more than nominally Mohammedans, indifferent to the

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rogress of Islam, and to some extent amenable to hristian and European influences. They speak a limited umber of distinct languages, such as Mandingan and onghay in Senegambia and the Niger basin, Hausa, anuri, and Baghrimma between the Niger and Lake had, Maba and others in Waday. All belong fundaentally to the Negro linguistic group, although Hausa, he Kanuri of Bornu, and one or two others give evidence f long contact with peoples of Hamitic speech. Under heir Mohammedan guides the Negroid populations have ounded large and rudely organised States, in which the ribal groups have in many places been merged in the ation, and which have reached a degree of culture little nferior to that of their Hamite and Semite neighbours. The barbaric splendour of the mediæval Songhay, Ghana, nd Melle empires is still reflected in the political and ocial conditions prevalent in Bornu, Baghirmi, and Waday, the last Negroid kingdoms that have hitherto escaped absorption in the European systems.

The best hope for the future of Sudan lies neither in the pure Hamitic and Semitic, nor still less in the pure Negro element, the former slaves to a blind religious fanaticism, the latter barred by inherent racial indolence and a low grade of intelligence. In the opinion of the latest observers, the brightest prospects of the land are bound up with the mixed Negroid peoples, who, with their industrious and peaceful habits, commercial spirit, and natural intelligence, are capable, under wise European control, of indefinite material and moral progress. Here at least one great racial problem has been more satisfactorily solved by miscegenation, because the experiment has been unconsciously tried under the most favourable conditions, such as a climate as well suited for the intruders as for the aborigines, no excessive disparity between the

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fused elements, and sufficient time [1] to allow for perhaps many partial failures before good average results were obtained. These results are by some ethnologists credited to the Negro race itself, and are appealed to as proof of its capacity to acquire unaided a comparatively high degree of culture. But the Hausas, Kanuri, or other Central Sudanese peoples are, as above shown, of mixed origin, and their civilisation has been entirely developed under Mohammedan influences. The standard attainable by pure Negro communities left to themselves may be measured by the social usages prevalent amongst the peoples of Ashanti, Dahomey, and the Oil Rivers, with their degraded fetishism, and now abolished sanguinary "customs," or amongst the Niam-Niam and Mangbattu populations of the Welle basin, whose anthropophagism is not exceeded by that of any other tribes in the Cannibal Zone.

It has often been remarked that, as a rule, the inhabitants of the coastlands, and generally of the southern fringe of the Black Zone, stand at a much lower grade of culture than those of the interior. Certainly the difference is enormous between the semi-civilised and fairly intelligent Fulahs, Hausas, Kanuri, Mabas, and other Moslem peoples of the Central Sudanese States, and the pagan subjects of the late kings Coffee Calcalli and Behanzin of Ashanti and Dahomey, who, apart from their incredible indifference to human suffering, betray an almost invincible incapacity for any intellectual effort, and consequently for any real moral advancement. The disparity is no doubt, to some extent, due to the different physical surroundings—open and moderately elevated

[1] The Hamitic Garamantes (Tibus), for instance, have been in the closest contact with the Negro peoples of Central Sudan for probably over 3000 years.

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grassy or arable plateaux on the one hand, and on the other low-lying, moist, and malarious coastlands, far more favourable to vegetable and reptilian life than to the higher animal organisms. But this disparity has been accentuated in historic times by the progress of the Mohammedan conquering nations in the interior, driving the heathen aborigines towards the seaboard, where they were brought for centuries under the baneful influence of European slavers and dealers in poisonous raw spirits. The result is that in the inland regions the peoples have been merged in powerful communities, speaking a few widely-diffused languages, such as Arabic, Fulah, and Hausa,[1] while the coast populations have almost everywhere remained in the tribal state, each little ethnical group speaking a language, if not radically distinct, at least unintelligible to its neighbours. In this respect the West African seaboard presents a certain analogy to the Caucasus, the "Mountain of Languages," where the prevailing linguistic confusion is probably due to similar causes. So numerous are these independent tribal groups everywhere in the pagan districts, that account can be taken only of the broader ethnical divisions in the subjoined

Table of the Sudanese Populations

ARABS

Aulâd Slimân (Wasili) } in Kanem.
Tunjer; Mgharba }
Aulâd Hamed, Bahr el-Ghazal emissary of L. Chad.

[1] These three dominant tongues in Sudan have been respectively called the languages of religion, conquest, and commerce (R. N. Cust, *The Modern Languages of Africa*). But the remark applies only to Central and West Sudan; in the east very little Fulah or Hausa is heard, and here the dominant language is certainly Arabic.

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Kawâlima; Salâmât, south and south-east Bornu.
Aulâd Rashîd Mahâmîd, north-west Darfur.
Hamr and *Hamrân*, Kordofan.
Kababish ("Goatherds"), west side White Nile from Kordofan to Dongola.
Bakkâra ("Cowherds"), south of the Kababish to left bank Bahr el-Arab.
Jalîn (Jahalîn), Khartum district, and scattered in small trading groups throughout Kordofan and Darfur.

Hamites, Pure and Mixed

Tibus.
- *Dasas* (Southern Tibus), chiefly in Kanem and North Bornu; all Moslem, some nomad, some settled; chief nomad tribes—Gunda, Atereta, Worda, Juroa, Mada, Wandala, Dogorda; chief settled tribes—Salemea, Beggaroa, Aborda, Nawarma, Oreddo, Billea; total population 28,000.
- *Kanem-bu*, the aborigines of Kanem; Negroid, but Tibu features dominant.
- *Tomaghera* and *Zugurti*, west shore Lake Chad.

Tuaregs.
- *Keleti* and others, north frontier Bornu.
- *Ireghenaten*[1] ("Mixed"), within the Niger bend, south to the Hombori Hills and Libtako plains; some pure, but mostly mixed, even speaking Fulah or Songhay; are a branch of the Awelímmiden Confederacy (p. 230).
- *Dakalifas*, left bank Senegal river, west of Lake Paniéful: the only pure Berbers now settled south of that river.

Fulahs.
- *Jel:* Torobe; Ulerbe; Sisilbe; Fittobe; Jellube; Tongabe.
- *Baa:* Ghara; Sindega; Daneji.
- *So:* Jawambe; Mabube; Laobe; Gergasabe; Wailube.
- *Beri:* Siwalbe; Jaleji; Kombangkobe; Kingirankobe.

Futa Toro and Futa Jallon in compact masses; elsewhere in scattered groups from Senegambia east to Darfur, and south to Adamawa; speech of Negro type; a few still pagans.

Negroes, Pure and Mixed.

West Coast from the Senegal to Sierra Leone.
- *Wolof* ("Speakers"), between the Lower Senegal and the Gambia, and inland to the Falémé Confluence; chief branch *Jolof*, a name often wrongly applied to the whole nation; very black, but regular Hamitic features; Moslem.

[1] Since the occupation of Timbuktu, these fierce marauders have tendered their submission to the French authorities (September 1894). The great obstacle to regular trading operations between the Sahara and West Sudan has thus been removed.

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WEST COAST FROM THE SENEGAL TO SIERRA LEONE.

Serer, south of Wolofs, Salum river, and about Cape Verd; two divisions; *None Serer*, in north-west; *Sine Serer*, all the rest; Pagans; tallest of Negroes, many 6 feet 6 inches; speech shows Wolof affinities.

Sarakolé ("Red Men"), both banks Middle Senegal between Bafulabé and Bakel affluents; proper name *Soninké*; speech fundamentally Mandingan; Negroid of dark chestnut colour; Moslem.

Kassonké, Medina district, and about sources of the Senegal.
Jallonké, between the Bafing and the Niger; originally from Futa Jallon, hence their name, "Jallon men."
} Mandingan stock and speech; Negroid; Moslem.

Toucouleur (properly *Tacuror*, *Tacurol*), between Falémé confluence and Lake Paniéful, also dominant in Kaarta; Negroid; Moslem; often confused with the *Takrur* (*Takarir*) pilgrims from West Africa to Mecca, well known in E. Sudan, where they sometimes settle; are a historical people, who have founded evanescent empires in the Niger basin.

Mandingan (properly *Mande-nga*), the chief native race between north-west coast and the Joliba; in compact masses about the Gambia and the Casamanza, and inland from Sierra Leone; with their countless ramifications number many millions; Negroid; mostly Moslem, but some still Pagans; founded the Mali or Melle empire (p. 358), hence often still called *Malinke*, "Mali People"; have ancient settlements in West Sahara (p. 231).

Suzi (*Sossay*), the Mandingans of the Casamanza; Pagans.

Khabunke, Upper Casamanza; Pagan Negroes.

Balanta, south bank Casamanza below Sedhiu, intruders from the Geba basin; Pagan Negroes.

Bagnum, the aborigines of the district between the Casamanza and the Cacheo; the Casamanza is named from the Casa (Casanga) branch; Pagan Negroes.

Felup, a collective name given by the Portuguese to all the aborigines about the Casamanza and Cacheo estuaries; chief tribes — Aiamat, Yola, Kabil (Karon), Jugut, Fogni, Kaimut, Vaca, Banjiar, Fulun, Bayot, all Pagan Negroes.

Landuman, *Nalu* } both banks Rio Nuñez; Negroes; Landumans Pagans, Nalus Moslem.

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W. Coast from the Senegal to Sierra Leone.

Baga, *Sapé* (*Sumba*) } south of Rio Nuñez; Pagan Negroes.

Susu, north of Sierra Leone between Futa Jallon and the coast; Mandingan stock and speech; some Moslem, some Pagans; are a historical people, who took Timbuktu in the thirteenth century, and then moved westwards, overrunning a great part of the Niger basin; now mostly reduced by the Fulahs.

Sierra Leone.

Timni (*Timane*, *Temne*), the dominant people in the interior of Sierra Leone, chiefly between the Rokelle and Little Scarcie rivers; said to number 200,000; Mandingan stock and speech; Pagans.

Bullom, Sierra Leone coast; two branches: *North Bullom* between Mellecory river and Rokelle estuary; *South Bullom* (*Mampuas*), Sherbro island, and neighbouring district; akin to Timni; Pagans.

Mendi, the forests inland from the Mampuas, about Liberian frontier; proper name *Kossu* ("Wild Boars"); Pagan Negroes.

Limba, the hills about Middle Scarcie river; Pagan Negroes.

Saffroko, *Kono* } the uplands about sources Scarcie and Rokelle rivers; Pagan Negroes.

Gallina, Gallina and Manna rivers towards Liberian frontier; powerful and warlike; Pagan Negroes.

Vai (*Vei*), south-east of the Gallinas, north frontier Liberia; Mandingan stock and speech; Pagan.

Kuranko, *Solima* } east of the Timni to and beyond sources of the Niger; probably Mandingan stock; Pagans.

Liberia.

Colonials, the ruling class, colonial stock, *i.e.* descendants of the Negro and Mulatto freedmen removed from North America early in the present century; very mixed types; nominal Christians of broken English speech.

Pessi, *Bussi* } St. Paul's river; Pagan Negroes; reputed Cannibals.

Gola (*Gura*), west affluents St. Paul's and neighbouring streams.

Deh (*Devoi*), coast south of St. Paul's river; nearly exterminated by the Golas.

Kondo, inland from the Golas; Pagan Negroes.

Queah, east of Cape Mesurado; nearly extinct.

Barlin and *Basso*, between St. Paul's and St. John's rivers; Pagan Negroes.

Webo, *Tebo* and *Nyambo*, Cavalla river; Pagan Negroes.

Kru (Krao, "Krooboys"), coastland between Sinu river and Cape Palmas; Mandingan stock; Pagans.

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Ivory Coast.

Grebo (Krebo) and *Glebo*, about Cape Palmas, akin to the Kru-Pagans.

Avekvom (*Avikom*), the *Qua-Qua* of early writers, Adu district west of Lahu river; Pagan Negroes.

Agni and *Oshin*, north of Grand Bassam and Assini; here the Agni are the aborigines, the Oshin intruders and dominant since eighteenth century; both Pagan Negroes.

Gold Coast.

Tshi (*Chwi*) group, *i.e.* peoples speaking dialects of the Tshi language: *Ahanta*, from Ancobra river to the mouth of the Prah; *Fanti*, coast from Prah mouth to Winnebah; *Wassawa*, inland, north of Ahanta; *Chiforo* (*Tufel*), *Safwhi*, *Gyaman*, north of Wassawa; *Assin*, *Adansi*, *Ashanti*, Upper Prah basin, north of Fanti; *Akim*, *Akwapim*, *Akwamu*, Middle Volta basin, inland from the *Ga* group; all Pagan Negroes.

Ga group, *i.e.* peoples of *Ga* speech: *Krobo* and *Accra*, right bank Lower Volta, south-east corner Gold Coast; *Agotine*, left bank Volta in the Ewe territory, Togoland. All Pagans of pronounced Negro type.

Slave Coast.

Ewe group, *i.e.* peoples speaking dialects of the Ewe language: *Awuna*, *Avenor*, and *Ataklu*, 45 miles inland from coast along left bank Volta; *Agbosimi* and *Aflao* (*Flohow*), coast from Volta to Togoland; *Krikor*, north of Aflao; *Togo*, coast of Togoland; *Geng*, Porto Seguro and Little Popo districts; *Great Popo*, between Little Popo and Whydah; *Dahoman*, between Great Popo and Kotonu, and 120 miles inland; *Ewemi*, north of Kotonu; *Fra* and *Appi*, from Kotonu to Badagry (Yoruba frontier); *Anfueh*, *Krepe*, and *Ewe-Awo*, interior of Togoland; *Mahi* (*Makki*), *Affakpami*, *Aja*, north and west of Dahoman. All Pagan Negroes.

Yoruba group: *Jebu*, Lagos district; *Egba*, Abeokuta district; *Anagonu*, *Ayonu*, *Idoko*, *Oworo*, *Ondo*, *Ife*, *Oyo*, and others, generally between Dahomey and the Lower Niger north of Benin; mostly Pagan Negroes; some in the north (Ilorin district) Moslem and Negroid; some Christians.

Upper and Middle Niger Basin.

Kissi, about the sources of the Niger; Pagan Negroes.

Sangara, about the confluence of the Niger head-streams; Pagan Negroes.

Wassulu, region watered by the east affluents of the Joliba, very numerous; Mandingan speech; Bambara and Fulah affinities; Negroid; Moslem and Pagan.

Bambara (properly *Ba-Manao*, "People of the Great Rock"), both banks Middle Joliba north to Lake Debo, in Kaarta and surrounding districts; Mandingan stock and speech; origin-

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ally from the southern uplands ; Moslem and Negroid of very mixed types.

Beleri, Beledugu district, west of Bamaku and thence across the divide to the Senegal basin ; Negroid and Moslem.

Songhay (Sonrhay, Surhay), both banks Middle Niger from Lake Debo round to Sokoto confluence, and at some points stretching far within the great bend ; a great historical people whose empire was overthrown 1591 (p. 90) ; now mostly subject to the Tuaregs and Fulahs ; fine Negroid type ; all Moslem ; the Ki-Songhay (Ki-Sur) Negro language spoken by perhaps two millions as far west as Asben (p. 226).

UPPER AND MIDDLE NIGER BASIN.

Hausa (*Hausawa*), Central Sudan between the Niger and Bornu west and east ; the Sahara and Benue river north and south ; Negroid and Moslem ; language of Negro type with many Hamitic affinities, current from Lake Chad to Guinea as the general medium of intercourse, and in all the surrounding markets north to Mauritania and Tripolis ; spoken as their mother tongue by many millions.

Bolo and *Yako*, Bautchi district Yakoba uplands ; Pagan Negroes.

Wuruku and *Tangala*, Muri (Hamarawa) Hills, right bank Benue south-east of Bautchi ; cannibals and Pagan Negroes.

Kali and *Bele*, Gongola affluent of the Benue ; Negroes, some Moslem, some Pagan ; speech akin to Kanuri.

BENUE BASIN.

Akpa and *Wakari* (*Juku*), left bank Benue below the Muri Hills ; numerous tribes all speaking dialects of one stock language ; Pagan Negroes, very rude and reputed cannibals.

Mitchi (*Mishi*), Kororofa district, left bank Lower Benue below the Akpas, and south to Oyono (Cross) river ; Pagan Negroes.

Doma (*Arago*), right bank Lower Benue, opposite the Mitchi ; Negroes, Moslem and Pagan ; speech akin to Yoruba (?).

Bassa, about Loko district, west of the Doma ; Moslem and Pagan.

Igarra (*Igalla*), left bank Lower Benue to Niger confluence, and thence nearly to the Delta and to the Oyono river ; Pagan Negroes.

Ibo, head of Niger Delta, thence east to Cross river and west to Yoruba ; are the dominant people of the Delta ; hence all slaves formerly shipped from this region were called "Ibo" ; Pagan Negroes.

LOWER NIGER AND OIL RIVERS.

Chekeri (Izekiri), the Benin people, from the Delta west to Yoruba ; Pagan Negroes.

Akassa (*Iju*), Nun branch of the Delta ; give their name to the port of Akassa, present capital of the River Niger Chartered Company.

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Lower Niger and Oil Rivers.

- *Nempé*, Brass district, coast from Akassa, east to New Calabar (Bonny) river.
- *Okrika*, the people of Bonny between New and Old Calabar rivers. The Akassa, Nempé, and Okrika are members of the Iju (Eyo) family, speaking dialects of the stock Eyo language; all Pagan Negroes.
- *Andoni*, *Qua*, *Efik* — from Bonny along the coast east to Old Calabar estuary, and thence to the Rio del Rey where the Bantu domain begins. The common Efik language is intermediate between the Bantu and Negro orders of speech.
- *Igbara*, the people of Nupé, from above the Benue confluence along right bank Niger to Borgu, 10° N. latitude, and thence south to Yoruba. The powerful Nupé state was reduced about 1850 by the Fulahs. The ruins of its capital, Fende (Panda), lie about 50 miles north-east of the Benue confluence; formerly Pagan Negroes, now mostly Moslem.
- *Kambari*, *Ebe* — left bank Niger, north-west of Nupé
- *Borgu*, north of Yoruba and Dahomey.

  → Mostly Negroes, some Moslem.

Within the Niger Bend.

- *Gonja*, N. of Ashanti and W. from Salaga
- *Gurma*, W. of Gando, about sources of White Volta

  → Mostly Moslem Negroes.
- *Mo* (*Mossi*), north-west of Gurma
- *Tombo*, between Mossi and Massina

  → Mostly Pagan Negroes.
- *Gurunga*, dominant in Gurunsi, Volta head-streams
- *Sienereh* (*Sienuf*), in Tieba's, N. W. of Kong

  → Some Moslem, some Pagan Negroes.

Lake Chad Basin.

- *Kanuri*, dominant in Bornu, also numerous in Kanem; all Moslem; Negro-Hamitic type, Negro features very marked; speech Negro largely affected by Tibu elements. Chief Bornu tribes—Magomi (Kanuri proper), Tura, Manga, Nguma, Kai, Ngallaga, Ngalmaduko, Ngomatibu, Ngasir; chief tribes in Kanem — Bulua, Anjalibu, Rogodobu, Biradull, Biriwa, Melemia, Forebu, Dalatoa; total population of Kanuri speech, 3,500,000.
- *Baghirmi*, Lower Shari basin, south-east side Lake Chad, also in Bornu where they are called *Karde;* fine Negroid type; till recently Pagans, now mostly nominal Moslem; speech (tar-Bagrimma) of pure Negro order, spoken by about 1,500,000.
- *Sara*, Middle Shari; a branch of the Baghirmi; Pagan.
- *Mosgu* (*Masa*), between Lake Chad and Adamawa; chief branches — Margi, Mandara (Wandala), Mekari (Kotoko),

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Lake Chad Basin.

- Logon, Gamergu, Keribina; Pagan Negroes; population about 1,000,000.
- *Bede* (Manga), *Ngisem*, *Kerrikerri*, *Babir* — Unclassified aborigines, west and south-west frontiers Bornu, extending west to Hausa States and south to Adamawa; Pagan Negroes.
- *Bulala*, *Kuka*, Lake Fitri, and thence to Lake Chad and Kanem; Pagan Negroes, speech akin to tar-Bagrimma.
- *Dana* (*Danawa*), south-east corner Lake Chad; half-caste Tibus and Bulalas; Pagan.
- *Yedina* (*Buduma*), Central Archipelago, Lake Chad, fierce pirates; Pagan Negroes; chief tribes—Maijoja, Maibulua, Buja, Guria, Margauna, Jillna; population 20,000.
- *Kuri*, south-east Archipelago, Lake Chad; Pagan Negroes; chief tribes—Arigna, Media, Kadiwa, Toshea, Karawa, Kalea.

Waday.

- *Maba*, the ruling race in Waday, chiefly in the Wara district; twenty-four divisions, Moslem, Negroid type; speech Negro.
- *Birkit*, *Abu-Sharib* — East Waday, towards Darfur frontier
- *Massalit*, south-east Waday, very numerous
- *Miami*, *Moewo*, *Marfa*, *Korunga*, *Kashemere* — Central Waday
- *Kondongo*, *Kabbaga*, *Mubi*, *Marta* — Batha river, south-east of Wara
- *Kajajre*, *Tynjur*, south-west frontier Waday

Unclassified groups, apparently Negroid, and mostly Moslem; some Pagans in the Marrah uplands and the southern districts.

Darfur and Kordofan.

- *Fur*, dominant in Darfur ("Fur Land"), *Kunjara*, Darfur and Kordofan — Moslem Negroes.
- *Nuba*, *Kargo*, *Kulfan*, *Kolaji*, *Tumali* — Dar-Nuba, South Kordofan; Pagan Negroes; the primitive stock of the Negroid Nubians of the Nile Valley; the Nuba and Nubian tongues are all closely related members of one stock language of Negro type.
- *Tegele* (*Tekele*), South Kordofan, Pagan Negroes; speech quite distinct from Nuba.

Upper Nile Basin (Nearly all Pagan Negroes).

- *Shuli*, *Labore* — Between Lake Victoria, Nile, and Madi mountains; west to Bahr el-Jebel. Pagan Negroes.
- *Kirim*, *Mala*, *Ishing*, Middle Sobat river
- *Janghey*, *Jibba*, *Bonjak*, *Balok*, *Fallanj*, *Niwak*, *Koma*, *Suro*, *Amam* — Lower Sobat river

Unclassified; all apparently Pagan Negroes.

- *A-Lur* (*Luri*), left bank Bahr el-Jebel, between Lake Albert and Wadelai.

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Upper Nile Basin (Nearly all Pagan Negroes).

- *Madi*, left bank Jebel, between Wadelai and Dufile.
- *Bari*, both sides Jebel, 4° to 5° 30′ N.
- *Shir* (*Kir*), both sides Jebel, between Bari and Dinka territories.
- *Nuer* (*Byor*, *Ror*), Lower Jebel, 7° to 9° N.
- *Dinka*, Jebel and White Nile, 6° to 12°; largest of all Nilotic peoples; chief tribes—Abuyo, Agar, Ajak, Aliab, Arol, Atwot, Awan, Bor, Donjol, Jur, Gok, Rish.
- *Shilluk*, left bank Jebel and White Nile, 9° to 12° N.; formerly very powerful; chief tribes—Kwati, Dyakin, Dyok, Roah.
- *Fajelu*, about sources of the Yei, 4° to 4° 30′ N., 30° to 31° E.
- *Mundu*, on the divide between the Akka and Yei rivers.
- *Abaka*, between the Mundu and Fajelu territories, 30° E., 4° N.
- *Makaraka* (*Makraka*, *Idio*), between the Yei and Upper Rol; 30° E., 4° 30′ N.
- *Abukaya-Oisila*, north of the Makarakas, 5° N.
- *Abukaya-Oigiga*, south of the Mundu, about sources of the Dongu, 30° E.
- *Bongo* (*Dor*), Upper Tonj and Jur rivers, towards Zandeh frontier.
- *Rol*, *Agar*, *Sofi*, *Lehsi*, Rol river, east of Bongo and Mittu territories.
- *Golo*, east of Bongos, 7° to 8° N., 26° to 27° E.
- *Mittu* — A-Madi, Madi-Kaya; Abbakah, Luba — Moroland, north of Mangbattu-land. The Mittu call their land Moro (Schweinfurth).
- *Dwair*, *Ayarr*, *Mok*, *Tonj*, *Bot*, *Ayell* — between Molmul and Rual rivers, 7° to 8° N., probably akin to the Bongos.
- *Krej* (*Kresh*), *Fertit*, *Aja* — Dar-Fertit, about headwaters Bahr el-Homr.

Welle Basin (All Pagan Negroes).

- *Kalika*, *Lubari*, about sources of the Welle, 2° 40′ to 3 20′ N., 30° to 31° E.
- *Bombeh*, between Akka and Dongu, head-streams of the Welle.
- *Mangbattu* (*Mombuttu*), Upper Welle basin, 3° to 4° N., 28° to 30° E.
- *A-Bangba*, south of Mangbattu, 3° N., 28° to 29° E.
- *A-Madi*, right bank Welle, 3° 30′ N., 27° E.
- *Momfu*, Upper Bomokandi basin, 2° to 3° N., 29° to 30° E.

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WELLE BASIN (All Pagan Negroes).

- *Mabode*, south-west of Momfuland, Upper Nepoko river.
- *A-Barmbo*, Middle and Lower Bomokandi, 3° N., 26° to 28° E.
- *A-Babua*, left bank Welle, thence to the Aruwimi, 2° to 3° 30′ N., 28° to 26° E.
- *A-Babombua*, *A-Bagarambo* — left bank Welle, 3° to 4° N., 24° to 26° E.; akin to A. Babara.
- *Madje*, Upper Bomokandi, 2° 30′ to 3° N., 28° E.
- *Embata*, left bank Welle, above Mbruole affluent.
- *Mangballe*, Mbruole affluent Welle, 3° 30′ N., 27° 20′ E.
- *A-Banjia*, right bank Welle and Mbili affluent.
- *Mabenge*, *Pambungo*, *Marau*, *Arangba*, *A-Diggi* — Lower Welle between Ali Kobbo's and Mbomu confluence, 4° to 5° N., 22 to 25° E.
- *Nsakkara*, north of the Mbomu affluent Welle, 5° to 6° N., 22° to 24° E.
- *A-Kahle*, *A-Ngaddu*, *Ngobbe*, Upper Mbomu basin, 5° to 6° N., 24° to 26° E.
- *A-Zandeh* (*Niam-Niam*), all the north affluents of the Welle, 4° to 7° N., 25° to 29° E.
- *Banda*, in Dar-Banda, south of Dar-Fertit.
- *Akka*, dwarfs, south of Mangbattuland, and thence to the Aruwimi.

The Sudanese Arabs

It was seen (p. 232) that in the Sahara the Arabs are concentrated chiefly in the west, diminishing rapidly in numbers and influence eastwards. This position is reversed in the Black Zone, where there appear to be no exclusively Arab communities in the west, and very few in the centre, whereas in the east they are the dominant people all along the White Nile Valley from the Bahr el-Arab to Khartum. In the West Sahara the Berber populations, retiring southwards before the Arab invaders from Mauritania, soon reached the Senegal river, driving the blacks before them and themselves forming a rampart along this ethnical parting-line, which the Arab nomads

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were not strong enough to break down. The Wolof Negroes, now confined to the region south of the Lower Senegal, still remember the time when their ancestors occupied extensive tracts north of that river, where are now seated the Trarza and Brakna Tuaregs. These Senegal Berbers, broken members of the great Zenaga nation (p. 78), have always been able to show a stout front to the Arab invaders from the north, and thus it happened that no Arab irruption ever took place into West Sudan, where they have always been represented mainly by zealous preachers of Islam and enterprising traders.

In Central Sudan the great caravan route from Tripolis and Fezzan offered a difficult but still a practicable highway across the narrowest part of the desert, by which a few Arab nomads were able to obtain a footing in the Chad basin at a remote period. The "Shoa," as these early settlers are called in Bornu, have in some respects been assimilated to their Kanuri neighbours, from whom they are distinguished chiefly by their Arabic speech. "I have met Arabs settled in Bornu for a series of generations, who were so little acquainted with the Kanuri language that I had to act as their interpreter."[1] There is no bond of union between these and the Arabs of Kanem, some of whom, such as the Aulad Slimân, are fierce marauders who have reached the shores of Lake Chad in comparatively recent times from Tripolis and Fezzan (p. 161). At one time a terror to all their neighbours, they have lately suffered some severe reversals at the hands of the Saharan Tuaregs. At present all the settled and nomad Arabs of the Chad basin are estimated by Nachtigal at not more than about 180,000, of whom 80,000 are subject to the Sultan of Bornu, the rest to the ruler of Waday.

[1] Nachtigal, *Zeitschrift der Gesellschaft für Erdkunde*, April 1877.

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Very different is the position of the Arabs in East Sudan, to which they have at all times had easy access, either up the Nile Valley from Egypt, or along the northern escarpments of the Abyssinian highlands from the Red Sea. Here many have been long enough settled in compact bodies to constitute even numerically an important section of the East Sudanese population, while their religious zeal, enterprising spirit, and superior intelligence give them a predominance out of all proportion with their actual or relative numbers. The Jalins of Khartum and surrounding districts claim special consideration as the most numerous, influential, and purest of all the Sudanese Arabs. They trace their descent from Abbas, uncle of the prophet, but their Arabic dialect, preserved and spoken by many with great purity, indicates the Hejas as their original home. They have been so long settled in the country that alliances have been formed with the Hadendoah Bejas of the neighbouring Mareb valley, as shown by the Beja patronymic ending *ab* of many of their tribal names, such as Muhammad-ab, Bagel-ab, Sad-ab, Omar-ab, Ali-ab, and others. Some farther east (Baraka district) have even adopted the To-Bedawieh (Beja) language, and now pass for Hamites.

The Jalins are great traders and notorious slave-hunters, while the Kababish and Bakkâra, as indicated by their names (see Table), are essentially pastoral peoples, the former large breeders of horses and camels, as well as of "goats," in the arid, mimosa-clad northern districts, the latter owners of numerous herds of cattle on the grassy and better-watered savannahs farther south. Both appear to be sprung from a common stock, and the Kababish are a peaceful people thrown reluctantly into the ranks of the Mahdists when abandoned by

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the Egyptian and English authorities, who in ignorance of the true relations failed to take advantage of their friendly disposition.

But it must be confessed that in East Sudan the Arab is essentially the disturbing element, but for the presence of which there would be no fanaticism, no slave-hunters, no Mahdis, no "Egyptian question" to confound the councils of European statesmanship. Proud, ignorant, bigoted, and insolent, these Arab tribes "are for the most part nomads or wanderers, each within certain well-known limits. All are large owners of cattle, camels, horses, and slaves. These last, along with the Arab women, generally cultivate some fields of durra, or corn, sufficient for the wants of the tribe. The Arab himself would consider it a disgrace to practise any manual labour. He is essentially a hunter, a robber, and a warrior, and, after caring for his cattle, devotes all his energies to slave-hunting and war." [1]

There is even still a lower element formed by those Arabs who have given up the tribal relations and associated themselves with the "Khartumers" and Nubians in the work of murder and rapine throughout the fairest provinces of "Egyptian Sudan." Before the Mahdist outbreak many served in the ranks, and were employed in various capacities by the Khedival authorities. During his wanderings in the equatorial regions Dr. Junker often met groups of these "Arabo-Nubian cut-throats" as far south as the Niam-Niam lands in the Welle basin, and he sums them up as "a rabble of filth, petty mendicancy, jail-bird expressions, and cringing hypocrisy." [2] The employment of such instruments could not fail to bring the Government into disrepute with the Sudanese

[1] Lieut.-Col. Stewart, *Report on the Sudan* for 1883 p. 8.
[2] *Travels*, iii. p. 182.

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peoples, and certainly contributed not a little to the success of the Mahdist rebels.

The Fulahs: Empires of Sokoto and Gando

None of the Sudanese Hamites call for any special remark except the Fulahs, who, as conquerors and preachers of Islam, hold in the west a position somewhat analogous to that of the Arabs in the east. But there is this great difference, that whereas the Arab records and traditions go back to the very dawn of history, the Fulahs are, so to say, a new people, who were scarcely heard of till quite recent times. Without entering into the endless controversies regarding the origin and racial affinities of this remarkable pastoral people, it will suffice here to state that in the opinion of those best acquainted with them, the Fulahs are originally Hamites, probably to be identified with the Leukaethiopi ("White Ethiopians"), placed by Pliny south of the Mauritanian Gætulians, on the confines of the Black Zone. They may be regarded as the pioneers of the northern peoples for ages pressing southwards in the direction of Sudan, which region they reached at such a remote epoch that they have lost all memory of their primitive Hamitic speech, and now speak a language of distinctly Negro type. But, beyond their common morphology, this language is in no way connected with the Nuba of Kordofan, and as the Nubas themselves are pure Negroes, it follows that the "Nuba-Fulah family," invented by the Viennese ethnologist, Frederich Müller, has no existence whatsoever, and should disappear from the language maps of Africa, on which it has figured conspicuously for many years.

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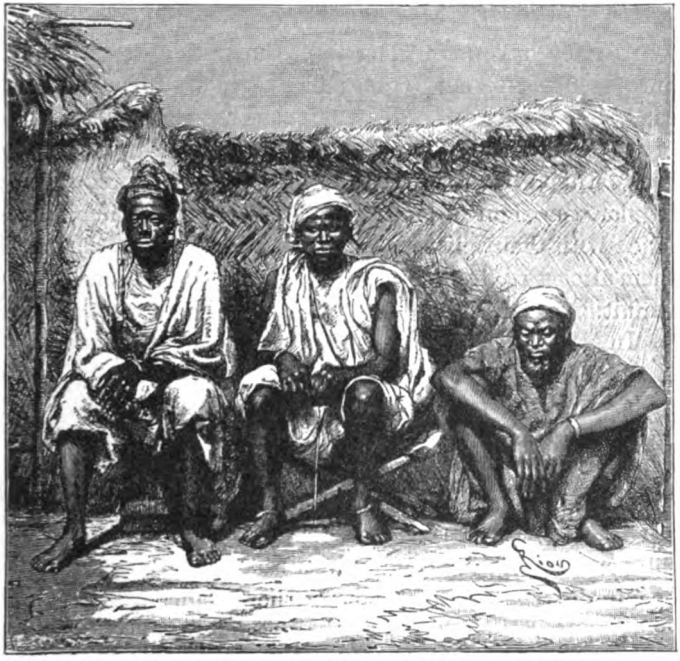
The national name *Fulah* (properly *Pulo*, plural *Fulbe*), which has assumed an endless variety of forms amongst the surrounding populations,[1] appears to have the general meaning of *light*, or *fair*, or *red*, in contradis-



BAMBARA AND FULAH TYPES.

tinction to the more or less black colour of the Sudanese

[1] Thus such variants occur as *Fula* (Mandingan), *Fulâji*, *Fellani* (Hausa), *Fulâta*, *Fellâta* (Kanuri), *Fullân* (Arab), *Afut*, *Ifulan* (Southern Tuaregs), *Afellen*, *Ifellenen* (Northern Tuaregs), *Peul*, *Poul* (French), *Fulah* (English), besides *Pular*, *Fulfulde*, and other erroneous or doubtful forms. Barth, however, always speaks of "the Fulfulde language," and in one place remarks that "at the present time the terms *Jolof* and *Pullo* seem to be used in opposition, the one meaning a person of black, the other an individual of red complexion."

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aborigines. But the meaning has lost much of its significance in recent times owing to extensive intermingling with these aborigines, from whom the Fulahs cannot now be always distinguished. When, however, they are studied in their original homes on the banks of the Senegal (Futa Toro) and on the Futa Jallon uplands, where they have kept aloof from the natives, they are at once seen not to be Negroes or Negroids. The general complexion appears to be light chestnut or reddish brown, the hair straight or crisp but not woolly, the nose straight and even aquiline, the features quite regular, the figure small, slim and shapely, which, combined with their animated, intelligent expression, separates them altogether from the Negro, and affiliates them to the Hamitic stock.[1]

In Futa Jallon the Fulahs had long been strong enough to found the independent principality of Fuladugu. But elsewhere they were scattered in small pastoral communities from Senegambia to Darfur, everywhere subject to the native rulers, without political cohesion or national sentiment, beyond such as may have been inspired by their common Mohammedan religion, traditions, and social usages. But with the opening of the present century there came a great and sudden change, which within less than two decades raised these despised and persecuted herdsmen to the position of masters throughout the greater part of Central and West Sudan.

The movement which brought about such an astounding revolution in the political and religious relations of the Black Zone began in the northern Hausa State of Gober, at that time ruled by the pagan prince Bawa. Here the Fulah maalam (religious teacher), Othman dan

[1] Capt. Th. Grimal de Guirodon, *Les Puls.*

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Fodiye (Fodio), having been rebuked by the prince for his excessive zeal in preaching the doctrines of Islam, suddenly raised the standard of revolt (1802), round which the Mohammedan Fullahs rallied from all quarters. But being for the most part rude pastors, ignorant of the arts of war, they had to learn the secret of success by a series of reverses, which would have damped the spirits of less fervent enthusiasts. The tide of victory once turned, Othman rapidly overran the greater part of Sudan, overthrowing all the old Hausa States of the central regions, reducing innumerable other petty Moslem and pagan rulers in Sudan and Adamawa, and establishing his political supremacy from the Niger to the frontiers of Bornu. Thus was founded the great empire of Sokoto, which, however, even before his death in 1817, already showed signs of disintegration. In 1816 his lieutenant, Ahmed Lebbo, had set up the independent State of Massina (Moassina), with all the lands west of the Joliba, while Othman himself divided his other conquests between his son Bello and his brother Abd-Allâhi.

To Bello, who was recognised as the paramount lord of the Fulah domain, fell the larger eastern division, which still bears the title of Empire of Sokoto, so named from its first capital, although the seat of government has since been removed to the neighbouring city of Wurno. It was here that Mr. Joseph Thomson concluded the treaty with the reigning Sultan, in virtue of which West Central Sudan passed under the British protectorate (p. 250). Here also he first came in contact with "those mysterious people the Fillani, or Fulah, numbers of whom passed us from time to time. Simple herdsmen, semi-nomadic in habit, and semi-serfs in position at the beginning of this century — warriors and

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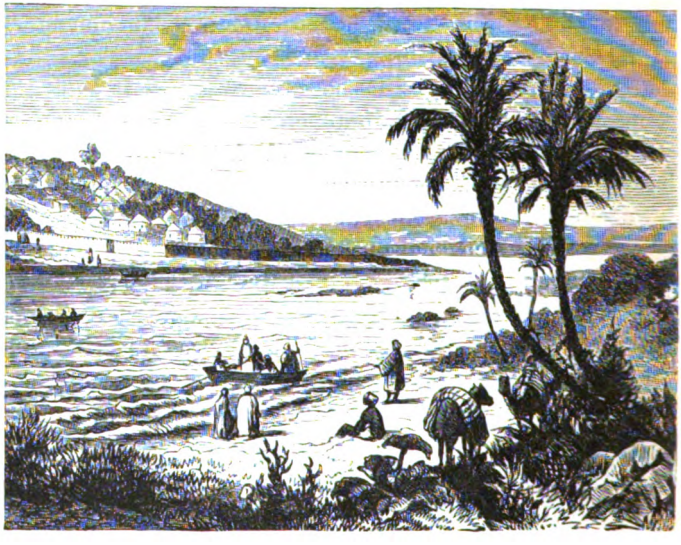
Mohammedan propagandists a few years later—they are now the rulers of a hundred races between the Atlantic and Bornu. Portentously picturesque with their voluminous garments, their massive turbans, and *litham*-veiled faces, they pranced along on gorgeously caparisoned horses with the dignified bearing of the Moor." [1]



SOKOTO.

Bello's uncle, Abd-Allâhi, received as his share all the western provinces, which from the capital took the name of Gando. This State, holding a subordinate position to Sokoto, comprises the whole space along the Middle Niger, including, since about 1850, the old pagan kingdom of Nupé and the territory about the Niger-Benue confluence. By a separate treaty the Sultan accepted the British

[1] *Mungo Park and the Niger*, p. 328.

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protectorate for several other large centres of population, some of which were capitals of the former Hausa States. Such are *Kano*, which in Barth's time had a population of 35,000, and which has always been a great trading and industrial centre. Here are manufactured large quantities of the so-called *Kano*, or blue cotton cloth of Sudan, of which 1500 camel-loads are annually forwarded to Timbuktu, Ghat, Fezzan, and even Tripolis. The houses of Kano are partly quadrangular, with flat roofs, and surrounded by gardens and fields, so that the city is spread over a great space. The market, famed throughout Sudan, is well supplied with gold-dust, ivory, salt, leather-ware, cotton, indigo, and other commodities. From January till April, the season at which caravans arrive from all parts, the population is at least doubled.

Yakoba on *Garo-n-Bautchi*, capital of another old Hausa State in the southern part of Sokoto, on the divide between the streams flowing south to the Benue and south-west to the Niger, appears to be even a larger place than Kano, with a population estimated at from 50,000 to 100,000. Rohlfs, who visited it in 1866, describes it as surrounded by walls three and a half hours in circuit, enclosing large fields and gardens, several rocky heights, and many ponds. Yakoba stands on a plateau surrounded on the north-east and south-east by granite hills nearly 3000 feet high, and enjoying a temperate climate suitable for European settlers. Here flourish the date, citron, pomegranate, and other fruits both of the tropical and sub-tropical zones. Although the trade in Yakoba had much declined in Rohlfs' time, a daily market was still held for the sale of cattle, horses no larger than donkeys, diminutive sheep and goats, and cotton stuffs of local manufacture.

Other famous Hausa cities are *Katsena*, north-west

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from Kano, southern terminus of the caravan route from Ghat and Aghades; *Zaria* (*Zariya*), south-west from Kano; *Hamarua*, near the right bank of the Upper Benue; *Keffiabd es-Senga*, *Lafia*, *Keana*, and *Loko*, in the south-western Hausa lands and above the Benue confluence; lastly *Gombé*, in the Gongola valley towards the Bornu frontier.

Rabba and *Egga*, on the Niger, are amongst the chief trading places in the Sultanate of Gando, and here is the important British station of *Lokoja* on the right bank of the Niger, opposite the Benue confluence. This place is surrounded with all the chief events connected with the development of English enterprise in the Niger basin. Here was founded the "model farm" of 1841, which, owing to the unhealthy climate, inexperience, and other causes, proved a total failure; here resided the British consular agent, Dr. Baikie, during the years 1857-64, and in 1865 Lokoja became a flourishing mission station, under the management of Bishop Crowther, a native of Yorubaland. At present it is the headquarters of the Niger Company, who here maintain a strong force of Hausa troops, which can be rapidly moved by steamer to any threatened ground along the banks of the Niger or the Benue. Above Lokoja the Niger winds through a valley from ten to thirty miles wide, skirted on both sides by flat-topped hills, and abounding in rich cultivated land. During the autumn floods, when the river overflows its low-lying banks for several miles, the whole district assumes the aspect of a great lacustrine basin.

The Wolofs: French Sudanese Possessions

In the region between the Senegal and the Gambia, to which the expression Senegambia was formerly re-

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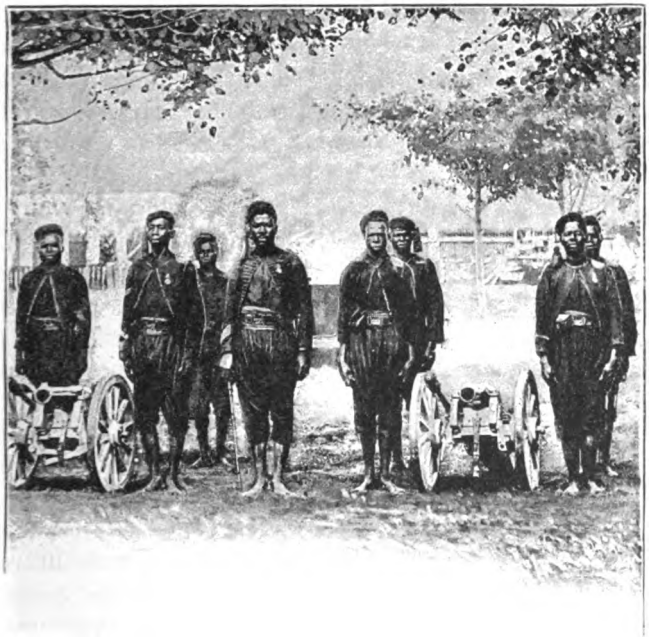
stricted, the Negro element is represented by the Wolofs in the north and the remotely allied Serers in the south. The Wolofs, whose domain at one time extended beyond the Senegal far into the Sahara, are distinguished, even amongst Africans, for their intensely dark complexion.



HAUSA POLICE IN THE BRITISH SERVICE.

The epithet "black," which is not usually applicable to Negro populations without qualification, is used unreservedly by all observers in speaking of the Wolofs, whose glossy skin is compared to "ebony," and whose very lips are black. Yet the features are rather Negroid than of the pure Negro type, and are often described as almost regular, so that interminglings may be suspected either

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with the neighbouring Fulahs or with the Tuaregs of the desert. The language, however, which is the chief medium of commercial intercourse throughout Senegambia proper, belongs to the ordinary Sudanese agglutinating order, though differing fundamentally from all the Negro tongues in its vocabulary and formative elements, as well as in the character of its monosyllabic roots, which end, not in vowels, but in consonants.

If the Wolofs are the blackest, their Serer relatives are the tallest members of the Negro race, many exceeding six feet four inches in height. They are also noted for their great muscular development, pronounced Negro features and Herculean frames, which, however, as is usual with Africans, fall off in the lower extremities. Although the Salum river valley, comprising the heart of their territory, was reduced by a Fulah marabout in the first half of the century, the bulk of the Serers are still pagans, believing in the transmigration of souls, holding snakes in great veneration, and worshipping two powerful deities, Takhar, god of justice, and Tuirakh, god of wealth. On the other hand, most of the Wolofs claim to be Mohammedans, while some about the stations call themselves Christians. But there is little to choose between the two, all being alike heathens, at heart, with lizards and other animals as tutelar deities or family totems. The Christians wear medals and scapularies, to which great efficacy is attributed, whereas the amulets of the Mohammedans consist of scraps of parchment on which verses from the Koran are inscribed.

For administrative purposes the French Sudanese possessions form three separate political divisions, in each of which are officially distinguished the occupied districts, the annexed territories, and the protectorates. The three divisions are: (1) *Senegal*, that is the old French Colony

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in Senegambia, which extends from the Atlantic inland to the meridian of Bakel, and from the Sahara round British Gambia southwards to Portuguese Guinea. According to the census of 1892, this region, some 54,000 square miles in extent, had a collective population of 1,097,000, of which 51,000 are in the districts of direct administration, 40,000 in self-governing communes, and the rest in the protectorates. (2) *Rivières du Sud*, detached in 1890 from Senegal, and now comprising the coast district between 11° and 9° N. lat. and inland to Futa Jallon; population (1892) 47,500; capital Conakri. To this division were attached, in January 1892, the settlements on the Gold Coast and on the Bight of Benin, officially known as French Guinea and dependencies. But the recent conquest of the kingdom of Dahomey on the Slave Coast will doubtless involve fresh administrative changes. (3) *French Sudan*, comprising the Upper Senegal basin, with the Upper and Middle Niger, Futa Jallon, the Kong and Anno States, Samory's and Tieba's territories, and in fact the whole region stretching from Senegal and the *Rivières du Sud* inland to the British sphere of influence. Here, the annexed districts, mostly in the Upper Senegal basin, comprise an area of 54,000 square miles, with a population of 360,000, while the protectorates have an estimated area of about 250,000 square miles, with a population of 2,500,000. French Sudan is administered by a Superior Military Commandant, resident at Kayes, and under the Governor of Senegal.

St. Louis, capital of Senegal, lies at the mouth of the Senegal in Wolof territory, and the district of Cayon, which extends thence along the coast southwards to Cape Verd, is still nominally under a Wolof ruler. *Ndar*, as the natives call the capital, covers most of a long sandy island, encircled by two branches of the Senegal estuary

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and connected with the mainland by a bridge of boats nearly half-a-mile long. St. Louis, founded about the year 1650, is the largest place on the West Coast for a distance of 2450 miles, between Rabat in Marocco and Sierra Leone. It has a present population of about 20,000, but owing to the difficult approaches, and especially the shifting character of its bar, most of its trade is carried on through the port of *Dakar*, which is connected by rail with the capital and which has the great advantage of a deep harbour completely sheltered from the western gales by the headland of Cape Verd, and defended by the strongly fortified islet of *Gorée*, facing the thriving settlement of *Rufisgue* on the mainland.

In the interior there are several important trading and military stations, such as *Bakel* on the left bank of the Senegal, below the Falémé confluence, converging point of the main trade routes from Kaarta, the Upper Senegal basin, and the Niger, and at present the chief bulwark of French power in Senegambia. *Kayes*, also on the Senegal at the head of the steam navigation during high water, and terminus of a short railway, 40 miles long, running through *Mednia* and *Diamu*, up the Senegal valley in the direction of *Bafulabé* at the Bafing confluence, with the intention of being ultimately continued to *Bamaku*, the chief French station on the Joliba. Below Bamaku all the great riverine ports, some of them capitals of powerful Mandingan or Fulah States, have been successively occupied by the French. Such are *Segu*, *Sansandij*, *Kolodugu*, and *Jeune*, the fall of this last place in April 1893 being followed by the complete submission of the Mohammedan kingdoms of Segu, Bambarra, and Masina (Moassina). Thanks to these successes achieved by Colonel Archinard, Governor of French Sudan, the way

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by the Niger to Timbuktu was opened, and Timbuktu itself was seized early in 1894 by a flying column under Colonel Bonnier. Ever since the death of El Haj Omar, founder of the Segu empire, the whole of this region of the Upper Niger had been kept in a state of constant disorder by dynastic broils. Omar's son and successor, Muniru, had two brothers, Ahmadu, who was opposed, and Aguibu, who was favourable to the French cause. All the Moslem fanaticism of West Sudan rallied round Ahmadu, who established a powerful State between the Lower Joliba and the Senegal, and although repeatedly defeated continued to give great trouble to the French, until finally routed and put to flight by Colonel Archinard in the spring of 1893. His brother Aguibu, who had been appointed Governor of the province of Dinguiray, north of Futa Jallon, now succeeds to the throne of Masina under French protection.

The Mandingans: British Gambia

The substratum of the population in this region belongs to the widespread Mandingan race, which occupies in West Sudan a position somewhat analogous to that of the Hausas east of the Niger. Both are historical Negroid peoples, for the most part Mohammedans of a mild type, remarkably intelligent, industrious, and enterprising. But the Mandingans, being divided into numerous distinct branches bearing different names, speaking different dialects of the same stock language, and presenting many other points of divergence in their usages, traditions, and historic evolution, necessarily lack the national cohesion of the Hausas, hence more easily yielded to the conquering Fulahs during the first decades of the present century.

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Traditionally, the Mandingans (properly Mandé-nga) came from the east about three hundred years ago; but this can refer only to some comparatively recent local movement, for they have been settled for ages in West Sudan, where they founded, in the thirteenth century, the great empire of Melle (Mali), which, under Mausa ("Emperor") Musa (1311-31), comprised the whole of the Joliba and Gambia basins. In some districts the Mandingans are still known by the name of Maluiké, that is "Mali People," and long after the overthrow of Melle by the Songhay people, the Mausa continued to be venerated by his former Gambian subjects.

In Gambia the Mandingans are still by far the most numerous people. Here the type is distinctly Negro, marked by flat nose sunk at the root with very wide nostrils, prominent cheek bones, and pronounced prognathism. As elsewhere in Senegambia, they have long been broken into numerous petty States, most of which recognise the authority of the English officials at Bathurst. All are excellent husbandmen and enterprising traders, taking an active part in the caravan trade between Sierra Leone and Timbuktu, and extending their commercial expeditions as far as the Lower Niger. The Gambian Mandingans appear to be more zealous Mohammedans than those of other districts, and in 1862 their *bushreens* (Marabouts) laid waste hundreds of pagan settlements along the right bank of the Gambia, compelling the Soninké natives to accept the teachings of Islam.

The English have had factories in Gambia ever since the year 1618, when a chartered company was formed to explore the interior and reach the Niger region by the main stream, which at that time was supposed to be a branch of the Senegal, if not of the Niger itself. The first expeditions, conducted by Richard Thompson (1618)

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and Richard Jobson (1620-21) all ended in disaster. Then followed a century of inaction till the year 1723, when another attempt made under Bartholomew Stibbs to penetrate inland merely resulted in the discovery that the Gambia had no connection either with the Senegal or the Niger. Meanwhile the French had been consolidating their power in the Senegal basin, whence they have gradually extended their dominion round the British Gambian settlements in such a way as to completely prevent all further access to the interior from that direction (see p. 247). The chartered company itself was dissolved in 1821, when Gambia passed under the direct administration of Great Britain, as a part of the West African possessions. Later (1888) it was constituted a separate colony under an Administrator, with Executive and Legislative Council for a territory now reduced to 2700 square miles, a population (1891) of scarcely 50,000, a revenue of little over £31,000, and an export trade in ground nuts, cotton, rice, corn, rubber, hides, and beeswax, estimated at £180,000. As the settlement is no longer capable of expansion, its transfer to the French in lieu of compensation elsewhere has lately been suggested.

Bathurst, capital of the colony (founded 1816), lies on St. Mary's Isle, a sandbank on the south side of the Gambia estuary, separated from the mainland by a tidal channel called Oyster Creek, from the quantity of these bivalves attached to the branches of the fringing mangrove trees. The sandy streets of Bathurst are laid out at right angles; but all the European stores and houses, the Government buildings, barracks, and hospital, face the river front, which enjoys the advantage of the cool sea breeze. The other chief stations or fortified posts are *Bar Point*, opposite Bathurst, *Albreta* on the north side of

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the river, *Fort Saint James* on a neighbouring islet, and *Georgetown* (*Fort Saint George*) on MacCarthy Island some distance up the river.

Sierra Leone: The Timni and Mendi; The Sofas

The coastlands south of Gambia are occupied by numerous rude Negro tribes (see Table, p. 336), the most powerful of which are the Timni (Temne, Timmanee) of Sierra Leone. The Timni, who belong to the same ethnical group as the Susu people dominant in the neighbouring French territory of the Rivières du Sud, are centred chiefly in the low-lying district between the Rokelle and Little Scarcie rivers. Most of them are still pagans, nominally under numerous petty chiefs, but really controlled by the so-called *purra*, a sort of guild or secret society, whose decrees are implicitly obeyed by prince and people alike. The members of the guild, who meet in the woods at midnight to perform their unhallowed rites, are known, like the European freemasons, by certain gestures and passwords handed down by tradition, and such is their power that no stranger can enter Timni territory without their sanction. One of the local chiefs having sold the Sierra Leone peninsula to the English without their permission, the purra long continued to give great trouble to the authorities, and even so recently as 1885 organised a successful attack on some of the outposts within thirty miles of Freetown. Lately, however, a reconciliation appears to have been effected, and at present Freetown draws most of its supplies from the well-tilled fields of the industrious Timni peasantry.

Next in importance to the Timni are the Mendi, who belong to the great Mandingan family, and whose various branches occupy most of the forest districts of the interior

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towards the Mandingan plateau. Mendi (Mendé) appears to be a term of contempt, which they reject, calling themselves Kossu (Kossa), that is "Wild Boars," which better expresses their fierce warlike character. The "Mendi" have always been hostile to the Timni, but for the most part friendly to the English, and in March 1893 the whole nation cordially accepted the British protectorate at a grand gathering of the tribes at Bandasumah on the Sulima river in the presence of Sir Francis Fleming, the colonial governor, and other officials. The meeting was attended by a great number of tribal chiefs with their followers, and is likely to have considerable moral influence in promoting peace and harmony between all the inland populations and the colonial authorities.

Sierra Leone,[1] the "Lion Mountain," so named by the early Portuguese navigators from a fanciful resemblance of its outlines to a crouching lion, served during the greater part of the eighteenth century (1713-87) as a depot for slaves supplied by an English company to the Spanish American plantations. As many as 60,000 were shipped at this place in a single year. But in 1787 the peninsula was acquired by some English philanthropists as a free settlement for emancipated blacks, many of whom were from time to time removed thither from the United States and British North America. After the abolition of the slave trade in 1807 the English Government took possession of the settlement, which thenceforth served as a general depot, or place of refuge for the captives rescued by the British cruisers from the slavers. Thus were brought together members of every tribe along the western seaboard,

[1] Properly *Serra-Leão* (Port.) or *Sierra-Leon* (Span.). The established form Sierra Leone is a barbarism, being half Spanish (Sierra) and half Italian (Leone).

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speaking hundreds of different languages and dialects, and presenting every imaginable shade of the Negro type. Amidst this confusion of tongues and peoples, English, or at least a Negro-English jargon,[1] became the necessary medium of general intercourse amongst the descendants of the captives and of the earlier arrivals from America, who form the bulk of the present "civilised" communities, as opposed to the indigenous local tribes—Timni, Bulams, Gallinas, Limbas, Mampwas, Solimas, Mendi, Gombos, Kussas, besides half-caste Fulahs and Moslem Mandingans continually moving from the interior seawards, and Krumen migrating northwards from Liberia.

These native populations still retain their tribal organisation under subsidised chiefs responsible to the Freetown officials, but the dominant English-speaking classes have been endowed with a measure of self-government, which does not appear to have furthered their social progress. In order to give the principle of equality full scope, they were even conceded the right of serving on juries. The result was, as in the Southern States after the Civil War, that they invariably brought in the verdict against the whites (a mere handful, numbering in 1893 no more than 224 in the whole colony), and the privilege had consequently to be withdrawn. Nevertheless this hybrid community has acquired a certain degree of culture, shown by their skill in the mechanical arts, their general profession of some form of Protestantism, and the regular attendance of the

[1] In 1829 the Moravian Brethren issued a version of the New Testament in this jargon, under the title *Da Njoe Testament translated into the Negro-English language by the missionaries of the Unitas Fratrum;* but the result was a burlesque of the sacred text, so comical and even profane that the volume had to be suppressed.

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children at school.[1] The more proficient scholars even continue their studies in the higher educational establishments, such as the Furah Bay College affiliated to the University of Durham. Some of the Sierra Leonese practise the liberal professions with success, and they have even produced one or two writers who have aspired to literary honours. But the outcome of a century's experiment in civilised ways, under European guidance, tends to confirm the impression that the Negro is not capable of rising to the general level of European culture, and if left to himself will lapse into primeval barbarism.

The colony, which is administered by a Governor with nominated Executive and Legislative Councils, has a revenue (1891) of £90,000, being £1160 in excess of expenditure, and a growing export trade of £478,000 (an increase of £145,000 in five years), consisting chiefly of palm-oil and kernels, ground and kola nuts, rubber, copal, benni seed, and hides.

Freetown, the capital and headquarters of the British forces in West Africa, is the largest seaport between Marocco and Lagos, with a present population of over 30,000. It stands on the north side of the peninsula between Krooboy and Furah bays, with the sheltering headland of Cape Sierra Leone on the west, and the pleasant slopes of the Lion Mountain in the background. These slopes, which are dotted over with numerous suburban groups, such as *Wilberforce*, *Gloucester*, *Regent*, and *Charlotte*, appear to be mostly free from malaria, at least above 400 feet, at which elevation stand the barracks and other Government buildings.

[1] Of a total population (1891) of 75,000, about 41,000 are Protestants, over 7000 Mohammedans, a few hundred Catholics, the rest heathens; school attendance, 10,500.

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Warina, scene of a regrettable collision between the English and French colonial forces on December 23, 1893, when both were engaged in putting down some predatory Sofa hordes, lies on the upper Kammaka river in the Konno district, about due east of Freetown and well within the British frontier. A few days afterwards the great bulk of the marauders were surprised and completely dispersed by the British column at *Bagwema*, a small place on the same river a few miles below Warina. These Sofas are not a tribe, as they have been described by newspaper correspondents, but bands of hirelings and mercenaries from all the surrounding populations, chiefly employed as slave-raiders by Samory, who still holds out against the French on the right bank of the Upper Niger. They are the riff-raff of West Sudan, in their lawless lives somewhat resembling the *reiters* and free-lances of mediæval Europe, a terror alike to friend and foe, a bar to the peaceful settlement of all lands within the range of their devastating expeditions. The Sofas are mostly mounted on wiry little Arab steeds, many being armed with rifles and even drilled by deserters from the French Senegal troops. A Frenchman who recently traversed some of the territory held by them back of Sierra Leone, describes them as pitiless marauders, who waste whole kingdoms, and transform populous districts to gloomy solitudes. At Kumba, the chief market-town at the convergence of several caravan routes, not a living creature was to be seen; everything had been raided by the Sofas, who had sacked, burnt or destroyed what they were unable to take away. Heaps of cinders marked the sites of former homesteads, the ground was strewn with potsherds, rice or other grain trodden under foot, while the travellers' horses moved forward knee deep in ashes. The whole

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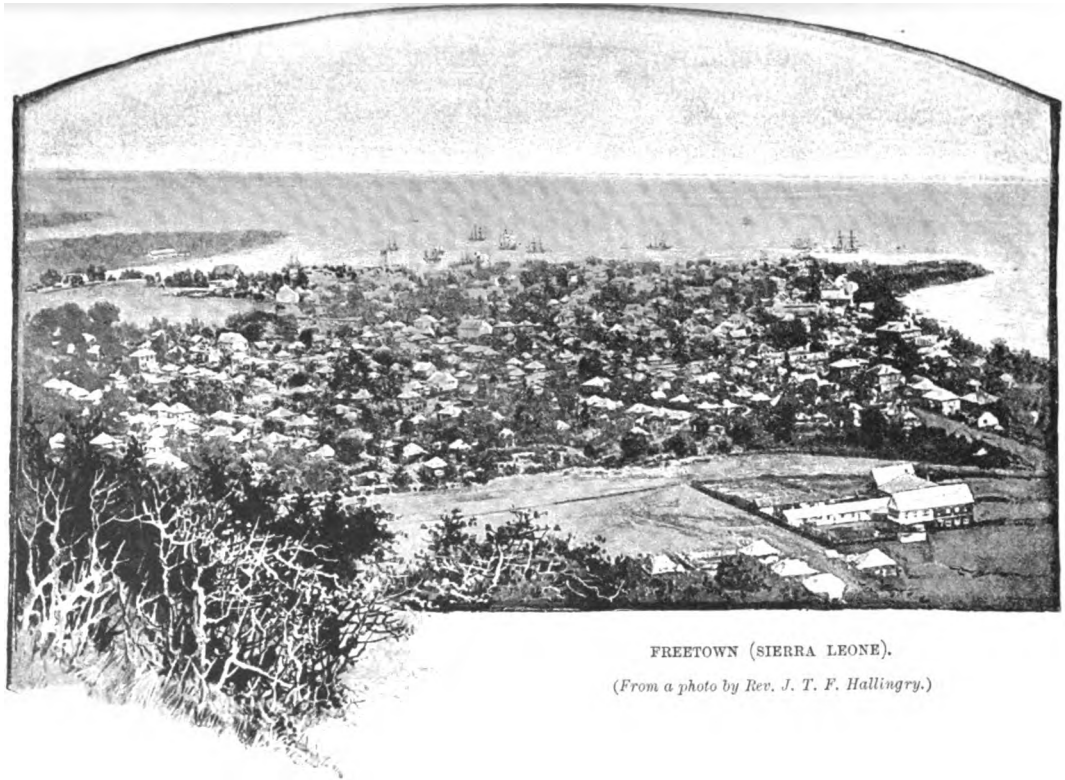

FREETOWN (SIERRA LEONE).

(*From a photo by Rev. J. T. F. Hallingry.*)

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land, lately very rich, prosperous and thickly peopled, was a melancholy picture of utter desolation.

Included in the colony are the Los islets in the extreme north, and the large island of Sherbro 50 miles south of Freetown. Here are several European factories, where palm-oil and palm-nuts ("kernels") are taken in exchange for manufactured goods of all kinds. The retail trade is largely in the hands of petty Italian dealers, who appear to resist the effects of the murderous climate better than most other whites.

Liberia: The Krumen

In Liberia, the "Land of Liberty," the ethnical relations are analogous to those of Sierra Leone, the chief difference being that the civilised element has enjoyed absolute political independence from the first. Hence Liberia affords even a better opportunity than the English colony for ascertaining the degree of culture which the Negro race is capable of acquiring when left entirely to itself. The result is disappointing only to those sentimental philanthropists who hold the doctrine of absolute human equality, for the freedmen left to their own devices in this region have done little more than convert Liberia into a caricature of a civilised State, while themselves barely escaping absorption in the surrounding indigenous populations. The Republic extends from Sierra Leone southwards to the Cavally river, which, according to the Convention of December 1892, forms the boundary towards the French possessions on the Ivory Coast. By the Franco-Liberian treaty of August 1894 the frontier towards French Sudan follows the Cavally river up to a point some 20 miles south of the confluence of the Fododugu-ba (Firedugu-ba) lately

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discovered by Lieut. Marchand. The line is drawn in such a way as to secure for France all the head-streams of the Niger, and everything east of the Cavally, Liberia receiving in return all the Garraway territory west of the Cavally and the various points formerly ceded to France on the Liberian Coast. But the State exercises no jurisdiction over the fierce Pessi, Bussi, and other inland peoples, while its authority is openly defied even by some of the coast tribes. So recently as February 1893 war was raging between the Grebos of Cape Palmas and Rock Town, and when President Cheeseman arrived on the scene with a gunboat and troops to restore order, the expedition was completely routed by the Rock Town people, with the loss of two guns, rifles, military stores, and the Liberian standard. The state of culture prevailing amongst these aborigines was shown by an incident which occurred before the appearance of the Liberian forces. After an undecided battle between the hostile parties, the English steamer *Oil Rivers* reached Cape Palmas, when several war canoes came off to receive some of their friends who happened to be on board. On the stem of the vessel was a "Ju Ju" doll between two brushes to act as a fetish against the Rock Town people; at Rock Town a rival fetish was set up, and here the men presented a savage appearance, being daubed all over with war paint in a hideous fashion.

The Grebos are distant relatives of the Krumen,[1] who occupy most of the coastlands between Capes Mesurado and Palmas, and who are by far the most numerous indigenous people in Liberia. They are physically a fine, vigorous race, who, thanks to their industrious

[1] Either a corruption of the English *Crewmen* ("crew-boys" is a familiar alternative expression), or else from *Kraoh*, the name of one of their tribes near Settra-Kroo below Monrovia.

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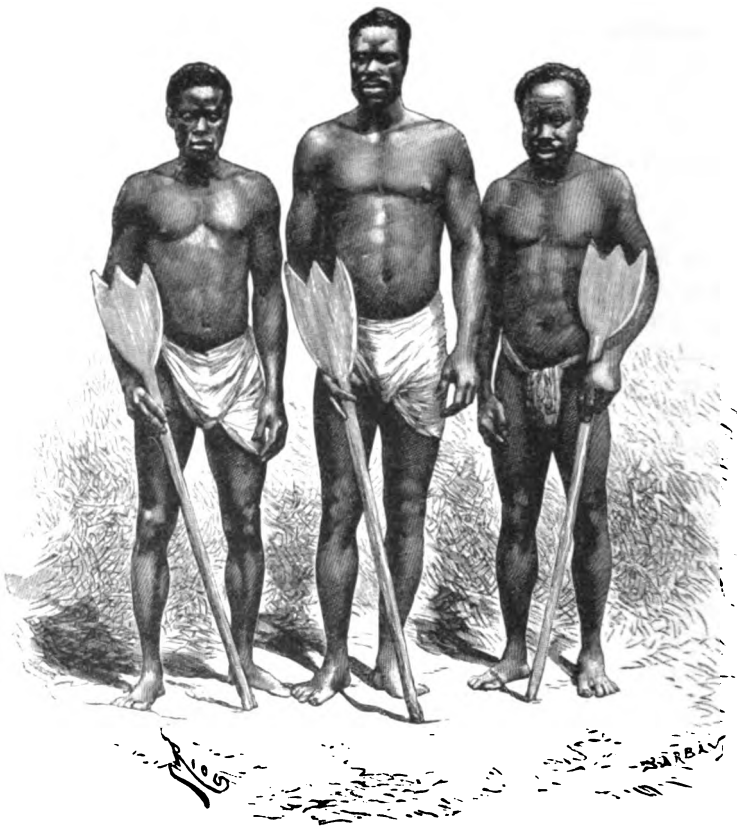
habits, are employed as labourers everywhere along the seaboard, where most of the natives look on the least work as degrading. The vessels trading on this coast



KRUMEN.

engage gangs of Krumen for the rough work, for which the whites are less suited in tropical climates. In fact, but for these sturdy natives trade could scarcely be

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carried on at all between the tropics. On the arrival of a vessel at one of the calling stations a lively scene ensues. "The report of the ship's gun arouses the inhabitants, and hundreds of dark forms rush at once over the bright beach to launch their canoes into the surf and through it. These canoes are very light, being carved out of one piece of wood, gracefully formed like a cigar, tapering at both ends, and are propelled by one or two men squatted upon their heels at the bottom of the canoe, and their well-developed muscular action swiftly urges the graceful skiff towards the steamship. It is a glorious sight to watch the race of at least 200 canoes. The paddlers yell with ecstasy as they approach, and familiarly hail well-known faces on board. Their names are peculiar. 'Nimbly,' 'Tom Bartman,' 'Shilling,' 'Bottle of Beer,' 'Prince of Wales,' 'Gladstone,' 'Flying Gib,' and hundreds of others equally fantastic, conferred according to the fancy of their employers, stick to them throughout life, and their heroic deeds are sung and recited to crowds of evening parties in Kroo country" (Whitford). Headmen organise the gangs, and become responsible for the proper treatment of the "boys" when away from home. On shore or on board palm-oil vessels they engage themselves for one year only, reckoned by the number of moons, for each of which they carefully cut a notch on a piece of stick. Though a hard-working race, they are timid and superstitious, and are naturally born thieves. They come on board ship naked, but leave it laden with everything they have been able to lay hands upon. It is noteworthy that these Negroes, who away from home seem fully capable of civilisation, sink back into their former barbarism on returning to their native land.

Nevertheless some progress has been made, at least

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about the factories and missions, where the people have taken to European clothes, strutting about bare-legged in pea-jackets, tall hats, and umbrellas. Many have even given up their mother tongue,—a member of the widespread Manda family,—and now habitually speak English, which has become the *lingua franca* along the whole seaboard from Sierra Leone to the Cameroons. The question has been asked whether these natives are not exercising more civilising influences on the aborigines than the "American" colonists, who call themselves "whites," and look down with ineffable contempt on "the stinking bush niggers," with whom they scarcely contract any alliances. Hence the "Weegee" (Negro-Americans) "are mainly recruited by fresh arrivals, such as the numerous emancipated Negroes from South Carolina in 1877. Left to themselves they would diminish from year to year, and finally become absorbed by the surrounding aborigines."[1] It is remarkable that they are as liable as Europeans to the marsh fevers prevalent on the low-lying coastlands, from which the indigenous populations are exempt.

The settlement of Liberia originated with the American Colonisation Society, which was formed at Washington in 1816, and in 1820 purchased a tract of land near Cape Montserrado with the object of restoring to their native soil the Negroes who had obtained their freedom after the abolition of slavery. For many years Liberia was what it professed to be, a community of freedmen, who continued, under the direction of the agents of the Association, to till the soil on their own account as they had hitherto done for the planters. Despite troubles with the natives, and even with European States in connection with the question of

[1] Reclus, xii. p. 222.

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customs, the new colony made such progress at first that in 1828 the Colonisation Society issued a charter of government, which developed into the fully constituted Republic of Liberia in 1847, when the agents were withdrawn.

In 1850 the territory was extended to Cape Turner by means of contributions from Lord Ashley and other English philanthropists, and the Republic became the "United States of Liberia" in 1857, when it was joined by the independent colony of Maryland, which had been established on the same coast by the Maryland Colonisation Society. Another settlement founded in 1833-35 by some Pennsylvanian Quakers at Grand Bassa had already been annexed in 1839, and at present Liberia comprises the four counties of Mesurado, Grand Bassa, Sinu, and Maryland, with an area of 15,000 square miles, about 500 miles of coast-line, and an estimated total population of 1,070,000, of which not more than 20,000 constitute the dominant Americo-African element. The revenue averages about £35,000 and expenditure rather less; but there is a public debt of £100,000 contracted in 1871, on which no interest has been paid since 1874. The yearly imports and exports combined scarcely exceed £500,000, the latter consisting chiefly of coffee, palm-oil and kernels, sugar, cocoa, arrow-root, ivory and hides. Most of the trade is with Great Britain, and the currency is English, although accounts are usually kept on the American decimal system. English is also the official language, and foreign relations are at present maintained almost exclusively with Great Britain, although the Constitution (1847) is modelled entirely on that of the United States. The chief centres of urban population are the capital, *Monrovia*, so named from the United States President Monroe (5000);

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Harper, capital of the old colony of Maryland (3000); *Grand Bassa* (*Buchanan*), the chief commercial centre, with the neighbouring *Edina* at the mouth of the St. John river (5000); *Robertsport*, so named in honour of the first President of the Republic (1200). All these are coast towns, lying mostly on fluvial estuaries obstructed by bars, which are formed by the vast quantities of vegetable and mineral detritus brought down by the coast-streams during the summer floods. They are also oppressively hot, and would be uninhabitable but for the alternating sea and land breezes which temper the fiery heats of one of the most sultry climates in the world.

The Ivory Coast Natives: Kingdom of Anno; Jimini

The ethnical conditions on the Ivory Coast were scarcely understood till the recent journey of M. Binger. It was known that there were numerous small groups of pure Negro communities, the Jack-Jacks of English traders, and others at a very low grade of culture, indulging in many absurd and some highly objectionable social usages. Such, for instance, are the drastic measures taken against slaves, who through sheer weariness of existence are often seized with a contagious suicidal mania. Some are stupefied with rum, and then have their brains beaten out with clubs, after which their bodies are left to the beasts and birds of prey. Others, as at Great Buba, are first remonstrated with at a grand palaver, then bound fast to a tree and torn to pieces by the gathering, suddenly transformed to a pack of wild beasts, those taking part in the scene indemnifying the owner for his loss by a general contribution. Even human sacrifices are, or were till recently, regularly

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offered at the autumn yam feasts, and the slaves employed to bury the chief were often immolated on his grave, being thus despatched to continue attendance on him in the after life. Cannibalism also was at one time prevalent; but although Binger heard of a man lately "fined ten ounces of gold for having eaten a slave" (ii. 327), he thinks the practice has long ceased on the Ivory Coast. Here the tribes between Cape Palmas and the Lahu (Bandamma) river call themselves Gleboé (Gléboy), that is, Grebo, and are undoubtedly members of the Kru-Grebo family. From the Lahu eastwards to the Gold Coast, most if not all of the coast people, including the Zemma ("Apollonians") within the British frontier, belong to the widespread Agni race, which forms the transition between the Gan-né aborigines and the Tshi family of the Gold Coast. The Tiassalé of the Lahu basin, the Sanwi of Krinjabo, the people of Grand Bassam and Assini, lastly the bulk of the natives of Anno and of the Comoé Valley as far north as the Jimini district south of Kong, are all of Agni speech, though presenting much diversity in their habits and customs and degrees of culture. Those of Grand Bassam and Assini are a mild, inoffensive people, remarkably docile, and, like their Jack-Jack neighbours, eager traders. The Jack-Jacks, whose real name is Aradian, occupy the narrow strip of sands running between the lagoons and the sea from the Lahu river nearly to Grand Bassam. Their chief stations are *Little Bassam* ("Half Ivory Town") and *Amoqwe* ("Half-Jack"), where they trade on their own account exclusively with the English, though now French subjects, exchanging palm-oil and kernels for European wares to the yearly value of about £450,000. Their language is distinct from Agni, and perhaps related to Grebo; but nearly all speak

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English, or at least the English jargon current along this seaboard.

All these coast peoples are still pagans ("fetishists"), as are also most of the natives of Anno, although the rulers of this State have been Mohammedans since 1820. Their territory, which extends along the right bank of the Comoé as far north as Jimini, is now a French protectorate. The honesty of the Anno people is proverbial, and Binger tells us that along all the routes bales of goods left in charge of the villagers by passing travellers are carefully guarded and always restored to the owner on demand. They are skilful weavers and dyers, and do a brisk trade in *fu*, a bark cloth of excellent quality, which they manufacture from the bark of a tree, apparently of the same species as the rokko of Uganda and the Welle basin. Nevertheless human sacrifices are still offered at the death of all the chiefs and persons of position. The victims are usually the slaves of the departed, whose memory is also honoured with gross orgies, which last till everything eatable and drinkable in the district has been consumed.

In Jimini, which lies between Anno and Kong, there are three ethnical groups, the Kipirri aborigines, who are a branch of the Sienehré (Sienufo) of Tieba's territory; the Diula (Jula) Mandingans, who are the ruling class; and the "Kalo-Diula," that is, the pagan Mandingans, who also occupy the Liguy district north of Ashanti, and whom Binger was surprised to find speaking a Mandingan dialect identical with that of the Vei people on the north coast of Liberia. The Vei were known to have reached the seaboard in comparatively recent times, and this discovery will perhaps enable future explorers to follow the line of their westward migrations from the head-waters of the Volta (Black Volta) to the shores of the Atlantic.

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Jimini lying on the southern frontier of the Kong States, its inhabitants have been in close contact with the cultured Mohammedan Mandingans for about two hundred years, hence are themselves comparatively civilised. They dwell in large roomy houses of rectangular form and straw-thatched; they raise fine crops of cotton and rice, and also occupy themselves with stockbreeding and various industries, especially pottery of good quality. Jimini is altogether a flourishing land, in which Mohammedans and nature-worshippers live peaceably together, and which has a relatively dense population of nearly thirty to the square mile. The prevailing relations so far bear out the remark made by many observers, that inter-tropical Africa improves both in its physical and ethnical conditions from the seaboard inland

The Gold Coast Natives: Ashanti; The Crown Colony

If restricted to West Sudan, the statement may be accepted as a tolerably safe generalisation. It is certainly confirmed by the striking contrasts in the political and social institutions of the plateau region within the Niger bend, and those, till quite recently, prevalent on the Gold and Slave Coasts. Here the bulk of the population forms fundamentally one great ethnical and linguistic division of the Negro race, with three well-marked sub-groups: *Tshi* (*Chi*) and *Ga* of the Gold Coast; *Ewe* of the Slave Coast West (Dahomey and Togoland); *Yoruba* (Yariba) of the Slave Coast East (Yorubaland, Benin, and parts of the Lower Niger and Niger delta). All these peoples, who number collectively many millions, are commonly regarded as typical Negroes; but Major A. B. Ellis, who has carefully studied the ethnography of the Upper Guinea region, shows that the three sub-groups present

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considerable differences in their physical and moral aspects, and that, speaking broadly, a perceptible improvement in general culture is observable in the direction from west to east. "Speaking generally, it may be said that, proceeding from west to east, we find a gradual advance in civilisation; the Tshi-speaking peoples being the least, and the Yoruba-speaking peoples the most, advanced. . . . It appears probable that man would be more retarded in his progress in such a forested and impenetrable country as that of the Gold Coast, than when situated on the comparatively open plains west of the Lower Niger, which are typical of Yoruba country."[1] Nevertheless to the ordinary observer there seems little to choose between the political and social systems of the west and centre before the English conquest of the Ashanti kingdom, Gold Coast, in 1874, and the French conquest of the Dahomey kingdom, Slave Coast, in 1893. The superiority, however, of the eastern Yorubas over their Dahoman neighbours is very marked, and may be attributed partly to the more favourable environment, partly to earlier and more general contact with the comparatively civilised Moslem populations of the interior.

The Gold Coast was reached by the Portuguese in 1471, and was occupied at various points by the French, Portuguese, Dutch, English, and Danes, and for a time also by the Brandenburgers (Prussians). Besides the gold, which is washed in the rudest way by the natives from the alluvial soil, its chief wealth is palm-oil and kernels, both exported in large quantities. Other valuable vegetable products are ground nuts, maize, yams, and rubber, which last now forms an important item of the export trade. The old Danish settlements having been purchased in 1850 and the Dutch in 1872, the whole of

[1] *The Ewe-speaking Peoples of the Slave Coast*, preface.

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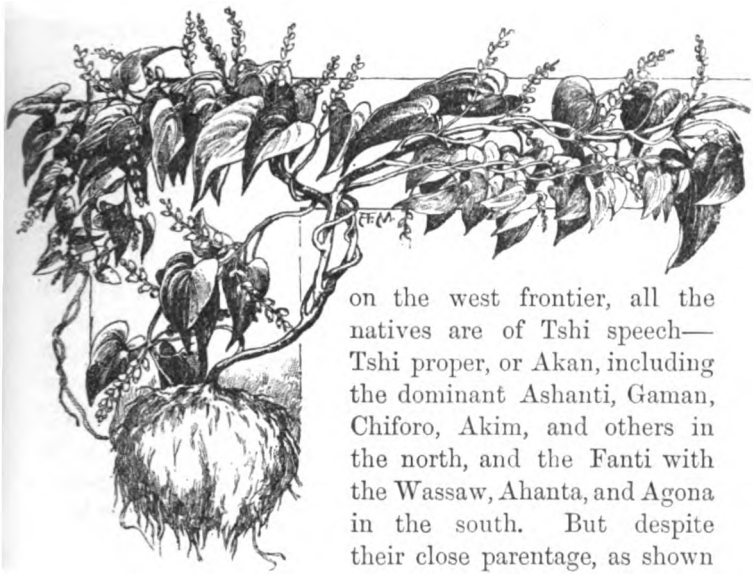
this region, as far inland as 9° N. lat., now lies within the British sphere of influence, though the coast districts alone are effectively occupied. Except the small group of Ga-speaking tribes about Accra and the Lower Volta in the south-east, and a few tribes of Agni speech



YAM.

on the west frontier, all the natives are of Tshi speech—Tshi proper, or Akan, including the dominant Ashanti, Gaman, Chiforo, Akim, and others in the north, and the Fanti with the Wassaw, Ahanta, and Agona in the south. But despite their close parentage, as shown by their physical type, language, usages, and common traditions, the southern Fanti have always been opposed to the northern Ashanti, who acquired the political ascendency under Sai Tutu, founder of the present dynasty, towards the close of the seventeenth century. This warrior's first captains constituted a sort of military aristocracy, who enjoyed the privilege of exemption from capital punishment. The class is still represented by four of the original families, while a second privileged class, possessed of some controlling power, is formed by the

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general assembly of all the other military chiefs. The rest of the population—soldiers, slaves, retainers of the nobles, and conquered tribes—possessed no defined rights, and their lives and property were practically in the hands of the royal and governing classes. Nevertheless their power was limited by established usages and an unwritten code of laws, which, however, were of such a sanguinary nature that the public executioners formed a numerous section of the community, and were constantly employed collecting their victims, leading them for exhibition through the capital, and then hacking them to pieces in presence of the king. The captives could certainly claim immunity by calling out certain words when arrested; but the executioners usually prevented this by falling stealthily on their victims and effectually gagging them with a dagger thrust through both cheeks.

At the king's death many of his personal attendants voluntarily accompanied him on his journey to shadow-land. Others were sacrificed by the hundred, and the young men of the royal household rushed through the streets of the capital shooting or cutting down everybody at pleasure. The annual "customs," that is, the anniversaries of the death of kings and great chiefs, demanded fresh holocausts, so that blood was perpetually flowing, and the "Golgotha" at Kumassi, the royal residence, presented sights of indescribable horror when that place was entered by the British troops in 1874.

The first direct relations of the English with Ashanti, which date only from the year 1816, were occasioned by a war between that State and the Fanti people. A victorious Ashanti army having advanced to the very gates of Cape Coast Castle, some anxiety was felt for the safety of all the British factories in the district. A mission was accordingly sent to Kumassi to arrange terms

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of peace, and to Edward Bowdich, at first secretary and then head of the mission, the public were indebted for the first authentic account of the Ashanti kingdom.[1] At that time the king was said to have at his disposal a force of over 200,000 men. In fact the whole nation was inured to war, and always ready to march at the shortest notice. Nevertheless in the war of 1873-74, which arose out of the transfer of the Dutch factories to the English, this formidable military power was completely shattered, and since the occupation of Kumassi by the British troops blood has ceased to flow in Ashanti.

In 1874, immediately after the Ashanti war, all the British settlements in Upper Guinea were united in a single government under the title of the Colony of the Gold Coast, but with separate administrations for the two divisions of Cape Coast and Lagos. Since then Lagos has been entirely detached, and the Gold Coast now forms one of the four West African Crown Colonies, the three others being Lagos, Gambia, and Sierra Leone. Including the Ashanti protectorate, the colony has an area of 46,000 square miles, with an estimated population of nearly two millions. It is administered by a Governor and nominated Executive and Legislative Councils. Since the restoration of peace, and the extinction of the Ashanti military system, the colony has entered on a period of considerable prosperity, the revenue having advanced from £122,000 in 1887 to £186,000 in 1891, while the expenditure fell from £140,000 to £133,000 in the corresponding years. The imports also rose from £363,000 to £666,000, and the exports (chiefly palm-oil and rubber) from £372,000 to £684,000. Both Christianity and education are spreading, especially amongst the Fanti and other southern tribes, and the Protestant Mission Schools are

[1] E. Bowdich, *Mission from Cape Coast Castle to Ashantee*, 1819.

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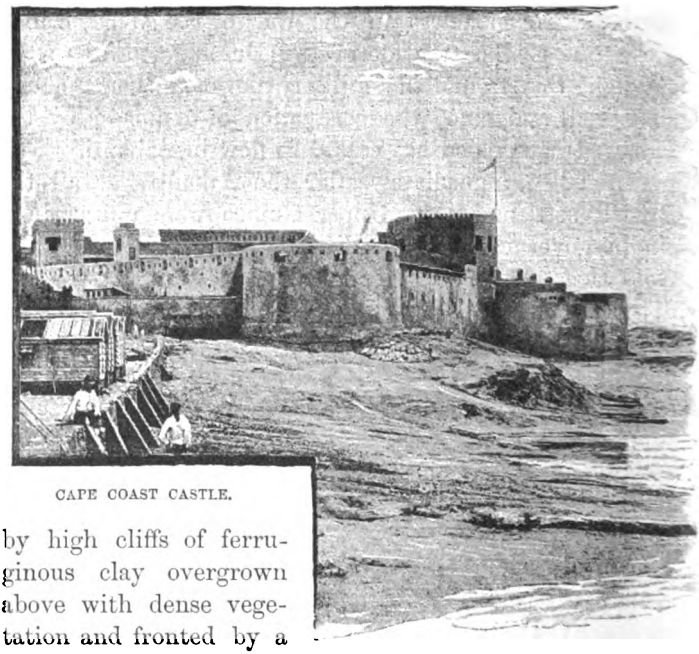
at present attended by over 5000 native children. There are also Government elementary schools at *Cape Coast Castle* and *Accra*, the two largest towns, with respective populations (1891) 25,000 and 20,000.

Cape Coast Castle lies in the Fanti territory, enclosed



CAPE COAST CASTLE.

by high cliffs of ferruginous clay overgrown above with dense vegetation and fronted by a strip of white sandy beach, on which the roaring surf ceaselessly breaks. Three encircling hills are crowned by forts, one of which serves as lighthouse and signal station. The famous old castle, which gives its name to the town, was the Cabo-Corso of the Portuguese, one of the first European settlements in the Guinea waters. From the Portuguese it passed to the Dutch in 1641, and from them to the English in 1665. Owing to its unhealthy position, the

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seat of government was removed in 1876 to the present capital, Accra, which lies some miles farther east, nearly under the meridian of Greenwich. Two miles east of Accra stands the old Danish fort of *Christiansborg*, while the old Dutch settlement of *Elmina* lies about the same distance west of Cape Coast Castle. Elmina, properly St. George della Mina, was, like its neighbour, originally a Portuguese factory, the oldest on the Guinea Coast, dating from 1481, one year before the discovery of America. Captured by De Ruyter in 1637, it remained the capital of the Dutch possessions in Upper Guinea till their transfer to Great Britain in 1872. Here the Baya inlet, running for some distance parallel with the shore, is separated from the sea by a narrow sandy strip terminating in a rocky headland on which stands the Castle of St. George. The lower part of the spit is occupied by Elmina town, which communicates by a stone bridge spanning the Baya with the Garden town, a long street shaded by umbrella trees and flanked by the houses of the resident traders. Under the Dutch, Elmina had an estimated population of nearly 20,000, which is now (1891) reduced to 6000. Kumassi (Coomassie), capital of Ashanti, lies near the source of the west branch of the Prah, nearly due north of Elmina. It is a large place with a reputed population of 70,000 to 100,000, and is well laid out with broad open streets, shaded with trees and flanked by continuous lines of huts. It stands on the brow of a hill rising above marshy ground, and has a circuit of nearly four miles, not including the sacred suburb of Bantama, and the royal quarter of Assafu, which are separated from the city proper by a space of nearly a mile. In the large central square an important market is held every eight days, and here a large trade is done in the cloth of local manufacture, which is of excellent quality.

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The Slave Coast Natives: Dahomey

East of the Tshi and Ga families follow the peoples of Ewe speech, the Ewe-awo, as they call themselves, whose domain extends from the Volta to the somewhat indistinct western frontiers of Yorubaland. But this domain is now politically parcelled out between the Germans, who have occupied the western district of Togoland (p. 253), and the French, who, since the beginning of the year 1893, have been masters of all the rest of the country (p. 246). Till their recent reduction by the French, the Dahomans of the interior stood in the same relation to the Anfueh, Krepe, Awuna, Wheta (Whydah), and the other Ewe-speaking southern groups, that the Ashanti did to their southern neighbours before their reduction by the English. All these full-blood Negro peoples display in early life a degree of intelligence fully equal, if not even superior, to that of ordinary European children. "They acquire knowledge with facility till they arrive at the age of puberty, when the physical nature masters the intellect, and frequently completely deadens it. This peculiarity has been attributed by some physiologists to the early closing of the sutures of the cranium, and it is worthy of note that throughout West Africa it is by no means rare to find skulls without any apparent transverse or longitudinal sutures."[1]

But whatever the cause, the fact can scarcely be

[1] Ellis, *The Ewe-Speaking Peoples*, p. 9. So also M. Binger, who declares emphatically that "le noir est infant, il le restera encore longtemps." This observer attributes the sudden arrest and even decay of the intellectual faculties, after the age of puberty, to the same cause, the early closing of the cranial sutures: "The development of the skull is arrested and prevents the further expansion of the brain" (*Du Niger au Golfe de Guinée*, ii. p. 246).

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questioned; it helps to explain the possibility of the atrocious social and political institutions prevalent in the kingdom of Dahomey down to the occupation of the capital by Colonel Dodds, and the flight of King Behanzin in January 1893. It seems incredible that any but the merest children could be induced to submit to the absurd and drastic penal code, the ghastly "customs," the absence of all protection for life and property, the grinding oppression, the nameless horrors of all kinds, and the universal system of terrorism which was maintained for nearly two hundred years, from the foundation of the Dahoman State by Tacondonu early in the seventeenth century down to the present time. Two-thirds of the whole population had been reduced by debt, arbitrary legal sentences, and other causes to a state of absolute slavery, and were consequently at any moment liable to be seized by the "king's thieves" for the human sacrifices, which were at one time almost more numerous and accompanied by more revolting cannibalistic orgies than in Ashanti. As many as 4000 Whydahs were immolated at the conquest of that State in 1727. About the same time Captain Snelgrave witnessed the butchery of 400 members of the Toffo tribe, whose bodies were, during the night, all eaten by the Dahomans. Governor Hogg of Fort Apollonia was present at the Grand Custom held in honour of King Adanzu II. in 1791, when 500 victims were sacrificed, and M. Lartigue was witness of the hideous orgies accompanying the great massacre for King Gezo in 1860. "The chants are incessant, like the butcheries. The palace square gives out a pestilential odour; forty thousand Negroes station themselves there day and night in the midst of filth. Join to this the exhalations from the blood and the putrefying corpses, and you may well believe that the air one breathes is deadly.

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On the 30th and 31st (of July) the chief mulattoes of Whydah offer their victims, who are paraded three times round the square to the sound of infernal music. At the conclusion of the third round the king advances to the deputation, and while he is complimenting each donor the slaughter is accomplished."[1]

The king of Dahomey maintained a corps of "Amazons" as a bodyguard, who numbered at different times from 2000 to 5000, and who were renowned for their bravery. All the members of this corps passed for wives of the king, though most of them lived in a state of celibacy. They wore a sleeveless blue and white striped cotton blouse of native cloth with short trousers, and carried a rifle with heavy cartridge-box. Duncan describes one of the exercises to which they were subjected for the purpose of inuring them to extreme hardships and suffering: "I was conducted to a space of broken ground, where fourteen days had been occupied in erecting three immense prickly piles of green bush. These three clumps or piles, of a sort of strong briar or thorn, armed with the most dangerous prickles, were placed in line, occupying about 400 yards, and were about 70 feet wide and 8 feet high. Upon examining them I could not persuade myself that any human being without boots or shoes would, under any circumstances, attempt to pass over so dangerous a collection of the most efficiently armed plants I had ever seen. . . . The affair was got up to illustrate the capture of a town. . . . After waiting a short time the Amazons made their appearance at about 200 yards from the first pile, where they halted with shouldered arms. In a few seconds the word of attack was given, and a rush was made towards the pile with a speed beyond conception. In less than a

[1] *Annales de la Propagation de la Foi*, 1860.

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minute the whole body had passed over this immense pile, and had taken the supposed town." [1]

Duncan was the first British traveller to enter *Abomey*, the capital, which lies about 70 miles north of Whydah, and 10 miles north-west of *Kana* (*Kalmina*), the royal summer residence. At the time of his visit (1845) it had a population of scarcely more than 30,000, but with a circuit of from 12 to 15 miles. All buildings belonging to the royal group of huts were enclosed by an earthen wall 15 to 20 feet high, mounted with several iron spikes or prongs, on which were stuck the heads of victims in every stage of decay. *Whydah*, the natural outlet of Abomey, is the largest place on the coast, and here a considerable export trade is carried on in palm-oil of the finest quality. East of Whydah are the stations of *Kotonu* and *Porto Novo*, the occupation of which by the French led to open hostilities in 1890, followed by the war of 1892-93, which resulted in the overthrow of the Dahoman power and the annexation of the whole country by France.

The Natives of Yorubaland: Lagos

The turning-point in the history of the Yoruba people was the dismemberment of their ancient empire by the conquering Mohammedan Fulahs in 1820-21. Before that event their social condition was probably little better than that of their Dahoman neighbours and hereditary foes. Since that event, despite incessant inter-tribal feuds and an almost chronic state of war with Dahomey, the nation has made considerable progress in

[1] *Travels in West Africa*, 1847. A group of these Amazons were brought to France after the war of conquest, and were exhibited in various European capitals during the summer of 1893.

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the industrial arts and in general culture, under Mohammedan and Christian influences, the former penetrating from the north, the latter from the coast. The Fulahs certainly failed to conquer the whole land, but they seized the great northern city of Ilorin, together with all the territory between that point and the Niger. The whole of this region still forms part of the Sultanate of Gando, and its inhabitants have consequently to a large extent accepted the Mohammedan institutions prevalent throughout Central Sudan. On the other hand, many natives of Yorubaland, formerly one of the great hunting-grounds of the dealers in human flesh, were rescued by the British cruisers on the west coast, and some of these, amongst others Samuel Crowther, the first Negro bishop, after receiving a Christian education in Sierra Leone (see p. 361), returned to their native land, where they introduced the new teachings amongst their pagan fellow-tribesmen. These pioneers were followed, on the invitation of their chiefs, by English missionaries, who were almost everywhere well received. Stations have been founded in nearly all the great centres of population, and the labours of the Christian propagandists have been more successful in Yorubaland than in any other part of Sudan.

After the Fulah occupation of Ilorin the empire fell to pieces, and is now divided into a number of petty States—Ilesha, Ife, and Ondo in the east, Mahin and Jebu in the south, and Egba in the west—grouped round about Yoruba proper, that is, the northern and central parts still ruled by the *Alafin*, or direct representative of the old Yoruba dynasty. This potentate resides at *Oyo*, on a head-stream of the Oshun, which has succeeded to the older capitals, *Bohu* and *Katunga*, destroyed during the Fulah wars. Oyo has a reputed population of 70,000

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or 80,000; but it is equalled and even exceeded in size by many other cities in Yorubaland, where the natives have grouped themselves in large walled towns, as a protection against the Mohammedan raiders advancing from the north, and the Dahoman hosts periodically invading the country from the west. Thus have sprung up the great cities of *Ibadan* (150,000), on a branch of the Omi, 30 miles south of Oyo; *Ogbomosho* (60,000), between Oyo and Ilorin; *Ejigbo* (40,000), *Ilobu* (60,000), and *Ikirun* (60,000), following in the order named east from Oyo; *Ilesha* (40,000), *Oshogbo* (60,000), and *Ede* (50,000), in the Ilesha State; *Ipetomodu* (40,000), in Ife; *Ode Ondo*, capital of Ondo; *Jebu Ode* (60,000) and *Epe* (40,000), in the Jebu State; lastly the famous city of *Abeokuta* (200,000 ?), capital of the Egba State, on the Ogun river, due north of Lagos (75,000), the natural outlet of all these teeming populations, and capital of the British possessions on the Slave Coast. Abeokuta, which is a typical Yoruba city, dates from 1825, and owes its origin to the incessant slave-hunting expeditions, especially from Dahomey, compelling the scattered rural communities to take refuge against the common enemy in this rocky stronghold, well named Abeokuta, the "Undercliff." Here was constituted a free confederacy of as many as sixty distinct tribal groups, each retaining the usages, religion, administration, and the very names of their original communes. Thanks to its spirit of solidarity this apparently incoherent aggregate of tribal groups has always successfully resisted the attacks of invading armies, from Ibadan, Dahomey, and other quarters. The period of intertribal and foreign wars has now been permanently closed by the pacification of Yorubaland under British auspices (p. 249) and by the overthrow of the Dahoman power by the French (p. 246).

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With the era of peace thus ushered in, the fine natural qualities of the Yoruba people will for the first time find a favourable field for their full exercise. The Yorubas are not to be judged by the coast tribes, such as the Jebus, who are full-blood Negroes, and whose gross passions have till recently been fostered by contact with the worst side of European culture, hitherto represented on this seaboard mainly by slave-traders and dealers in murderous firearms and still more murderous fire-waters. After the traffic in slaves had been replaced by legitimate commerce, the Jebus found themselves placed in the advantageous position of intermediaries between the inland traders and their European customers. Naturally anxious to retain the profits on the transit of goods passing through their territory, on which they levied heavy tolls, they have for over thirty years resisted the efforts of the British authorities at Lagos to break down this organised system of blackmail, by which the development of Yorubaland has been greatly retarded. Even after their *Awujali* ("King") had signed an agreement in January 1892 to abolish the tolls and open the roads to the interior, the Jebus, relying on the aid of the equally interested Egbas of Abeokuta, again closed the roads and stopped all traffic. The result was a collision with the British forces, in which the Jebu army, 7000 strong, was dispersed, followed by the surrender of the Awujali, who had been personally opposed to the war, and the final settlement of the question on the basis of absolute freedom of trade between Lagos and the whole Yoruba nation (May 1892).

Despite their long-standing political feuds, due to many untoward circumstances, the inland tribes are favourably distinguished by their naturally peaceful disposition, industrious habits, and friendliness towards

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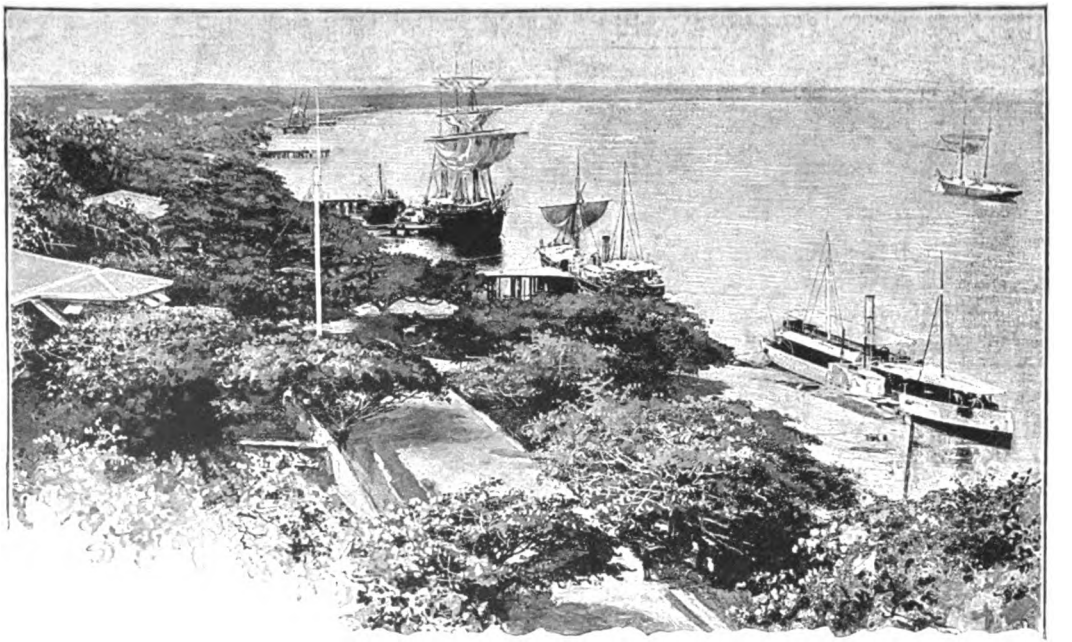

LAGOS.

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strangers. The physical type is Negroid, or at all events of less decided Negro character than that of the other Upper Guinea populations. Their mental superiority is also shown by their greater susceptibility to Moslem and Christian influences, their agricultural skill and marked progress in the mechanical arts. While agriculture is the chief industry, such useful crafts as weaving, dyeing, pottery, tanning, and forging are practised in all the large towns. The Yorubas make their own agricultural implements, extract a palatable wine from the *Raphia vinifera*, and weave a short cotton fabric formerly exported to Brazil, but now threatened even in the home market by the competition of cheaper Manchester goods. As builders they are rivalled in Negroland by the Mangbattus alone, if even by them. The spacious dwellings of the chiefs, often containing forty or fifty rooms, are constructed with rare skill, and tastefully embellished with wood carvings, representing symbolic devices, fabulous animals, and even hunting and warlike scenes. Before the introduction of letters the Yorubas are said to have recorded historic events by a system of knotted strings like the Peruvian quipas. In their language, which is fundamentally connected with those of the Gold Coast and Dahomey, a marked feature is a strong tendency toward monosyllabism. This, however, is not its original condition, as is commonly supposed, but, on the contrary, the outcome of profound phonetic decay, and, as in the Indo-Chinese family, the numerous homophones thus produced are distinguished by a system of intonation in which at least three tones, high, low, and middle, are clearly distinguished. A principle of vocalic harmony analogous to that of the Finno-Tatar languages has also been developed, while the formative elements are partly prefixed, as in Bantu, partly postfixed, as in most

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Sudanese. The Bible and numerous other religious works have been translated into Yoruba, which, as a medium of general intercourse in West Africa, ranks in importance next to Hausa, Fulah, and Mandingan.

Lagos, chief seat of British authority, and commercial centre of the whole region, has in recent times become the most important place on the West African seaboard. It stands, not on the mainland, but at the western extremity of the island of Awani (Kuramo), which is separated from Yoruba by the extensive coast lagoon known as Lake Kradu. The lagoon is here reached by the river Ogun, which is continued seawards by a deep channel about midway between Whydah and the Niger Delta. The river of Lagos, as this channel is called, is over 3 miles wide, and forms the harbour with a bar at its mouth 10 to 12 feet deep, but dangerous during the rainy season. Lagos, or "The Lakes" as it was named by the early Portuguese settlers, was formerly one of the chief centres of the slave trade on the Guinea Coast. The French succeeded the Portuguese, and founded a fort at this place in the time of Louis XIV. But it was afterwards abandoned to the natives till 1851, when it was occupied by the English, who here established a central agency for the suppression of the slave trade. Since then Lagos has attracted to itself all the local traffic, thanks to the extensive system of navigable waterways which ramify in all directions along the coast and far into the interior of Yoruba and Dahomey. Lagos trades directly with Liverpool, and is a port of call for all steamers plying on the West Coast of Africa.

The Region within the Niger Bend: Mossi

In the vast plateau region within the Niger bend, north of Upper Guinea, Binger distinguishes, besides the

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almost universal Mandingan and the already described Agni (p. 373), three great indigenous ethnical and linguistic groups: (1) *Siene-ré* (the Sienufo or Senufo of the Mandingans),[1] numerous if not dominant in the territories of Samory and Tieba, in Pegue, Follona, Jimini, and part of Mossi; (2) *Gurunga*, in Gurunsi and part of Bussa (Bussang); (3) *Mo* or *Morh* of Mossi Land.[2]

Both the Siene-ré and the Gurunga represent the true aboriginal element in West Sudan. They have hitherto been little affected by Mohammedan influences, hence still remain at a low level of culture, retaining their gross fetishist practices, and living in small tribal communities, incapable of offering any effective resistance to the Moslem, Mandingan, Fulah, and Songhay invaders or slave-hunters. In recent years a great part of Gurunsi, that is, the region watered by the head branches of the Volta, and stretching from Mossi southwards to about 10° N. lat., has been wasted by kidnapping Songhay raiders under their chief, Gandiari, and his successors. Year after year the land has been visited by these marauders, who, to secure a score of captives for the Sudanese slave-markets, will often destroy a whole community. It has been the policy of the Moslem princes to arrest the progress of Islam in these last remaining "preserves," for all natives accepting the tenets

[1] Like most primitive peoples, these aborigines give themselves the title of *Siene* (*Sene*), *i.e.* "Men" in a pre-eminent sense, and the Mandingan form *Siene-fo* means people who say *Siene* for *man*. Cf. *La lingua del si*—"Italian"; *Langue d'oc*, etc. Analogous instances occur amongst the Australian tribes, some of whom are named from the words for *yes* or *no* in their respective languages.

[2] Binger gives the forms *Mor'* for the language, and *Mor'o* for the people, of Mo or Mossi, where $r' = rh = gh$; hence also the capital of Mossi Land appears under the double forms *Waghadughu* and *Worhodorho*. The same interchange of sounds has already been noticed in the Berber languages (*Ghat* and *Rhat*, etc., p. 49).

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of the Koran are forthwith exempt from capture. Thus, paradoxical as it may sound, the conversion of heathen Africa to the Mohammedan faith would of itself settle the question of domestic slavery by drying up the sources of supply. Meanwhile the prevalent system, while to a large extent beneficial to the converts, has immensely retarded the progress of the pagan populations. Most of the Siene-ré are still the merest savages, whose bestial orgies on such occasions as weddings and burials are graphically described by Binger. Similar scenes occurred when any large head of game was captured. "Here it is that these blacks show themselves as they really are; their savage instincts are reawakened; on such occasions they resemble beasts rather than human beings. During the preliminary arrangements some daub themselves with the animal's dung, some wash certain parts of their body with its blood; some eagerly devour the raw tripe or the entrails barely passed through the fire. Far into the night, roused from my slumbers, I perceive by the light of the camp fires these black shining faces still gnawing the bones, hacking at the head, broiling the heels, eating, eating, eating, without even taking time to sleep. There are six of them, and by four o'clock in the morning the whole of the inside, with the head, feet, and bones of the wild ox, has disappeared." [1]

M. Binger was unable to penetrate far into Mossi Land, which has never yet been traversed by any European. But he collected many interesting particulars regarding the Mossi State, which, though now decadent, was strong enough to send a successful expedition against Timbuktu in the fourteenth century. The great bulk of the people are still probably pagans, though the Morho Naba ("Mossi King") is himself at least a nominal

[1] *Op. cit.* ii. p. 8.

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Mohammedan. His territory must still be reckoned amongst the few independent native States of Africa; it has never been conquered by any of the Moslem rulers, and although it lies diplomatically within the French sphere of influence, the Naba would hear of no "treaties" or "protectorates," and when the subject was broached he gave M. Binger peremptory orders to quit the country at once.

Mossi lies mainly between 11° to 13° N. and 2° to 5° W., and is conterminous with Gurunsi and Kipirsi on the west, with Yatenga on the north-west, with Jilgodi, Aribinda, and Libtako on the north, with Gurma on the east, and with the Mampursi district of Gurunsi on the south. It is divided into numerous semi-independent Confederate States, whose chiefs are all vassals of the Naba, Sanom. Of the numerous highways or beaten tracks radiating in all directions from the capital, the most frequented and the least exposed to pillage is the "Salt Road," which runs from Waghadughu through Wadiughe, capital of Yatenga, to Bandiagara, capital of Massina, and thence to Sofurula, the great depot of the salt imported from Taudeni in the West Sahara (p. 209). The Arab historian, Ahmed Baba, states that in 1533 the Portuguese of the Gold Coast sent an envoy to the Mossi king, and this potentate was at one time supposed to be no less a personage than the mysterious Prester John, whose "quest" gave rise to so many expeditions during the sixteenth century.

The southern districts traversed by M. Binger present the aspect of a level plain standing at an altitude of about 3000 feet, and without any important running waters. The prevailing formations are quartz, granite, ferruginous and silicious clays; there is no large timber or even scrub, and the land is everywhere under grass or

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crops, such as millet, and white sorghum (*bimbiri*), and rice equal to that of Carolina in the marshy depressions. An excellent tobacco is also grown, but its cultivation, like that of cotton and indigo, is confined to the outskirts of the villages. The so-called Mossi horses, a famous breed of European type, all come from the neighbouring State of Yatenga, where they were introduced at an unknown epoch. The ass, however, is certainly indigenous, and there are also two species of sheep, besides the ordinary humped Sudanese ox.

The inhabitants present no very marked type, such as that of the Wolofs or Hausas; but two classes are distinguished—the aboriginal Mossi substratum, who form the great majority and are nearly all heathens, and the Moslem Mandingan immigrants, who arrived between the years 1754 and 1760 from the Bambara country on the banks of the Niger. These Mandingans generally inhabit the large villages; but they have already become so intermingled with the Mossi proper, that in many districts they can no longer be distinguished from them even by their tattoo markings. The dress of the men differs little from that of ordinary Sudanese Mohammedans; but the women, who occupy a social position of great inferiority, are wretchedly clad, and often overladen with copper, wooden, or even marble armlets and anklets weighing as much as 12 or 13 lbs. the pair, some forged on for life, some removable with blows of the hammer. They never address any one without prostrating themselves and holding the cheeks between the palms of the hands while the elbows rest on the ground.

The arts are in a backward state, being mainly limited to a little coarse weaving, tinkering, and rude copper, iron, and silver work. Trade is scarcely more advanced,

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although markets are held every three days in Waghadughu and most other centres of population. But these markets differ from everyday traffic chiefly in the accessories—shouting, tam-tamming, drinking, and the visits of all the medicine-men from round about, who, if they collect but few cowries, have at least the consolation of getting drunk in the evening. In fact the staple product of Mossi Land are slaves, and with these, valued at from 50,000 to 56,000 cowries, the "balance of trade" is effected with the foreign markets, whence are procured woven goods, salt, kola nuts, and horses. These last cost as much as 250,000 cowries, or three or four slaves, without which commodity, owing to the scarcity of cowries, it would be impossible to effect a purchase. It would take over six months to collect the required number of shells, and when collected scarcely a man could be found competent to count up more than about 20,000 at a sitting. Altogether Mossi Land, despite its great agricultural resources, appears to have entered a period of rapid decline, and although the Naba boasts of being lord paramount of 333 sub-nabas, tribute comes in so irregularly that he depends mostly on presents and offerings, that is, bribes made by litigants to obtain a favourable hearing in the Waghadughu "Courts of Justice." He is now also threatened by Gandiari's successor, Babotu, with his Songhay followers, who, after a sleep of nearly three centuries, are again beginning to make themselves a name in Sudan.

The Kong States

On his expulsion from Mossi, M. Binger returned by a southern route through Salaga and Bonduku, both important markets back of the Gold Coast, to Kong,

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which he had been the first European to enter some months previously. Kong (Pon)[1] is not, as had been supposed, the political capital of a single Sudanese State, but rather the commercial centre of a number of petty Confederate States, all of which have for the last 200 years been ruled by Mohammedan princes of the South Mandingan Wattara family. Nor is Kong a hotbed of Moslem fanaticism, as had also been supposed; but on the contrary, a place distinguished, one might almost say, by its religious indifference, or at all events by its tolerant spirit and wise respect for the religious views of all the surrounding indigenous populations. It was this conciliatory attitude that enabled the Jula-Mandé branch of the Mohammedan Mandingans to establish themselves in the Kong district after the overthrow of the Melle empire (p. 358). Here they have consolidated their power, not only by making religion subservient to their worldly interests, but also by founding free trading stations under Wattara governors at favourable points along the great caravan routes converging from all directions on the city of Kong. M. Binger himself, after explaining away certain rumours regarding his ulterior object, was well received, and Diarawary Wattara, mayor of the place, addressed him in the following characteristic language: "Kong is a city open to everybody, and what you say of its inhabitants is true [he had not been sparing of compliments on their good sense and enlightened spirit]. You may consider the city as the city of your father, and you shall bide here as long as you please. When you have chosen a route, we will give you guides and recommendations; we are known everywhere, and any one going from Kong may go everywhere. Once they know

[1] The *n* is nasal, and *k* interchanges with *p* in the local Mandingan dialects; hence *Kong* or *Pon*.

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you come from here, you will be asked no further question."

Kong stands about 9° N. lat., 6° W. long., 2300 feet above sea-level, on a small western affluent of the Komonoba (Comoé), 265 miles due north of Grand Bassam. It is an open town of rectangular shape divided into seven tribal quarters (*qbaïla*), and is irregularly built, with narrow tortuous streets, flanked by flat-roofed earth houses. In the centre is the great market-place, nearly a third of a mile long, planted with a few umbrageous trees, and round about are seen the curious pyramid-shaped twin minarets of as many as five mosques. Binger estimates the total population at 15,000, nearly all Mohammedans speaking a Mandingan dialect, which differs little from that current in Bambara. They are extremely tolerant, many regarding as identical the three great religions of Moses, Jesus, and Mohammed, because "all lead to the same God." Order is kept by a body of police called *du*, that is, "get in," because it is their duty to see that everybody is at home by nightfall, and this they effect by going about in disguise roaring like wild beasts, or else emitting unearthly sounds from horns. Fairs are held every five days, the chief articles offered for sale being red kola (*Sterculia acuminata*) from Ashanti, white kola (*S. macrocarpa*) from Anno, salt from the Sahara and the Gold Coast, gold dust from the Lobi country north-east of Kong, between the Comoé basin and the Black Volta, cotton stuffs of local manufacture, all kinds of iron utensils, shea butter, horses, guns, ammunition. There are no pack-animals except slaves, who carry loads of from 56 to 68 pounds balanced on their heads, and take 50 and 38 days to reach Bammako on the Niger and Salaga on the Volta respectively.

The dominant Mandingans of this region are essentially

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an industrious, peace-loving people, with an instinctive horror of war, which they hold to be dishonourable except when waged in defence of their territory. They maintain scarcely any professional soldiers, and the Kong States are kept together partly by the good-will of the surrounding native populations, partly by the armed bands which, when needed, are placed at their service by the vassal territories of Komono, Dokhosié, Lobi, and others. The limits of the Confederacy have not been clearly determined; but it comprises, with its dependencies, nearly the whole of the region between Tieba's territory on the west and the Black Volta on the east, and includes the Upper Comoé basin from 8° to 11° N. latitude. It lies entirely within the French sphere; but whether it has been induced to accept the French protectorate by any formal document may be questioned. M. Binger, who speaks somewhat vaguely on the subject, produces no text, nor even the general tenour of any such treaty. His failure in this instance need not be regretted, if he aimed at the exclusion of British trade from the country, as in the case, for instance, of Kommona Gouin, king of Anno, who signed a treaty excluding all but Frenchmen from trading with his people.[1]

Natives of the Chad Basin: Kingdom of Bornu

In the Chad basin the dominant races are the Kanuri, rulers of Bornu, and the Mabas, rulers of Wadai, on which are now dependent Kanem in the north-west and Baghirmi in the south-west (p. 257). The Kanuri are a historical nation of mixed Negro and Tibu descent, but of a much coarser type than most other Negroid Sudanese

[1] "Il ne concéda le droit de venir commercer dans son pays qu'à nos nationaux" (ii. p. 232).

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peoples. In a classical passage Barth remarks on the difference between the mental and physical qualities of the Hausas and Kanuri, "the former lively, spirited, and cheerful, the latter melancholic, dejected, and brutal; the former having in general very pleasant and regular features, and more graceful forms, while the Kanuri, with his broad face, his wide nostrils, and his large bones, makes a far less agreeable impression, especially the women, who are very plain and certainly amongst the ugliest in all Negroland" (ii. p. 164). The contrast is the more surprising that the Hausas themselves call the people of Bornu "Berbere," as if they were sprung from the Hamitic Tuaregs; but the expression has probably reference, not so much to the nation as to the Sefuwa (Kanuri) dynasty, which originated in the second half of the ninth century with Dugu, a member of the Bardoa tribe regarded by some as Berbers, though perhaps more nearly related to the Tedas, or Northern Tibus. In any case, since the time of Dugu the great bulk of the people have been Mohammedans in the enjoyment of complete political autonomy, and Bornu, like the neighbouring State of Baghirmi, certainly presents a remarkable picture of Negroid Sudanese culture. This culture may, in many respects, seem strange and even barbaric. Still it cannot be denied that it is an immense advance on the average standard which has anywhere been reached by full-blood Negro populations such as those of Ashanti, Gurunsi, or Dahomey. The Kanuri people have, at all events, developed a fully organised administration, a royal court and government with all its accompanying dignities and offices, a military system which for Central Africa may be considered fairly well worked out; in a word, a people of industrious habits, tillers of the land, and skilled in many of the mechanical arts, a people that can in no

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sense be called "savage," although still addicted to many practices which must be accounted barbarous. Thus the whole policy of the State is still based on slavery; the supply of captives is kept up by organised expeditions to the pagan lands in the south, while the slave trade, especially across the desert northwards to Fezzan and Tripolis, still flourishes vigorously throughout all the northern States of Central Sudan.

The centre of this trade is *Kuka* (*Kukawa*), which has succeeded the ruined city of *Birni*[1] on the Yaobe, as the capital of Bornu. Kuka, which has an estimated population of 60,000, is disposed in two regular oblongs, each enclosed by a wall 20 feet high, and separated by a level space about a mile wide. The eastern or smaller division, being the official quarter, is half occupied by a labyrinth of courts and dwellings forming the palace of the Mai ("Sultan"), and here also are stationed the regular forces, as well as the slaves and eunuchs attached to the court. Each division is traversed by a broad thoroughfare, from which narrower streets branch right and left. Most of the houses, built of reeds and straw, affect the sugar-loaf form, the more prosperous inhabitants occupying two or three of these surrounded by a common earthen wall. The

[1] Birni, or Qasr-eggomo, lies three days west of Kuka, and dates from the reign of the great emperor Ali Ghajideni (1472-1504). It was the first permanent settlement made in Bornu by the Kanuri, who came as conquering Tibu nomads from Kanem, and consequently for a long time dwelt in camps. Built of baked bricks, it must have been a much finer place than the present capital; but it was captured and destroyed by the Fulahs early in the present century. The ruins of the palace and walls, six miles in circuit, were still visible in Barth's time (iv. p. 24). In Sudan many places bear the name of *Birni, i.e.* "Capital"; hence Qasr-eggomo is often distinguished by the Arabs as *Birni-Kedim*, the "Old Capital." Kuka being exposed to the inundations of Lake Chad, as well as to the attacks of the Budduma pirates, it was intended at the time of Nachtigal's visit (1872-73) to remove the seat of government to Khairwa, a third capital then being built on a sandy ridge two miles farther north.

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Sultan's residence and a few others are constructed of mud with shingle roofs like those of Murzuk.

Kuka is one of the great markets of Central Africa, and its streets are so crowded all day long with cattle, camels, sheep, and poultry, that little room is left for the busy population. Over all the western division, and in the intervening open space, are scattered booths and stalls, where butter, milk, eggs, corn, fruits, and all kinds of wares are exposed for sale. Just beyond the gates is held a horse-fair, at which for £4 may be purchased a saddle-horse of the fine breed for which Bornu is famed throughout Sudan. The great fertility of the land is also shown by the abundance of other commodities, such as sheep, goats, asses, ivory, ostrich feathers, indigo, wheat, leather, skins of lions and leopards, which might here be profitably taken in exchange for such European wares as textiles, cutlery, paper, spices, sugar, were Kuka brought into trading relations with the stations of the Niger Company on the Benue.

During Rohlfs' stay a caravan of 4000 slaves, collected from the surrounding pagan lands, set out from Kuka on the long march across the desert northwards. One detachment after another was despatched on the journey, so that it took a full fortnight to set the whole convoy in motion. It is the wealth derived from this lucrative business that has made Bornu at the present time the most powerful of all the native States in Sudan. Fezzan and Tripolis have long been almost the only outlet for the traffic, so that the abolition of slavery in the Turkish dominions would compel the people of Bornu to turn their attention to agriculture and the industrial arts. The natural resources of the country would then be found amply sufficient to provide it with material to exchange for everything it requires.

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Though constitutional in form, the government of Bornu is as despotic and unfettered as that of Marocco. The Mai is the head of the State, the mirror of all excellence, and infallible in all his decisions. Next in authority is the Digma, a sort of wazir who, in his own person, unites all the ministerial functions, and presides at the meetings of the Council, which comprises the Kokenawa, or military chiefs, the official representatives of the various subject races, and several members of the reigning family. The military forces consist chiefly of the irregular soldiery or following of the several petty sultans or chiefs within the State, and comprise altogether from 25,000 to 30,000, of whom about 2000 are armed with flint muskets. There is also a special bodyguard of horsemen in suits of armour, partly obtained from Egyptian Sudan, partly manufactured in the country. At Kuka have also been cast twenty metal guns, and several companies even wear European uniforms. Instead of pay the men receive free allotments of land.

Besides the dominant Kanuri ("People of Light") there are numerous other ethnical groups, such as the Tuaregs and Tibus in the north, Arabs mainly in the south-east, the Magomi in the centre, who claim kinship with the royal dynasty, the Wanga, Beddé, and others in the east, the piratical Yedinas or Buddumas in the islands of Lake Chad, and in the south the Makari, Marghi, and other branches of the widespread Mosgu family. The great bulk of these are still pagans, and probably not more than one-third of the Mai's subjects have yet accepted the Koran. Hence the greater part of the people are looked upon as legitimate prey by their own Government, and live in constant dread of being raided, captured, and sold into slavery. There are, moreover, numerous petty Moslem principalities standing in various degrees

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of dependence on the central government, besides large districts either the personal property of the Mai, or in possession of members of the royal family.[1] Thus the present political relations are somewhat analogous to those that prevailed in the feudal states of Europe during mediæval times.

Baghirmi; Gaberi

South-east of Bornu, the low-lying sandy and swampy region watered by the Logon-Shari is occupied by the ancient Sultanate of Baghirmi, which is conterminous eastwards with Waday, and which stretches from Lake Chad up the Shari valley southwards to about 9° N. latitude. Here the dominant Baghirmi people form about three-fourths of the whole population, the rest consisting of Kanuri from Bornu, Fulahs, and Arabs, both long settled in the land, Kukas from Lake Fitri, and the kindred Bulalas, who were the ruling people in the fifteenth century. These were succeeded by the Baghirmi, originally a hunting tribe from the Upper Nile region, whose leader, Kenga, founded the present State with its capital, Masenya, apparently about the year 1520. His name still survives in the district of Kenga on the Waday frontier. Towards the close of the sixteenth century the Fulahs, at that time mostly pagans, were expelled from the capital, and Islam proclaimed the State religion. Baghirmi reached its highest splendour during the seventeenth century, after

[1] The present reigning family dates only from the year 1810, when the old Kanuri dynasty became extinct after giving as many as sixty-two or sixty-five rulers to the kingdom of Bornu. It perished during the Fulah wars, and was succeeded by the House of Sheikh Mohammed el-Amîn of Kanem, by whom the Fulahs were expelled and the country saved from imminent ruin. Sheikh Mohammed was succeeded in 1835 by his son Sheikh Omar, who was still reigning at the time of Nachtigal's visit.

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which there followed a long series of dynastic wars and a general state of decadence inviting foreign interference, and resulting in the occupation of the capital by the young Sultan Aly of Waday in 1871. As many as 30,000 of the inhabitants were said to have been removed to Waday on that occasion, and since then Baghirmi appears to have continued in a state of vassalage to Waday.

Although Mizon reached Baghirmi from the Congo basin in 1893, we are still mainly dependent on Barth and Nachtigal for our information regarding all these southern lands. In 1872 Nachtigal made his way from Kuka southwards to the Gaberi country, whose king, Mohammed, gave him a friendly reception, and allowed him to accompany some predatory excursions undertaken to procure slaves and corn in the outlying pagan districts. On these occasions the unfortunate natives sometimes managed to escape from their pursuers by taking refuge in the branches of gigantic bombax trees, which were often large enough to afford shelter to several families. Such citadels could be stormed only at a heavy loss of life, and as the Baghirmi warriors lacked the necessary implements for felling trees, they were fain to rest satisfied with picking off a poor wretch here and there, and barbarously mangling the bodies as they fell from the branches above.

In these southern regions the natives are all of pure Negro type, though the men are usually somewhat better-looking than the women, who do all the hard work. The costume is a mere strip of goat, gazelle, or wild-cat skin wound round the loins, all the resources of the toilet being lavished on the hair, which is dressed and decked in the most fantastic ways. Their arms are the spear and knife, with long narrow shields of buffalo hides.

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They are good horsemen, sitting well on their active little ponies without saddle or stirrups. The belief in witchcraft is still universal, the death of all important persons, and even of favourite horses, being universally attributed to the evil influences of some sorcerer, in the discovery of whom the different tribes have recourse to different devices. His fate is always the same, death often by torture, and the enslavement of all his family.

Waday; Dar Runga

Dr. Nachtigal has also procured much valuable information regarding the Sultanate of Waday, which has acquired considerable importance under the vigorous rule of the late *banga* ("king"), Sheikh Aly. Starting from Kuka in March 1873, this traveller took one month to reach Abeshr (Beshe), which, since the destruction of Wara, has been the capital, and where he was received by Sheikh Aly with unexpected friendliness, no restrictions of any kind being placed on his movements. He was struck especially by the rudeness of the inhabitants, the poverty of the land, and the excellence of the banga's administration. The people are far behind the Kanuri and even the Baghirmi, both in social refinement and in their knowledge of the industrial arts. They are fierce, quarrelsome, and cruel, especially under the influence of melissa (durra beer), the abuse of which is universal. These qualities, combined with a fanatical hatred of strangers, would offer an effective barrier to all intercourse with the outer world, but for the wise government of Sheikh Aly.

Horses are rare and of poor stock, and although cattle, sheep, and goats abound, no milk can be had even in the capital. The chief articles of export are slaves, ivory,

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and ostrich feathers, forwarded to Egypt by two caravan routes, one through Wanyanga, the Kufara and Aujila oases, the other through Dar Fur and the Nile.

Under Sheikh Aly's administration no one in Waday could escape his just debts, nor could any fraud be committed with impunity. Aly ruled with relentless severity; death was the punishment inflicted for most crimes, as a lighter sentence would have no effect on his turbulent subjects.

The history of Waday, as elucidated by Barth and Nachtigal, presents many points of interest connected with the struggle for ascendency between the rival Moslem and pagan populations in Central Sudan. In the seventeenth century the dominant people between Baghirmi and Kordofan were the heathen Tynjurs, who came originally from the Dongola district, and whose language shows them to be related to the Nubians of that region. But about the year 1640 their power had already been broken in Dar Fur and Waday by the Negroid Mohammedan Maba nation, under their Sultan Abd el-Kerim, whose residence was at Madaba near the north-west frontier of Dar Fur. Abd el-Kerim, founder of the new Moslem State, gave it the name of Waday in honour of his grandfather, though the territory is still often called Dar Maba, from the ruling race. His son and successor, Kharut the First, removed the seat of government ten miles farther south to a strong strategical point, where he founded the second capital, Wara, that is, the "the hill-encircled," where Vogel was murdered in 1856.

In establishing this Mohammedan State in the midst of numerous rude and warlike Negro peoples, the Mabas were effectively aided both by the Fulahs and by the Arabs, some of whom had been settled in the country for

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over 500 years. The Arabs are still numerous in Waday, where they form two distinct groups, the *Zoruk* or "dark," and the *Homr* or "red." The latter, who claim unsullied descent from the first settlers, are by far the more numerous, comprising the Mahamîd, Râshid, Khozâm, Hamîde, and other powerful tribes. By their assistance Waday was generally victorious in the interminable wars waged against the surrounding nations of Dar Fur, Bornu, Kanem, and Baghirmi. Twice during the present century a great part of Central and East Sudan was brought under its sway, and although most of the conquests were again lost, Waday remains the most powerful State in the Chad basin, dominant throughout the whole region between Dar Fur and the lake, and suzerain of the vassal States of Kanem, Baghirmi, and Dar Runga. Under Sheikh Aly, who succeeded to the throne in 1858 and in 1863 removed his residence to the present capital, Abeshr, agriculture and the industrial arts were greatly encouraged, and Mohammedan culture widely diffused, so that Arab dress and usages are everywhere prevalent.

Sheikh Aly was succeeded by his son, Mohammed Sherîf, the present ruler of an empire estimated at about 170,000 square miles in extent, with a settled and nomad population of 2,600,000. The Sultan has absolute power, limited only by custom and the precepts of the Koran. The territory directly under his sway is divided into provinces named from the cardinal points and administered by Kamakels (viceroys), who have the power of life and death. The Sultan is assisted by a Fasher ("council"), and by the College of Ulemas, interpreters of the Koranic text. There is a standing army of about 7000, employed chiefly in levying or enforcing tribute from the vassal States.

South of the Bahr es-Salamat, the boundary of Waday

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proper, lies Dar Runga, which appears at present to form an integral part of the Sultanate. The Runga people, who give their name to the land, are Mohammedans; but the kindred Kuti tribe, in the south-west of the country, are still heathens. Traders from Dar Banda and Bornu have settled among them, and from this region comes most of the ivory exported from Waday to Darfur. The rivers of Dar Runga flow westwards to the Shari, and to the same basin belongs the Bahr Kuta, a considerable stream seven days' journey beyond the southern limits of Dar Runga, which was, till recently, supposed to be identical with Schweinfurth's Welle.

Dar Banda; The Welle-Makua Peoples

The Runga and Kuti people apply the term *Banda* collectively to all the tribes dwelling south of their territory and west of the Bahr el-Arab. Dar Banda lies astride of the Congo-Chad water-parting, and its inhabitants also form a transition between the Central Sudanese populations and those of the Welle-Congo basin. Here in fact we enter the cannibal zone, and the Bandas themselves are by their northern neighbours often called *Nyamanyan* (plural of *Nyam Nyam*), a term applied only to tribes believed to be addicted to cannibalism. There can be little doubt that the Bandas are a northern branch of the great nation specially known by this name, but who call themselves A-Zandeh, and whose domain comprises a great part of the Welle basin between the Mombattus (Mangbattu) in the east and south-east, the A-Barambo and A-Babua in the south, and the Banjias in the west.

All these, together with the widespread Momfus in the extreme south-east, the Mabode of the Nepoko valley

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(Aruwimi basin) and innumerable minor groups, occupy the whole of the Welle-Makua basin between the Nile-Congo and Congo-Chad water-parting in the north, and the north-eastern affluents of the Congo in the south. They form a great, but somewhat heterogeneous, division of the Negro family that has been studied chiefly by Schweinfurth and Junker. From the linguistic matter supplied by Junker (vocabularies of ten distinct languages) the Viennese ethnologist, Frederick Müller, has created what he calls the "Equatorial Linguistic Family," including all the above except the Momfu, besides the Krej, Golo, and others in the Upper Nile basin. But Leo Reinisch rightly objects that, in the absence of sentences showing the grammatical structure, it is impossible to determine the true relations of these languages, which he is disposed to connect rather with the southern Bantu than with the Nilotic or other Sudanese groups. "It may be inferred that the Mangbattu and the others have a tolerably close relationship to the Bantu, and may even be remotely akin to it, judging from their tendency to prefix formations."[1] Such prefixes are even seen in the tribal names—A-Zandeh, A-Barambo, A-Babua, etc.—which present a striking analogy to the familiar *Wa-*, *Ba-* of the Bantu peoples.

But in any case this region has been the theatre of tremendous social and political convulsions, inter-tribal warfare, slave-raiding expeditions, peaceful and aggressive migratory movements, and other disturbances involving dislocations and dispersions of tribes in all directions, and many re-formations out of the scattered fragments. Hence great physical differences even within the several groups themselves, though black woolly hair is common to all, and according to Junker forms the only sure

[1] Letter to Junker, *Travels*, iii. p. 279.

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characteristic of the Negro, as black lank hair does of the Mongolic type. This observer was especially struck with the endless gradations of colour, "ranging from the rarely-occurring deep black to a dark iron-grey, dark chocolate or roasted coffee-berry, light cigar, the yellow-brown of dressed leather, *café-au-lait*, and, in exceptional cases, even the fair colour of the Malays. But the intermediate shadings are the commonest, and these may be reproduced with tolerable accuracy by mixtures of sepia, Indian-ink, red and vandyke-brown, and especially with raw or burnt sienna-earth."[1]

Equally varied is the social condition, presenting every shade of transition from the lowest savage and hunting tribes to highly organised native States, with oral records and dynastic genealogies going back several generations. When first brought into contact with Egyptian "civilisation," which for them meant chiefly the periodical visits of Arabo-Nubian slave-hunters, the Mangbattu and Zandeh peoples had both developed powerful empires, the former about the head-waters of the Welle, the latter along the middle course of that river with all its northern affluents. Since then all these States have been completely shattered, partly by domestic broils fomented by the Arabs, partly by the hostile action of these intruders and the Khedival officials. Thus Munza, king of Mangbattuland, at whose court Schweinfurth had been royally entertained, had been slain by the Arabs, his capital razed to the ground, and his possessions distributed amongst his A-Bangba foes, or annexed to the Egyptian Equatorial Province, in the short interval of ten years between Schweinfurth's visit and Junker's expedition. "No vestiges were any longer to be seen of a royal capital; even the large assembly-hall described by Schweinfurth

[1] *Op. cit.* ii. p. 240.

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had vanished, and my glance wandered in vain over the grassy surface in search of some slight traces of this former busy centre of Mangbattu power. Munza himself was shot by a Nubian soldier while seeking shelter in the woods from the northern invaders." [1]

And now another, and, it may be hoped, a better change. Since the withdrawal of the Egyptian garrisons and the abandonment of the stations, caused by the Mahdist revolt, the country has been invaded from the west by various expeditions organised by the Congo Free State. The Belgian leaders of these expeditions, penetrating up the Ubangi into the heart of the Welle lands, have placed steamers on the navigable waters, founded trading and military ports at convenient points, contracted alliances with friendly chiefs, overawed others, and generally brought the whole region within the sphere of European influences. Should they succeed in establishing permanent order, and especially in keeping out the Arab slavers, and suppressing cannibal orgies, there will be no reason to regret the overthrow of the native States, and the extinction of the Mangbattu and Zandeh dynasties.

Despite their outward culture, shown in their well-developed political organisation, their ingenious architecture, and the marked progress they had made in agriculture, pottery, wood-carving, metal-work, and other industrial arts, both the Zandehs and Mangbattus were savages at heart, and amongst the worst anthropophagists in the whole of Africa. On this subject Schweinfurth is more outspoken than Junker; but even this observer speaks of "the extreme cannibalism of the populations dwelling south of the Welle, who even eat members of their own tribe, as well as everybody condemned to death. According to the universal belief, nobody dies a natural

[1] Junker, ii. p. 258.

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death ; but the *mapinge* (oracle) soon discovers the author of the crime, so that amongst the Mangbattus there is an unfailing supply of human flesh. A kinsman of Mambanga's having just died, the oracle denounced as the criminals two young men, one of whom escaped in time to the A-Barambos, while the other fell a victim to the popular superstition. Although the proceedings had taken place in my immediate vicinity, I had no suspicion of the occurrence until informed by Farag Allah that the youth, who wanted to take refuge with me, had been gagged and then led away to execution, after which he would be eaten by the people. In the hope of rescuing him, I at once sent Farag, laden with gifts, to the prince, who promised to bring him round in the morning. I soon learnt, however, that he had been lynched on the way to the place of execution, and that some female slaves were now preparing the porridge for the cannibal feast." [1]

Dar Fur

Eastwards Waday is conterminous with Dar Fur, the somewhat ill-defined frontier line roughly coinciding with 22° E. longitude. As an independent State this region had an area of some 180,000 square miles, and a population of not less than four millions. It stretched at one time for about 500 miles north and south (16°-9° N. lat.), and included not only Dar Fertit in the extreme south, but also the upper course of the Bahr el-Arab, the copper mines of Hofrah en-Nahas, and in the east the district of Foja under 29° E. longitude. After its conquest by the Egyptians in 1875 it fell with the rest of East Sudan in 1884 into the hands of the Mahdi,

[1] *Op. cit.* ii. p. 248.

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whose conquests were rapidly extended westwards to the frontiers of Waday. Since then little information has been received from this region, which, according to some reports, has recovered its independence and re-established its ancient monarchy.

The population consists mainly of two distinct groups, the Arabs, chiefly in the grassy steppes of the north and east, and the Furs, who give their name to the country, in the northern and western agricultural districts. Of the Furs (Furani), who belong to the Nuba family, there are two historical branches—the Tynjurs, who were the first to set up an independent pagan State in Dar Fur and Waday (p. 257), and the kindred Kunjaras, at one time also very powerful. After the dynastic wars of the sixteenth century, the monarchy entered on a period of great prosperity under Soliman Solon towards the beginning of the seventeenth century. By this time Islam had acquired the ascendency, although it was not universally adopted till the next century, when Ahmed Bokr introduced numerous Mohammedan settlers — Fulahs, Kanuri from Bornu and Baghirmi—in order to develop the agricultural and industrial resources of the land.

Although worsted in its wars with Waday, Dar Fur continued to maintain its political independence till 1874, when it was conquered by the notorious slave-dealer, Zebehr Pasha. The last Sultan of the old dynasty fell in a great battle in which his army was destroyed, and in the same year his heir surrendered the land to the Egyptians, by whom it was attached to the administrative province of Bahr el-Ghazal. The new rulers rebuilt the old capital, El Fasher, which had suffered much during the wars. El Fasher, called also Tendelti, is favourably situated on the eastern slope of the Jebel Wanda, a spur

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of the Marrah range, whence an important trade route leads down the Wady Malik to the Nile at Dongola. The ambitious project at one time entertained of constructing a railway along this route was suspended by the Mahdist revolt.

Egyptian Sudan; The Mahdist Revolt

The great religious movement, by which the Khedive has been temporarily deprived of his Sudanese possessions, nearly coincides in point of time with the political movement by which most of the Continent was permanently partitioned amongst a number of European States. But while the latter movement was mainly inspired by international rivalries, and especially by the desire of the German people to found a colonial empire, the former had its origin in a revival of the fanatical spirit of the Mohammedan populations throughout North-East Africa. The revival itself was primarily due to the profound dissatisfaction of the Conservative party at the steady increase of European influences, by which Egypt was being rapidly transformed to a civilised State based on liberal institutions instead of on the old social system of domestic slavery. A death-blow was thus being aimed at the slave trade itself, in the maintenance of which the "Khartumers," that is, the Arabo-Nubian commercial classes, were deeply interested.

On the other hand, the pagan populations—Dinkas, Shilluks, Bari, Makarakas, and other recently reduced or only half-subdued Nilotic Negro peoples—were equally disaffected, owing to the continued oppression of the Khedival Government, or at least of its corrupt and irresponsible representatives in the remote provinces of the empire. The higher European officials—Gordon, Gessi,

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Lupton, Emin—were powerless to thwart the designs of these underlings, who, instead of aiding in the suppression of the slave trade, almost openly co-operated with its Arab and Nubian promoters. Thus the Egyptian Government found itself absolutely helpless in the presence of two almost simultaneous risings of the antagonistic elements, that of the Dinkas representing the pagan interests in the White Nile provinces, and that of the Mohammedan fanatics led by the Mahdi in the Kordofan and Nubian provinces.

Since the time of the ambitious and energetic Viceroy, Mehemet Ali (1806-48), Egypt had steadily advanced the confines of her empire up the Nile Valley southwards in the direction of the lacustrine equatorial plateau, and westwards in the direction of the lacustrine Sudanese depression. The conquest of Nubia, and the foundation of Khartum at the confluence of both Niles (1820-22), prepared the way for the successive annexation of Kordofan and Dar Fur in the west, and of the whole of the Upper Nile basin as far as Lake Albert Nyanza in the south, and even of parts of the Welle basin in the south-west. But the time and means were lacking to consolidate these vast possessions under a firm and just administration when the standard of revolt was raised in 1881 by Mohammed Ahmed, a retired Egyptian official and an active slave-trader, who claimed to be the Mahdi ("Guided"),[1] a sort of Mohammedan Messiah, last of the twelve Imams ("Leaders"), destined to convert all unbelievers, or else to utterly destroy them.

Meantime the authorities were distracted by the Dinka rebellion, partly suppressed by Lupton Bey (1883), and by the military revolt of Arabi Pasha, which led to

[1] The full title is Mahdi Khalifat er-Rasul, "The Guided, the Successor of the Prophet."

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the intervention of England, the bombardment of the Alexandrian forts (July 1882), the occupation of Egypt by a British force, and the defeat of Arabi at the decisive battle of Tel-el-Kebir (13th September 1882). But disaster followed all attempts to crush the Mahdi, who in December 1883 destroyed an Egyptian army of 11,000 men under General Hicks and Ala ed-Din at Kasgil, south of El Obeid, former capital of Kordofan. Then followed the rout of another Egyptian force under Baker Pasha (Col. Valentine Baker) in February 1884, the reduction of the Bahr el-Ghazal Province before the close of the same year, and the capture of Khartum and murder of its heroic de-

EL OBEID.

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fender General Gordon just as a British force was approaching for his rescue (January 1885). The Mahdists now rapidly overran the eastern regions beyond the Nile, capturing and massacring the Egyptian garrisons of Tokar and other places, and advancing under Osman Digna to the very gates of Sawakin on the Red Sea, which was and still is held by a British garrison.

Under the advice of the British Government Egypt now abandoned the whole of its Sudanese and Nubian possessions as far as Wady Halfa, near the frontier of Upper Egypt. Emin Pasha, Governor of the Equatorial Province, being thus left to his own resources, was compelled, in the spring of 1887, to retire from the capital, Lado, to Wadelai, near Lake Albert, whence he ultimately withdrew to the coast with the Stanley Relief Expedition (1889). Since then Lado has been occupied (1892-93) by an expeditionary force despatched by the Congo Free State under Captain Van der Kerchhoven (since dead), up the Welle valley to the Nile basin. But the occupation can only be temporary, as this region lies within the British sphere of influence. Meantime the Emir, Abujirjeh, sent by the Khalifa against the Belgians, is said to have deserted and joined an anti-Mahdist movement which has broken out in Kordofan. "There is reason to believe that the Free State force will attempt to join hands with the anti-Mahdist party, and in this they will receive the hearty support of the warlike natives on the Upper Nile, who cherish the bitterest hatred towards the Mahdists, at whose hands they have been subjected to terrible treatment."[1]

Mohammed Ahmed having died of fatty degeneration of the heart on June 22, 1885, he was succeeded by the Khalifa Abdullah, who also claims to be a Mahdi. But

[1] *Times* correspondent, April 12, 1893.

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the magic of the name is gone, and there are symptoms that the sham theocracy raised on the wreck of the Egyptian power in East Sudan is already hastening to its dissolution. The populations have gained nothing by the change, and in many instances their fate is harder than ever. The Khedival officials have been succeeded by fanatical dervishes, and a general system of corruption has been replaced by a grinding religious despotism, rendered more intolerable by such vexatious ordinances as the command to surrender up all specie and the prohibition of smoking under pain of death. The Mahdi is continually involved in broils with the more powerful local chiefs, revolts are of daily occurrence, and the Dinkas, Shilluks, and some other Nilotic tribes appear to have already recovered their independence. The real rulers of the land are the powerful Arab Nilotic tribes, notorious slave-hunters, who hold Khartum, and have zeribas or fenced trading stations all over the country, whence they terrorise the few remaining native tribes. These would naturally welcome the intervention of any foreign Power that might free them from their oppressors. About three-fifths of the whole population are said to have perished during the ten years from 1882 to 1892 through wars, famines, epidemics, plundering expeditions, and other calamities caused by the Mahdist revolt. "In some districts half the people are dead, in others the loss of life is even greater. Whole tribes have been completely blotted out, and in their places roam the wild beasts, spreading and increasing in fierceness and in numbers, until they bid fair to finish the destruction of the human race; for they enter huts, and women and children are no longer safe."[1]

[1] Father Joseph Ohrwalder, *Ten Years' Captivity in the Mahdi's Camp*, 1882-1892; from the original manuscripts, by Major F. R. Wingate, 1892.

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Under existing circumstances it is impossible to determine the limits and extent of the Mahdi's possessions, which at no time coincided at all points with Egyptian Sudan. Before the revolt this vast domain comprised twelve administrative provinces, with areas, populations, and chief towns as under :—

	Provinces.	Area in Sq. Miles.	Estimated Pop.	Capitals.
Nubia.	Dongola, Khartum	100,000	1,000,000	New Dongola, Khartum.
Red Sea Coastlands.	Sawakin, Massawah	80,000	350,000	Massawah.
White Nile and Upper Nubia.	Kordofan	100,000	300,000	El-Obeid.
	Dar Fur	200,000	1,500,000	El-Fasher.
	Senaar	450,000	7,000,000	Senaar.
	Equatorial Province			Lado.
	Fazocli			Mehemet Ali.
	Bahr el-Ghazal			Shekka.
North Somaliland.	Zeilah, Harrar, Berbera	20,000	250,000	Zeilah, Harrar, Berbera.
	Total . .	950,000	10,400,000	

Since the revolt Sawakin, Zeilah, and Berbera have been occupied by the English, Massawah by the Italians, and the northern districts of Dongola (Lower Nubia) by the Egyptians. Dar Fur is reported to have recovered its independence, while the Equatorial Province and most of Bahr el-Ghazal have lapsed into the savage state prevalent before the Egyptian annexations. The seat of government has been removed from Khartum, the Egyptian capital, with a population (1882) of 70,000, to Omdurman on the opposite (west) side of the White Nile. Here is the natural converging point of nearly all the East Sudanese caravan routes, through which a considerable export trade in gold dust, ostrich feathers, gums, hides, and skins had been developed with Egypt before the war. The present Mahdi is said to be anxious

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to revive this trade, in the hope of obtaining official recognition of his government. But he is in the hands of the fanatical dervishes, who refuse to hold any intercourse with the infidel, that is, with all who reject the authority of the Mahdi. Before the war Khartum [1] was the largest and most flourishing place in the whole of North-East Africa south of Cairo. It was the headquarters of the Christian missionaries, the starting-point of all travellers proceeding by the Nile route to the interior, and the residence of a large European community, consuls, and vice-consuls, many of whom perished with Gordon during the horrors that followed its capture by the Mahdists. The destruction of this growing European colony was itself a calamity; with it disappeared a great centre of refining influences for many millions of rude and barbarous peoples throughout the Nile Valley between Egypt and the equatorial lake region.

Inhabitants: The Sudanese Arabs

The inhabitants of that part of Egyptian Sudan which lies west of the Nile and east of Dar Fur, form two great ethnical groups—*Arabs*, chiefly in Kordofan, and along the banks of the main stream, between the Sobat and Blue Nile confluences; *Negroes*, pure and mixed, in Kordofan, Lower Nubia, and the Upper Nile, with all its western affluents between the Sobat and Lake Albert. Of the Arabs there are three leading groups, all settled in the country for many generations. These are—(1) The *Jalins* (Jahalin), mainly in the Khartum district, but widely diffused as traders and settlers through-

[1] That is, the "Elephant's Trunk," so named from the shape of the tongue of land on which it stood at the converging point of the White and Blue Niles.

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out Senaar, Taka, Kordofan, and even as far south as Kaffa. They are the settled as opposed to the strictly nomad element, and are the most numerous and intelligent of all the Sudanese Arabs. They trace their descent from Abbas, uncle of the Prophet, though many have contracted alliances with the Hadendoah Bejas of the Mareb valley, as shown by the Beja termination *ab* of their tribal names, such as Omarab, Timerab, Aliab, and many others. Some in the Barka district have even adopted the To-Bedawieh (Beja) language, and pass for Hamites. (2) *Kababish*, that is "Goatherds," though also large horse and camel breeders, west of the Nile, between 12° and 15° N., but especially on the steppes bordering the caravan route running from Kordofan to the Nile at Dongola. (3) *Bakkara*, that is "Cowherds," mainly south of the Kababish, along west bank of the Nile and of the Bahr el-Arab, nearly to its source. Both of these pastoral tribes appear to have sprung from one stock, and to have divided the grazing grounds between them, the cowherds taking the grassy southern lands, the goatherds the drier northern tracts overgrown with mimosas, and consequently more suited for goats and camels. But there are "Bakkara" in many parts of Sudan, the term, which does not occur in the Arab national genealogies, being applied collectively to all cattle-breeding tribes. Some of the groups form confederacies loosely bound together for mutual defence, and often powerful enough to set the authorities at defiance. These fanatical tribesmen and inveterate slave-raiders have always been the disturbing element in Sudan, for the Arab "is essentially a hunter, a robber, and a warrior, and, after caring for his cattle, devotes all his energies to slave-hunting and war." [1]

[1] Lieut.-Col. Stewart, *Report on the Sudan for* 1883, p. 8.

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The Nilotic Negro Peoples

Schweinfurth's *Heart of Africa* is still our best authority for the details of the ethnical relations in the zeriba lands west of the Upper Nile. Here dwell a multiplicity of savage tribes, often presenting surprising differences in speech, usages, and even in their physical appearance (of a reddish complexion in the ferruginous districts, elsewhere black or dark-brown), but all alike of distinctly Negro type. The first met by the Egyptians advancing up the White Nile towards the Bahr el-Jebel were the Shilluks, a warlike race of nearly jet black Negroes, whose domain extends along the left bank of the river from below the Sobat confluence northwards to the Jebel Ahmed Aga. The Shilluks are distinguished by their tall stature, splendid physique, and martial bearing. Hence after their reduction large numbers were pressed into the service of the Government, and found useful in enforcing the payment of tribute from the surrounding Arab tribes, by whom they were feared and hated. On the other hand, the Arab raiders carried off or destroyed many thousands, while others were swept away by the constant local wars, famine, and epidemics. Thus this great and warlike nation, which appears to be of the same stock as the historical Funj people of Senaar, were reduced to such a state of impotence, that the small station of Fashoda, founded in the heart of their territory after the conquest, was sufficient to keep them in awe.

At one time the Shilluks must have numbered over a million, or about half as many as their still more powerful *Dinka* (Denka) neighbours, whose domain lies partly on the opposite side of the White Nile and partly about

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the lower course, the Bahr el-Jebel. The Dinkas, with the kindred Nuers, are undoubtedly the largest of all the Nilotic Negro nations; Beltrami mentions over forty subdivisions, while the minor groups are past counting. They are great stock-breeders, and besides sheep and goats they possess large herds of perhaps the very finest breed of cattle in all Africa. The Dinka ox, which is of the Zebu humped type, is noted for its great size and huge horns; but vast numbers have perished during the recent troubles, which have transformed many thickly-peopled agricultural districts into solitudes tenanted chiefly by wild beasts. Schweinfurth wrote in 1870 that in some districts clusters of hamlets, or rather a continuous village, stretched along the west bank of the White Nile, interrupted here and there only by intervals of from 500 to 1000 paces. Now the land has mostly reverted to a state of nature, where the former cultivated tracts can be distinguished only by a denser tangle of interlaced wild and economic plants.

Beyond the Dinkas follow southwards, that is, along the main stream, the Mundari, Bari (south from Lado and the now-abandoned station of Gondokoro), the Madi (about the stations of Dufli and Faloro), and the Luri (between Wadalai and Lake Albert), and south-westwards, that is, along the Upper Nile affluents, the Bongos (Dors), the Mittus, Makarakas (Idio), Mundus, and many others.

One of the most interesting of these groups is certainly the brick-red Bongos, whose territory lies between 8° and 6° N. latitude, comprising the middle course of most of the streams flowing to the Bahr el-Ghazal. They live partly by cattle-breeding, fishing and hunting, but mainly on the produce of the soil. Of all these tribes the Bongos bestow the greatest care on the

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construction of their houses, which, although invariably cone-shaped, present much diversity of detail. On the apex of the conical roof is affixed a straw seat, which serves as a look-out against marauders lurking in the surrounding corn-fields. To each hut is also attached a

A MITTU WOMAN.

granary raised on high stakes to preserve the harvest against damp, rats, and termites.

The Bongos have an earthy red-brown complexion, like that of the neighbouring Mittu, Zandeh, and Krej tribes; by contrast the Dinkas, Nuers, Shilluks, and other dark peoples seem to be of a deep black colour. Physically also the red and black groups differ considerably, the former being mostly of smaller size, with greater muscular development, much longer thigh-bones

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and rounder head. The hair is short, crisp and woolly, but little attention is paid to its decoration, though both sexes display a great love for finery, such as glass-beads worn in strings round the neck. The Bongo women add a copper nail or ring inserted in the upper lip, while the lower lip is often expanded to five or six times its natural size by the wooden disk or plug common to so many African tribes. These ornaments are supplemented by a few short straws passed through the nostrils, and a copper ring is inserted in the perforated cartilage of the nose, as in the case of buffaloes and oxen to make them more manageable. The upper arm, chest, and stomach are also tattooed, so that the outward appearance of a Bongo woman is far from corresponding to our ideas of loveliness. The adults become so excessively corpulent that the contrast between them and the thin sinewy bodies of the men excites the greatest astonishment in strangers. Even in death these contrasts are preserved, for the men are buried with their heads turned to the north, and the women to the south.

The Bari of the Bahr el-Jebel differ as much from the Bongos as they do from their western neighbours, the Makarakas, who are a branch of the Niam-Niam race long settled in the Upper Nile basin. Junker draws a comparative picture of the Bari and Makarakas greatly to the advantage of the latter. The Makarakas are generally "of smaller size, but well proportioned, with a lighter complexion, inclining to a ruddy brown, and instead of the long lean extremities of the Bari they display a well-developed muscular system. Thick-set athletic frames are not rare, while their elastic step contrasts favourably with the slouching gait of the Bari. They are also of more cleanly habits, keeping even the finger-nails tidy.

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BONGO VILLAGE.

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The expression is often more pleasant, although highly prominent cheek-bones and broad nose impart a certain savagery to the features. The moderately large mouth shows less tumid lips; the dark and very large eye has a piercing glance, but the forehead is low, while the jet-black woolly hair hangs in little tufts or else carefully-plaited tresses down the sides and back of the head. For the most part the women are comely and well proportioned; of all those I had yet seen they produced the most pleasing impression. I was struck by their large eyes, small mouth, hands and feet, frank, child-like expression." [1]

The Makarakas also excel in the moral qualities. They are industrious, trustworthy, patient under great privations, excellent caravan porters, and faithful to their employers if treated with ordinary kindness and justice. They greatly distinguished themselves on several occasions in the service of the Khedival officials, Gordon and Gessi, and Junker himself found them the most loyal and efficient of all his carriers in Negroland. Whenever this region comes to be reorganised under an enlightened European administration, the Makarakas will certainly prove the most promising element for its future prosperity.

[1] *Travels*, i. p. 245.

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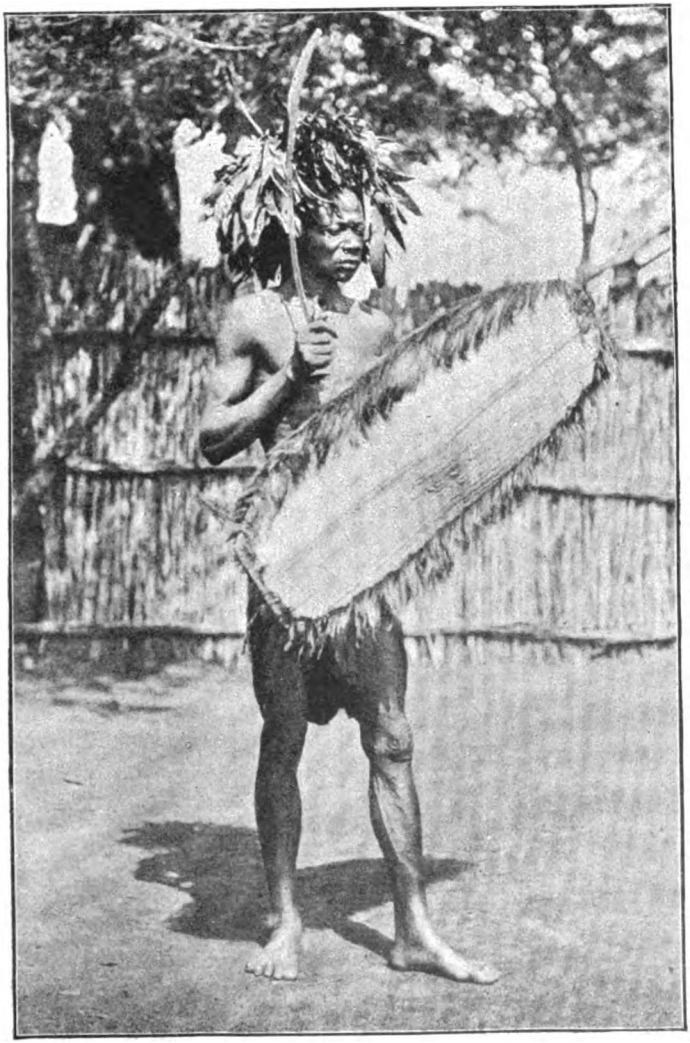

MAKARAKA WARRIOR.

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CHAPTER VII

ITALIAN NORTH-EAST AFRICA

Preliminary Remarks — The Colony of Eritrea — Massowa, Brava, Magdóshu—Political Relations of Eritrea—Extent and Prospects of the Colony—History and Exploration of Ethiopia and Somaliland—Physical Features of Abyssinia and Gallaland—Volcanic Agencies—Physical Features of Somaliland—Mineral Resources: The South Ethiopian Goldfields—Hydrographic Systems: The Blue Nile; Lake Tsana—The Atbara, Takazzé, and Mareb Rivers — The Coast Streams: The Hawash — The Somali Rivers: The Juba and Webi-Shebeli—Climate, Flora and Fauna—Natural Resources of Ethiopia and Somaliland—Inhabitants of Ethiopia—Table of the Ethiopian Populations—The Somali Race—The Galla Race—The Afar and Agao Hamites—The Abyssinian and Arab Semites—Topography of Ethiopia—Adua, Gundet, Keren, Gondar—Debra Tabor, Korata, Sokota, Lalibala—Magdala, Basso, Ankober, Liekà, Bonga—Trade Routes: Harar—The British Somali Coast Protectorate—The Island of Sokotra—The French Colony of Obok.

Preliminary Remarks

In the first rough partition of the African Continent the smallest, and, apart from prospective developments, the least valuable slice fell to the sphere of Italy. It comprised little more than the hot sandy district of Massowa (Massawa), with the adjacent coralline Dahlak Archipelago. But Massowa, by far the most commodious harbour on the west side of the Red Sea, lies at the very

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nearest point to the Abyssinian tableland, and consequently gives its possessors absolute control over the most convenient seaward outlet for the produce of the Ethiopian Highlands. For ages the great natural resources of these uplands have remained dormant, and their foreign trade undeveloped, largely because Massowa has been held by Mohammedan Arabs, Turks or Egyptians, hostile to the Christian populations of Abyssinia. In their hands this famous seaport has served, not as a means of access to the interior but rather as a barrier by which the inland peoples have been pent up in their mountain fortresses, and prevented from entering into commercial relations with the outer world.

The Italians also felt perhaps instinctively that they would perforce have to play a similar dog-in-the-manger part, if they remained satisfied with the mere possession of this place, without attempting to utilise its great natural advantages for their own benefit and that of the surrounding populations. In any case they soon discovered that it would be impossible to remain there at all without opening communications with the more productive inland districts, whence the necessary supplies might be drawn for their establishment at Massowa. Thus it came about that, in the brief interval since the Italian flag was first hoisted at the stations of Beilul and Gabbi (January 2, 1885), the settlement has rapidly expanded into the spacious colony of **Eritrea**, which with its Somaliland dependencies, Ethiopian hinterland, and Abyssinian "protectorate," comprises a vast region, over 300,000 square miles in extent, with a population approximately estimated at nearly six millions.

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The Colony of Eritrea

On the Red Sea the Italian possessions extend from Cape Kasar (18° 2′ N. latitude) for about 550 miles southwards to the somewhat ill-defined southern limit of the Sultanate of Raheita, where they are interrupted by the French territory of Obok on Tajura Bay. Beyond Obok and the north coast of Somaliland, which is British, the Italian protectorate comprises the whole of the East Somali coastlands on the Indian Ocean, stretching from Cape Bowen (Bedouin) for about 560 miles to the mouth of the Juba river at the Equator, which separates it from the domain lately administered by the Imperial British East Africa Company.

The Somali Sultan of Obbia (Oppia), between 5° 33′ and 2° 30′ N. latitude, had accepted the Italian protectorate in February 1889, and his example was followed in April of the same year by the ruler of the Mijertin Somalis, whose territory extends from 5° 33′ to 8° 3′ N. latitude. Certain points on this seaboard, such as Barawa (Brava), Magdoshu and Warsheikh, had belonged to the Sultan of Zanzibar, and had consequently passed with the remainder of his territory under the British protectorate. But by the Anglo-Italian Agreement of March 1891 all the seaboard north of the Juba was ceded to Italy. By the same agreement the frontiers between the British and the Italian spheres of influence in the interior were made to coincide with the course of the Juba from its mouth to 6° N. latitude. From that point the line follows the sixth parallel westwards to 35° E. longitude, which meridian forms the boundary, thence northwards to the neighbourhood of Kassala, whence it runs in an irregular line north-eastwards to Cape Kasar below Suakin. The

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Italian hinterland and sphere of influence thus includes most of Somaliland and the whole of the Ethiopian highlands, that is to say, Kaffa and Galla lands in the south and Abyssinia in the north.

But of this vast domain that section alone is directly or indirectly administered by Italy which lies on the Red Sea coast, north of Tajura Bay and east of the Abyssinian escarpments. It comprises :—

1. The protectorate of the Habab, Marea, and Beni-Amer peoples, extending from the coast inland to the Khor Baraka, and from Cape Kasar for seventy miles southwards to the mouth of the Khor Lebka. This district, flat and sandy on the seaboard, is hilly in the interior, and may be regarded as a northern extension of the Abyssinian uplands traversed by the Khors (rivers or wadys), Baraka, Anseba, Lebka, and Falkat.

2. The Massowa district, reaching from the Khor Lebka to Hawakil Bay, and inland to the Abyssinian escarpments. It includes, with the recent extensions, the territories of the Bogos and Mensa peoples, Asmara on the plateau, with the northern section of the ancient Abyssinian kingdom of Tigré; the north-eastern slopes descending to Massowa and Annesley (Adulis) Bay, with the neighbouring Dahlak Archipelago; coast-line ninety-four miles. Here the chief streams are the Anseba and the Mareb, besides the Wakiro, Shillikit, and a few other torrents, flooded only during the freshets.

3. The protectorate of the Aussa and Danâkil (Afar) nations, a vast triangular space stretching from Hawakil Bay for 112 miles along the coast southwards to the Strait of Bab el-Mandeb. Westwards this region is flanked by the precipitous slopes of the Abyssinian plateau, and merges southwards in the sandy plains of Assab and Obok. The Sultan of Aussa, paramount lord

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of all the Danâkil tribes, fully recognises the Italian protectorate; but the whole territory, partly level, partly hilly, is almost destitute of running waters, and may be described as mainly steppe, scrubby, or absolute desert.

4. The Assab district, extending from the Beheta inlet for fifty miles along the coast to the Raheita Sultanate at Cape Sintiar (Sinthiah); mainly a barren strip of coastlands, including the little Beilul and Gabbi stations; with no clearly-defined limits towards the interior, and noteworthy chiefly as the first piece of land occupied by Italy in Africa.[1]

5. Protectorate of the Raheita Sultanate between Cape Sintiar and the French territory of Obok; about twelve miles of arid coast-line.

By various decrees between January 1, 1890, and January 25, 1891, all these possessions were gradually consolidated and constituted as the **Colony of Eritrea** (so named from the *Erythræum Mare* or Red Sea of the Ancients), with a separate administration and the control of its own finance. The supreme command is entrusted to the Civil and Military Governor, Commander of the Land and Sea Forces, aided by three councillors nominated by the King, one for internal affairs, one for finance and public works, one for trade and agriculture. In 1891 the revenue was £52,000, derived mostly from Customs; the expenditure £118,000, the deficit, which is normal, being met by contributions and reimbursements by various branches of the Home Government to the Colonial Civil Service. Nearly the whole of the commercial movement is centred in Massowa, the land and sea imports of which amounted in 1890 to £600,000;

[1] Founded originally in 1865 by a private trading company, Assab was formally occupied by Italy in 1880, consequently four years prior to the "scramble."

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shipping—2442 vessels (1535 Italian) of 216,000 tons entered, 2519 (1585 Italian) of 220,000 tons cleared. The postal service is efficiently organised, and Assab is connected by a telegraph line of 315 miles with Massowa, and by a line of sixty miles with the British island of Perim in the Strait of Bab el-Mandeb. There is a railway running from Massowa in the direction of the plateau, but at present terminating at Saati (18 miles), and another on the Decauville system running from the Abd el-Kader peninsula on the north side of Massowa harbour southwards to the important station of Arkito (6 miles).

Massowa, Brava, Magdoshu

Massowa itself was not actually occupied by the Italians till February 1885; some of the Egyptian garrison even remained in the place till December of the same year, when the Khedival flag was finally lowered, and the Egyptian troops withdrawn. But in June of the previous year a treaty had been signed by Admiral Hewett, representing the British Government, Mason Bey representing the Khedive, and John, Emperor of Ethiopia, in virtue of which Massowa was practically made a free port under British protection. The Emperor had aimed at the actual annexation of Massowa, to which Abyssinia had always laid claim as the natural seaward outlet for the produce of the country. But seeing that he would be unable to hold the place against any hostile power possessing a single gunboat, he professed himself satisfied with the arrangement, which in fact still persists, Italy having undertaken to carry out England's obligations under the Hewett treaty. Nevertheless a duty of 8 per cent. is levied on exports and

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imports for revenue purposes, Italian goods being exempt from all imposts.

Massowa, which stands on a coralline island over half a mile long, is the official capital of all the Italian possessions in North-East Africa, and has a present population of 16,000, including 1300 Europeans and about 100 banians or Hindu traders. The harbour is well sheltered from the east winds by the Dahlak Archipelago, and is accessible to vessels of considerable size. The approaches are commanded by several detached forts, and the island is connected by an embankment with the islet of Taulud, which is itself joined to the mainland by a mole about a mile long. Over this mole is carried the conduit by which the cisterns of Massowa are now supplied with potable water from the neighbouring heights of M'Kulu. Thanks to its position among the hills, at an elevation of over 100 feet above the surrounding plain, M'Kulu enjoys a cooler climate than Massowa, and has become a pleasant health resort for the Europeans of that place, from which it is distant about four miles on the route to Saati and Asmara.

Of the Sultan of Zanzibar's outlying stations on the East Somali seaboard taken over by Italy, and now administered by Eritrea, the most important are *Brava* (*Barawa*) and *Magdoshu*,[1] both on the strip of sands north of the Juba, enclosed between the lower Webi-

[1] Magdoshu would appear to be the one geographical name that it would be impossible to spell wrong. So numerous are the variants that whatever form be adopted, there is sure to be some precedent for its use. Barbosa writes *Magadoxo*, the Portuguese *x* representing the Arabic sound, which is expressed in English by *sh*. Amongst the more extravagant spellings are *Macadesso*, *Magadazo*, *Madisha*, *Mukhdisho*, *Mogadixo*, *Moguedouchou*, etc. The true form, which never occurs, appears to be *Megaad el-Shata* ("Harbour of the Sheep"), in reference to a local legend. According to Grandidier, *Madagascar* is one of the forms of this word, applied by a misunderstanding to the great southern island.

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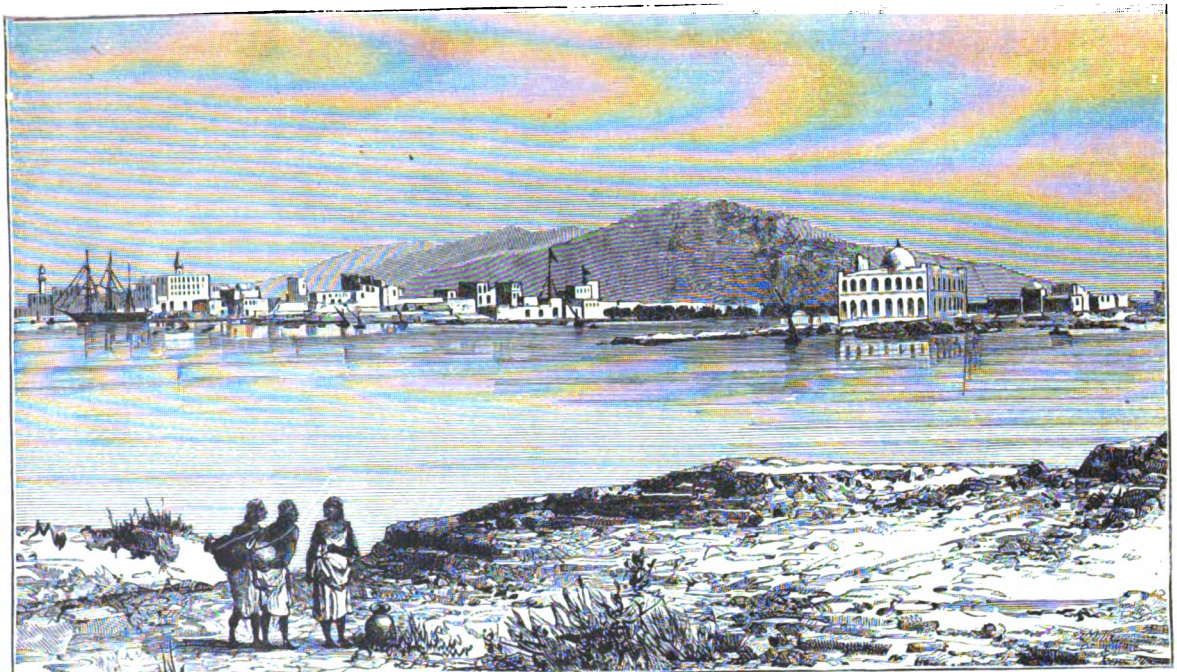

MASSOWA.

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Shebeli and the sea. During the flourishing period of the Zang empire, these were famous seaports, which, like Mombasa, Quiloa, and other southern marts, had developed commercial relations with all the lands encircling the Indian Ocean. Both are described by Barbosa (*op. cit.*), who tells us that Brava was "well walled and built of good houses of stone, . . . a place of trade which has already been destroyed by the Portuguese [about 1510], with great slaughter of the inhabitants, of whom many were made captives, and great riches in gold, silver, and other merchandise were taken here." From this blow Brava never quite recovered; hence its name dropped out of history, while that of Magdoshu, some miles farther north, has continued to be spoken of as a great emporium almost down to the present time. Of it, Barbosa writes that it is "a large and very beautiful town, belonging to the Moors, and it has a king over it, and is a place of great trade. Ships come here from the kingdom of Cambay and from Aden with stuffs of all sorts, and with other merchandise of all kinds, and with spices. And they carry away from there much gold, ivory, beeswax, and other things upon which they make a profit. In this town there is plenty of meat, wheat, barley, and horses, and much fruit; it is a very rich place."

Not so now, for both Brava and Magdoshu are utterly decayed, and almost abandoned by their new masters, who have gone farther north, and selected (1893) *El Adhale*, re-named *Itala*, as the centre of administration on this coast.

Political Relations of Eritrea

At the time of the general partition, surprise was expressed at the award made to Italy of territory on the

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Abyssinian seaboard. But there was a certain fitness in the concession, for Italy had already established trading and even political relations with that part of the coast, while Antinori, Cecchi, Chiarini, Massaja, and several other Italian travellers had greatly distinguished themselves by their explorations in the southern regions of Shoa, Gojam, and Gallaland.

The direct relations of Italy with North-East Africa date from the year 1870, when the Government was induced to purchase Assab Bay from the Sultan of Raheita on behalf of the Rubattino Company, which transferred the territory to the Italian Government in 1881, when the Sultan himself placed his principality under the protection of Italy. Then came the Mahdist revolt, and the withdrawal of the Egyptian garrisons, followed by the proclamation of the Italian protectorate over the Red Sea coastlands, made at the instance of Great Britain to prevent Massowa from falling into the hands of the Mahdi or of some unfriendly European Power.

The occupation of Saati in 1886, and the other encroachments of the Italians along the caravan routes between Abyssinia and the coast, brought them into collision with the Emperor John, who had been recognised by the British as the *Negus Negust* (" King of Kings "), or Lord Paramount of Ethiopia, after the death of Theodore at Magdala in 1868. Ras Alula, Abyssinian Governor of Hamasen, marched in January 1887 on Saati, and after a first repulse attacked and annihilated at Dogali a body of 500 men sent from Massowa to strengthen the outposts. But he failed to capture Saati, which, after a temporary abandonment, was reoccupied in 1888, and at the same time permanently connected with Massowa by a railway, which is to be eventually continued to the plateau.

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Having failed on a second occasion to take Saati, King John moved southwards to punish some rebel chiefs. But being unable to make head against Menelek, king of Shoa, who had formed an alliance with the Italians, John withdrew to the north, and turned his arms against the Mahdists, by whom he was defeated and slain on the Galabat frontier in March 1889.

Now came Menelek's long-hoped-for opportunity. Encouraged and aided by his Italian allies, he seized the Imperial sceptre, and after the submission of the King of Gojam and of the Amhara chiefs, he was crowned Emperor of Ethiopia at Entoto in November 1889. But before his position was thus secured, Menelek had been induced to sign a "Treaty of Friendship and Commerce" with Italy in May 1889, in which it was stipulated that "the Negus Negust of Ethiopia agrees to avail himself of the King's Government in all transactions that he may have with the Powers or Governments."

This treaty, which was confirmed and extended by a Convention for "Mutual Protection" in October of the same year, was officially notified to the several Powers, and by the two protocols of March 24 and April 15, 1892, England formally acknowledged that the Italian sphere of influence included the whole of Ethiopia and its dependencies. In the same treaty Menelek undertakes to regard Italy as the most favoured nation, and to allow free transit for all Italian merchandise throughout his dominions, beyond the payment of a regulated tariff at the frontier stations.

Simultaneously with these important diplomatic negotiations, the local administration was taking advantage of the distracted state of the country to strengthen its strategical position with a view to making itself independent of the native rulers. In June 1889 the

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Italian troops occupied Keren, capital of the Bogos district, and two months later General Baldissera reached the tableland at Asmera, where he erected the fortress of Bet Makà. As the Pretender Mangasha, supported by Ras Alula, was still holding out in Tigré, General Orero moved from Asmera southwards, and on January 26, 1890, entered Adua, capital of that kingdom, thus securing for Italy a firm footing on the plateau itself.

The Kantibay, Hamed, Head Chief of the powerful Habab nation, had already in 1887 accepted the Italian protectorate, which was extended next year to the Diglel, or supreme head of the still more powerful Beni Amer people, to their neighbours, the Marea of the Ansaba Valley, and to the whole of the Danâkil territory by the Convention signed by the Sultan of Aussa on December 9, 1888.

Extent and Prospects of the Colony

All these possessions, protectorates, and spheres of influence have a collective area of over 317,000 square miles, with an estimated population of nearly 6,000,000, as under:—

	Area in sq. miles.	Population.
Massowah district with Keren and Asmara	3,200	250,000
Dahlak Archipelago	420	2,000
Assab district	580	6,800
Habab, Marea, Beni-Amer, Bogos, and Mensa territories	18,000	200,000
Danâkil domain with the Sultanate of Aussa	35,000	200,000
Somali and Galla lands	70,000	200,000
Empire of Abyssinia (Kingdoms of Tigré, Lasta, Amhara, Gojam and Shoa, with Harar and other dependencies)	190,000	5,000,000
Total	317,200	5,858,800

This seems a somewhat imposing domain to have acquired in the short period of a single decade (1884-94).

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But it is much more imposing on paper than in reality. It has long been evident that the Abyssinian protectorate is a pure diplomatic fiction, in which nobody believes, and which Menelek himself has openly repudiated. As King of Shoa, this potentate was the ally and willing protégé of the Italians, but as Emperor of Ethiopia he is the haughty heir of a long line of autonomous autocrats, who have ruled all the Ethiopian lands since before the dawn of recorded history, and who have never bowed the neck to any foreign yoke. He now appeals to the very title of the Convention for "Mutual Protection" (October 1889) as clearly indicating that it places both contracting parties on the same level, constituting Italy quite as much a protectorate of Abyssinia as Abyssinia of Italy. He is also prepared, should any attempt be made, to give effect to the treaty in the Italian sense, to resist by force of arms, and by the more potent and dangerous weapons of intrigue with France and Russia, whose aspirations to ascendency on the Ethiopian plateau are matter of public notoriety. It may in fact be said that the autonomy of Abyssinia is for the present effectually safe-guarded by the mutual rivalries of the interested European Powers, by which Italy is restrained from vindicating her claims to supremacy in Abyssinia.

With Abyssinia go all the southern uplands of Galla-land, over which the Negus Negust has always claimed to be the lord paramount. The history of the relations between Abyssinia and these southern vassal States has doubtless hitherto been a history, on the one hand, of tyranny and oppression, of tribute enforced and of theological creeds imposed by violence and bloodshed, on the other of sullen submission, chronic revolts and fierce reprisals, often spreading havoc and desolation over a great part of the empire. Nevertheless the whole region

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is too intimately associated in geographical, historical, and ethnical respects to be politically dismembered by any intruding foreign Power. Gallaland is so situated, with regard to the outer world, that its conquest must necessarily follow, but could not precede, the conquest of Abyssinia itself.

Italy is thus practically confined to the nearly useless Red Sea coastlands, and to the scarcely more profitable Somali steppe, although recent Italian explorers in this region describe it as better grassed and better watered than had hitherto been supposed. But the British East Africa Company has a firm hold of the Juba river, the great artery by which the produce of South and Central Somaliland must find its way to the east coast. Great Britain also holds Berbera and the other stations on the Gulf of Aden, which are the only outlets for the trade of North Somaliland. It is not therefore clear how Italy can ever turn to any useful purpose her embarrassing possessions on the Indian Ocean.

Eritrea in the narrower sense, that is the possessions extending from Raheita northwards in the direction of Suakin, is doubtless capable of some economic development. There are the pearl fisheries of the Dahlak Archipelago, which have an annual yield of about £30,000, though this industry is at present monopolised by British subjects, the Banian traders from India. Much also might be made of the rich and easily-worked Beheta salt-pits in the Asab district, and the numerous other salines of the Danâkil country. All the salt bricks which form the "currency" throughout the Ethiopian highlands, are derived from these districts, which may be regarded as a sort of "mint," where coining operations may be carried on under the best possible conditions, and under the direct control of the Italian authorities.

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Several tracts inland from Massowa also possess considerable agricultural resources.

The climate of the uplands being favourable, several small Italian settlements have already been founded on the plateau, and have succeeded in raising large crops of wheat and barley. The districts of Oculé-Cusai and Gura are already under tillage, while the extensive and fertile territory of Saraé still awaits settlers. Altogether the prospects of Eritrea proper, apart from ambitious political visions, are regarded by Professor Noldeke as hopeful: "The establishment of the Italians on the Red Sea littoral, and their policy there, promises a new era for Abyssinia. If Italy perseveres with firmness, prudence, and moderation on the laborious path on which she has entered, she may derive great advantages from her African enterprise. But Abyssinia will profit still more, though there be an end to the proud dream of an independent kingdom of all Abyssinia." [1]

History and Exploration of Ethiopia and Somaliland

The Abyssinian plateau with its western and eastern escarpments and neighbouring plains, that is to say, the whole space comprised between the Red Sea and the Blue Nile, would seem to have the best claim to be identified with the land of *Kush* of the Egyptian and Hebrew records,—at least if any definite meaning can now be at all attributed to that extremely vague expression. In any case the region in question was included in the scarcely less vague *Æthiopia supra Ægyptum* of Greek and Roman times. *Ethiopia* (*Itiopiavian*), adopted under Hellenic influences at an early period, even still remains the official designation of the lands ruled by the Negus

[1] *Sketches from Eastern History*, translated by J. S. Black, 1892.

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Negust. The alternative *Abyssinia* (*Habeshi*), meaning "mixed" in reference to the numerous ethnical elements of the population, is of Arab origin, and is used chiefly in ordinary language and in conversation with strangers. In modern usage there is a tendency to establish a convenient distinction between the two terms, Abyssinia being restricted to the northern section of the plateau as far south as the great bend of the Abai (Upper Blue Nile), while Ethiopia is extended to the whole of the north-eastern uplands and neighbouring lowlands, limited southwards by the depression of Lakes Rudolf and Stephanie (17° to 5° S. lat.).

Abyssinia, or North Ethiopia, thus comprises the historical kingdoms of Tigré (representing the ancient Axumite empire), Amhara, Gojam, and Shoa, that is to say, the States where the Himyaritic Semites have long been politically and socially dominant. South Ethiopia (practically synonymous with Gallaland) similarly includes Ennarea, Guma, Ghera, Jimma, Garagheh, Caffa, Walammo, and generally the large group of petty States exclusively occupied by the Hamitic Galla race.

The Ethiopian peoples were first brought into direct contact with the outer world during the time of Ptolemy Evergetes, and his successors, who sent various expeditions down the Red Sea and into the Indian Ocean in order to survey the Arabian and African seaboards, and to found trading stations at various points along the Ethiopian coast. At that time (third and second centuries before the new era) no large political State appears to have yet been developed in these southern regions. At least the Greek leaders of these expeditions heard of nothing between the sea and the Nile, except small communities of nomad and barbarous tribes, such as those still occupying the Nubian and Somali steppes. Most of these tribes were probably

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Hamites, as the present inhabitants of the same regions still are.

But there can be no doubt that the more civilised Semitic people of south-west Arabia (Arabia Felix, Yemen) had already at that remote period found their way across the narrow Angustiæ Diræ (Strait of Bab el-Mandeb), and had even secured a permanent footing on the plateau. In this region the Himyarites, as these southern Semites were commonly called, founded the seaport of Adulis, the modern Zula, twenty miles below Massowa, a place already known to Pliny as a market for ivory and other local produce, and the port of Ethiopia Troglodytica.[1] From Adulis, which was later occupied by the Græco-Romans, the progress of the Himyarites may be followed along the old trade route from the Red Sea across the plateau to Meroe on the Nile. On the eastern section of this route were the ancient cities of Koloe on the Kohaito plateau, and Ava close to the present Yeha, a little north-east of Adua, the extensive ruins of both of which places were visited, and for the first time identified, in 1892 by Mr. Theodore Bent, who here discovered, besides some splendid Greek structures, some much older Himyaritic monuments, and several Himyaritic inscriptions of early and later times.[2]

A short distance south-west of Ava followed the great city of Axum, which appears to have superseded both Koloe and Ava about the new era as the chief centre of Himyaritic power and of Himyaritic culture developed under Græco-Roman influences on the Ethiopian plateau. Owing to a general destruction of the national records in

[1] Properly *Trogodytica*, but by a popular etymology changed by the Greeks to *Troglodytica*, a change doubtless suggested by the fact that the natives of the district really were troglodytes or cave-dwellers.

[2] J. Theodore Bent, "The Ancient Trade Route across Ethiopia," in the *Geographical Journal* for August 1893.

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the tenth century, the only historical documents bearing on the Axumite empire, are a few contemporary inscriptions, notably one in Greek, which was found in 530 near Adulis; the stone has since disappeared, but a copy was preserved for posterity by its discoverer, the Alexandrine traveller Cosmas. It refers to numerous warlike expeditions and conquests of an Axumite emperor, whose name was effaced, but who must have flourished about the second century of the new era. A few incidental references also occur in the early Byzantine writers, from which it appears that Christianity was introduced by the apostle Frumentius in the fourth century. But after about the year 500 no further mention occurs of the Axumite empire, or of Ethiopian affairs, beyond a few passages in some Arab writers, down to the beginning of the fifteenth century, when certain relations established between Abyssinia and Rome gave Fra Mauro an opportunity of collecting some interesting information regarding the Ethiopian lands.

These relations were strengthened and broadened early in the sixteenth century by the appearance of the Portuguese on the scene,—an event which may be regarded as the starting-point in the modern geographical and political history of Abyssinia. After the embassy of 1520, of which a record has been left by Francisco Alvarez, Portuguese missions were established and maintained in the country down to the close of the seventeenth century. They had even for a time secured a footing on the plateau, for they possessed not only a convent but also a fortress at Fremona, close to Adua, which place had at some unknown period supplanted the neighbouring Axum as capital of Ethiopia, or at least of the northern kingdom of Tigré. In 1613 the missionary Antonio Fernandez had already penetrated into the regions south of Shoa,

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that is, into Gallaland; in 1618 another missionary named Paez visited the region about the sources of the Abai (the Abyssinian or Blue Nile), and he was followed some ten years later by Jeronymo Lobo, who accurately described the course of this river from its source to Lake Dembea (Tsana). The records of these pioneers were utilised by Kircher (1652) and by Ludolf, whose *Historia Æthiopica* (1681-91) contains the first comprehensive account of the geography and history of the Abyssinian highlands.

Ludolf also published (1698) the first grammar and dictionary of the Gheez or old Ethiopic tongue, which had ceased to be spoken since the fourteenth century, but which continues to be studied as the liturgical language of the Abyssinian Church. Gheez is now known to be a pure Himyaritic idiom, the most archaic member of the Semitic family, not even excepting the Assyrian of the Cuneiform writings. At present it is best represented by the vernacular of the kingdom of Tigré, but it also enters largely into the constitution of the Amharic (Amharna) current in the rest of Abyssinia proper, at least amongst the governing classes. In their most primitive form the Gheez characters bear striking resemblance to those of the numerous Himyaritic inscriptions lately found in various parts of Yemen. Nothing further was needed to place beyond all doubt the presence of a large Semitic element in the Ethiopian uplands, this element constituting the main source of all the culture that during the last two thousand years has been slowly diffused throughout the surrounding Hamitic populations.

After the time of Ludolf, Abyssinia remained a forgotten land for nearly three-quarters of a century, when its systematic exploration was ushered in by the memor-

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able expedition of James Bruce, who set out from Alexandria in 1768 for the express purpose of discovering the source of the Blue Nile. Crossing the desert to the Red Sea this somewhat erratic genius first visited South-West Arabia, cradle of the Himyaritic race, and then passed over to Zula, whence he made his way in 1770 to Gondar, which had replaced Adua as metropolis of Ethiopia when the imperial authority had been shifted from Tigré to the more central kingdom of Amhara. In the same year Bruce discovered, or rather re-discovered, the source of the Blue Nile, which, as above seen, had already been visited by two Portuguese missionaries in the seventeenth century. Returning to Gondar he entered the service of the reigning emperor, and after many stirring adventures obtained leave to quit the country, returning down the Nile to Cairo in 1773. His *Travels*, which were not published till 1790, were received with some degree of incredulity, although several of his more startling statements, such as the eating of raw steaks cut from the live ox, have since been confirmed by more recent explorers.

Of these the first in point of time was Henry Salt, who visited Abyssinia in 1805, and again in 1809. He was followed in 1833 by the German naturalist, Edward Rüppell, in 1833-34, when further operations were for a time suspended by the incessant dynastic wars, which threatened the total dismemberment of the empire, and during which the vassal States of Tigré and Shoa, in the extreme north and south, rose to a position of complete independence. Even in Amhara itself the effective power was gradually usurped by an officer of Galla origin, who left little more than the shadow of authority to the Negus Negust confined to the precincts of his crumbling palace. After half a century of intestine strife a sudden revolu-

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tion brought to the imperial throne the Amharic prince, Theodore, whose high-handed action brought about the British Abyssinian expedition, the capture of Magdala, and the death of the emperor in 1868. Theodore was successively followed by King John of Tigré (*ob.* 1889), and by the reigning emperor, King Menelek of Shoa, under whom British yielded to Italian influence (p. 439).

The scientific survey of the land, interrupted after Rüppell's visit, has since been continued and vigorously prosecuted by a large number of distinguished savants, conspicuous amongst whom are the brothers Antoine and Arnauld d'Abbadie (1838-48); Rochet d'Hericourt (1839-44); Th. Lefebvre (1839-43); Charles Beke (1840-43); Isenberg and Krapf (1839-42); W. Harris (1841); Heuglin (1855); Munziger, Ferret Galinier, and others. Every part of North Ethiopia (Abyssinia proper) has been traversed and carefully surveyed by these explorers; while Antinori, Cecchi, Massaja, and others of Italian nationality have confined their researches chiefly to the southern regions of Shoa, Gojam, Galla, and Kaffa lands. The farthest point, however, in this direction was reached by the French traveller, Jules Barelli, who in 1886 penetrated to the basin of the river Omo, within sixty or seventy miles of the northernmost point reached in 1888 by Count Teleki in the Samburn depression flooded by Lakes Rudolf and Stephanie. Nothing remains to complete the preliminary survey of all these borderlands between the Kaffa, Masai, and Somali countries, except to connect Barelli's and Teleki's itineraries with those of Robecchi, Ruspoli, Baudi de Vesme, and other Italians, who are now (1893-94) endeavouring to make their way across Somaliland, either from the Indian Ocean or from the Gulf of Aden, to the still unvisited

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sources of the Webi and Juba rivers on the eastern slope of the Ethiopian plateau.

None of the Ancients appear to have ever penetrated to any distance into the interior of the inhospitable Somali Peninsula, which has by some authorities been identified with the land of Punt mentioned in the early Egyptian records. Even in modern times this region was never entirely crossed in a single direction till the year 1891, when Robecchi made his way from Magadosho on the Indian Ocean to Barri on the Webi Shebeli, and thence after two attempts to reach Harrar, round by Milmil to Berbera on the Gulf of Aden. Barri had already been reached in 1885 from Berbera by the brothers James and Aylmer, whose expedition had been the most fruitful of results up to that date.[1] In fact, before that time the "Unknown Horn of Africa" still figured on the map of the Continent almost as a complete blank except towards the south-east where Von der Decken had ascended the Juba in 1865, and on the north side, where Burton and Paulitschke had penetrated from Berbera to Harrar in 1855, and where Révoil had visited the Mijertin tribes in the north-eastern districts in 1881. Of quite recent expeditions, next in importance to Robecchi's is that of Baudi de Vesme, who advanced in 1891 from Berbera by the arid Milmil plains through Rer Koshen and Rer Amaden to the upper course of the Webi, within a few miles of the farthest points reached by Barelli and Teleki. The Webi was also reached in 1893 by Captain Swayne from Bulhar, travelling by a more westerly route than that followed by James, and striking the river at Imé, some distance above Barri.

[1] These results were embodied in the *Unknown Horn of Africa*, by F. L. James, London, 1888.

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Physical Features of Abyssinia and Gallaland

Viewed as a whole, Abyssinia proper, that is, the northern section of Ethiopia, forms a vast tableland, whose north-eastern and eastern escarpments rise precipitously above the low-lying Red Sea coastlands. Northwards and westwards it falls in broad terraces towards the plains of Nubia and Senaar, and south-westwards it slopes continuously down to the valley of the Blue Nile, while merging more gradually southwards in the less elevated uplands of Gallaland, that is, the southern section of Ethiopia.

This plateau, the most elevated in the continent, stands at a somewhat uniform mean altitude of from 8000 to 10,000 feet. But the surface is everywhere so profoundly scored by prodigious clefts and fissures, that the plateau formation is partly obliterated, or at least difficult to be recognised, except where broad prospects are afforded from a few of the highest summits. From such points the true character of the tableland becomes apparent, presenting somewhat the aspect of a storm-tossed sea suddenly solidified. The eye sweeps over a boundless vista of hilly plains, rugged plateaux, and deep upland valleys, dominated here and there by precipitous mountain masses, towering 6000 or 7000 feet above the normal level.

Southwards is developed a broad depression, partly flooded by Lake Dembea (Tsana), by far the largest lacustrine basin in Abyssinia (45 by 25 miles), standing about 6200 feet above sea-level, consequently some 3000 feet below the mean altitude of the plateau. Midway between the lake and the north-eastern extremity of Abyssinia the surface of the plateau is rent

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by a remarkable crevasse, some 2000 feet deep, with a general westerly trend through which rush the tumultuous waters of the Takazzé river. This crevasse is a striking geographical feature, dividing the tableland into two natural sections, which coincide in a general way with two political and ethnical divisions.

In this chaos of Alpine heights the only well-defined mountain chain is the coast range formed by the precipitous eastern slope of the plateau, which presents, towards the Red Sea and Gulf of Aden, a continuous rocky rampart, maintaining a mean elevation of from 7000 to 8000 feet for a distance of 600 miles, broken only towards its southern extremity by the gap through which the Hawash escapes from the Shoa highlands down to the low-lying coastlands.

But this coast range, as it is called, is not so much a true mountain chain as the eastern scarp of the rugged Abyssinian plateau, which it scarcely exceeds in average height. Hence the traveller penetrating from the coast to the interior finds that, after surmounting the steep barrier facing seawards, he has already nearly reached the normal altitude of the whole region. Thus at Adua, over 120 miles south from Massowa, he is still only about 6000 above the sea; nor are any much greater elevations met till he reaches the Simen group just within the great bend of the Takazzé, and the mountains of Gojam similarly enclosed within the great bend described by the Abai (Upper Blue Nile), after issuing from Lake Tsana. Both of these masses, constituting the true highlands of Abyssinia, reach the lower limit of perpetual snow, and many of their peaks are snow-clad for a great part of the year. Mount Dajan, long supposed to be the culminating point of the Simen group and the loftiest mountain in East Africa north of Kenia, has an altitude

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of perhaps 15,300 feet. But it now appears to be exceeded by other peaks in the same group, such as Abba-Yared (15,600 ?) and Buahit (16,000 ?), while Siké Maja, Amba-Raz, and others, both in the Simen and the Gojam highlands, rise above 14,000 feet.

At about the latitude of Ankober (9° N.) the eastern escarpments, which had hitherto run south-east nearly parallel with the Red Sea, trend round south and south by west, thus assuming somewhat the character of an inland range. Here also they gradually increase in altitude, the Amba-Stekka, as this section is called, attaining a mean height of from 8000 to 9000 feet in Shoa, where they culminate in Mount Metatiteh (11,000 feet) near Ankober. Beyond the breach formed by the Hawash valley, the system is continued in the same southerly direction, and apparently at about the same elevation towards the Samburu (Lake Rudolf) depression, by which it is completely separated from the Masai uplands. Thus between Shoa and Samburu this southern extension of the Abyssinian scarp forms a distinct but still little known border range between the Somali steppe lands and the South Ethiopian (Galla) plateau east and west. This plateau itself forms on its part the southern prolongation of the North Ethiopian (Abyssinian) table-land, which it somewhat resembles in its general relief, and even in its altitude, though not in its climate and natural history. When the gap is filled up between Barelli's and Teleki's itineraries, it will probably be found that much the same conditions prevail north of the Samburu depression as those met by the traveller journeying inland from Massowa. In any case, enough is known of the Galla uplands to justify the view which regards the whole region between the east Nubian steppe and Masailand, that is, North and South Ethiopia, as forming

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a continuous plateau with precipitous escarpments on its east side, but sloping more gently westwards down to the Nile Valley.

No accurate measurements have yet been made of the Galla uplands, where, however, several peaks are known to exceed 11,000 and even 12,000 feet. Hamdo is supposed to be at least 11,500, and Wariro in the Gurageh district, 13,000 feet high, while Wosho (Washo), east of the Uma river, is said even to overtop the loftiest summits in Abyssinia. At least d'Abbadie, who saw it at a distance of twenty miles, estimates its altitude at about 16,400 feet.

But if scarcely less elevated than North Ethiopia, Gallaland presents a far less rugged aspect, and appears to be scarcely anywhere carved into the so-called "ambas," which form such a characteristic feature of the Shoa and Abyssinian tablelands. These ambas, that is, more or less isolated blocks or sections caused by erosion and underground agencies, vary greatly in extent, and are separated from each other by profound fissures somewhat analogous to the cañons and barrancas of Colorado and Mexico. Some 40 miles north-west of Ankober occurs a prodigious crevasse over 5000 feet deep, and scarcely 700 yards wide; and another chasm near the old capital of Shoa is only about 3 feet wide, but so deep that stones dropped from the brim re-echo no sound from the bottom.

But the most remarkable gorges occur farther north, along the eastern edge of the central plateau, "where the total fissure exceeds 6500 feet, measured from the summit of the degas [uplands] down to sea-level. Nowhere else can a more convincing proof be observed of the erosive action of running waters. The two walls of certain gorges, rising nearly vertically within a few feet of each other to a height of some hundreds of feet,

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represent an erosion of hard rock amounting to at least ten thousand five hundred million cubic feet. Nevertheless the waters have regulated the fall of the channel, which averages not more than one in forty yards. This incline is easily ascended, but several of the defiles remain obstructed for months together by the mountain torrents. Every year new paths have to be formed across the debris, while some have had to be entirely abandoned. The route to Kumaili, through which the English army marched to the Abyssinian plateau, had probably not been occupied by a military force since the time of the Greeks." [1]

Volcanic Agencies

Although there are at present no active volcanoes anywhere in Ethiopia, the whole region was the theatre of tremendous convulsions in remote geological times. Hence erupted rocks, such as basalts and trachytes, crop out everywhere, while in some places the surface is covered by vast lava flows. The Simen highlands consist exclusively of igneous matter, though all the old craters appear to be obliterated. Lavas of diverse ages cover the Hamasen heights farther north, and here, as in many other parts of the tableland, the surface consists of yellowish or reddish ochres, which, like the laterites of the Upper Nile basin and of the Dekkan, are formed by the weathering of the lavas and other volcanic rocks. Several igneous cones occur in these northern uplands, and one observer even speaks of a well-preserved crater north of Adua, which has the appearance of being but recently extinct.

But more evident indications of recent underground

[1] Reclus, x. p. 129.

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disturbances are found on the low-lying coastlands between the Gulf of Aden and the eastern escarpments, and generally throughout the Hawash basin. Above the plains rise several cones, from which vast lava streams were formerly ejected, while on the right bank of the Upper Hawash is seen a crater-like depression some miles round. A smaller cone on the left bank even still emits sulphurous vapours, and the Winzegur crater in the Fatigar district is compared by Harris to a huge caldron six miles in circumference, with walls 800 to 1000 feet high. The loftiest of all these cones is the Zikwala volcano (10,000 feet) terminating in a flooded crater. Numerous hot springs still bubble up in this igneous region, three of which, near Mount Entotto (9900 feet), have a temperature of 170° F., and at times shoot up to a considerable height, like the Iceland geysers.

In general the volcanic zone is confined to the eastern part of the plateau and neighbouring lowlands. It evidently forms a link in the chain of underground phenomena, which indicate a very old volcanic fault, developing a gentle curve from the Jordan Valley and the Dead Sea down the Gulf of Akaba, and through Ethiopia and Masailand southwards to the Comoro Islands at the entrance of the Mozambique Channel.

Physical Features of Somaliland

Beyond the Lower Hawash basin the land rises steadily southwards to the Harrar uplands, converging point of the Danâkil, Abyssinian, Galla, and Somali domains. From this point the "Eastern Horn of Africa," comprising the whole of the Somali territory with a considerable section of the East Galla country, broadens out along the Gulf of Aden eastwards to Cape Guardafui, easternmost head-

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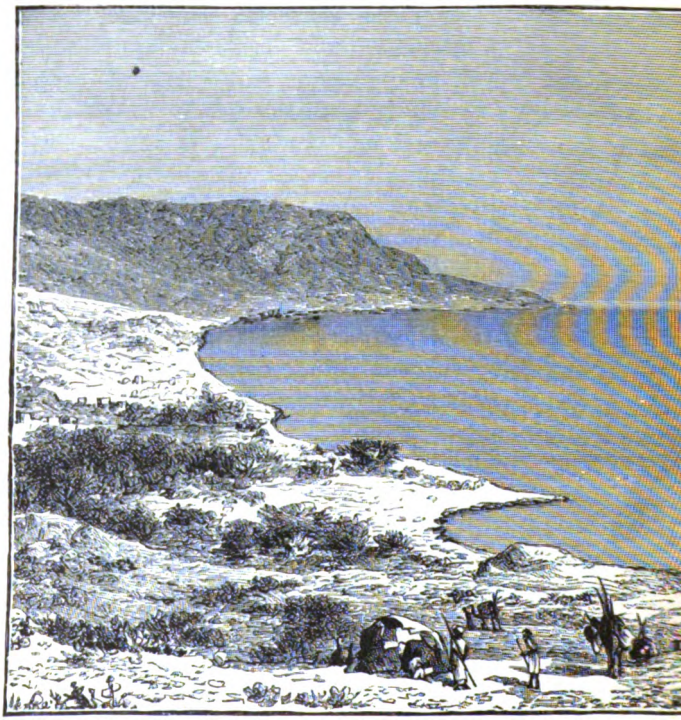
land of the continent, and tapers continuously southwards to the equator between the border range and the Indian Ocean.

Physically this vast triangular space is divided very



CAPE GUARDAFUI.

unequally into two distinct sections—North Somaliland, which may be described as a hilly and even mountainous region with a mean altitude of from 4000 to 5000 feet, and the much larger South Somaliland, mainly a steppe-like plateau at a mean level of from 2000 to 3000 feet

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in all the central and western parts, but falling below 500 feet along the eastern seaboard.

Most of the northern section sweeping round from Tajurah Bay to Cape Guardafui, falls in steep escarpments down to the narrow strip of sandy coastlands skirting the Gulf of Aden. In some places the rugged cliffs furrowed by deep gorges approach close to the sea; in others the hills retreat abruptly inland, leaving a considerable maritime plain between their base and the gulf. South of Berbera and Bulhar, whence most travellers start for the interior, the orographic system is disposed in two nearly parallel ridges increasing in height landwards, and attaining on the inner range an elevation of 9500 feet in the Gan Liba ("Lion's Paw"). From the crests of this range a wonderful panoramic view is unfolded to the gaze. Northwards the blue ocean is still visible, breaking in a long line of surf against the sandy beach, back of which rise the bare and jagged summits of the coast range. Southwards the slopes fall gradually down to the boundless central plateau, the surface in the near distance sprinkled with mimosa bush, and farther on, merging in the treeless steppe.

Farther east, where Speke crossed the outer escarpments from Bandar Gori, on the coast, the northern uplands present a similar aspect. Here the steep and rugged cliffs approach at some points to within 200 yards of the Gulf of Aden; they are composed of bare brown rocks and clays, as uninviting in appearance as the light-brown hills skirting the Red Sea. But in the valleys between the two ranges, here rising to 6000 and 7000 feet, the barren character of the scenery is succeeded by a warm rich clothing of bush, jungle, and grass, with a profuse growth of gummiferous and aromatic plants. The

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northern face of the higher range, although precipitous, is clad with trees and jungle, whereas the south side, instead of a steep drop of 6000 or 7000 feet, falls by gentle slopes and a succession of terraces down to the Nogal Valley forming the divide between North and South Somaliland.

Mineral Resources: The South Ethiopian Goldfields

The mineral resources of Ethiopia appear to be mainly concentrated in the auriferous districts of the southern section. Gold is not found, or at least has never been mined in any part of Abyssinia proper, or even in any of the neighbouring Galla districts. But it certainly abounds in the region south of the Abai, on all the lowlands and western slopes of Gallaland, and more particularly in the Wallaga, Dabo, and Gassan districts, draining to the Upper Nile, where the Egyptian Government had workings before the Mahdist outbreak.

No European has yet thoroughly surveyed these auriferous lands, from which many suppose that the Queen of Sheba drew the treasures which she presented to Solomon. After repeated efforts, Massaja (the Cardinal) penetrated to the Gassan mines, which had already been worked by Mehemet Ali. Here was a military station, with a regular administration to superintend the operations on the Tumat river, where there was machinery for washing the sands, and to look after the neighbouring mines in which 100 skilled hands were employed. Under Mehemet Ali millions were yearly extracted from this district, which yielded not only auriferous sands and quartz, but also nuggets of pure gold. From the Tumat river washings valued at about £40,000 were annually obtained, while large quantities

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of the precious metal continued to be drawn from Senaar and other regions.

In 1855, when Massaja was in Gadru, many thousand pounds weight were yearly brought to the Asandabo market, not only from Fazokl and Gassan, but also from the interior of Gallaland, obtained by merely sifting the alluvial sands washed down by all the streams during the heavy rains.

But after Mehemet Ali's death, intrigue and corruption took the place of orderly government, and Abbas Pasha, finding that the profits no longer covered the outlay, closed the mines. Even the traffic in gold from remote parts fell off, for the natives were driven by the greed of the Egyptian underlings to take their wares to other markets. In 1879 Massaja met an old Egyptian official, who was still lamenting the closing of the mines, from which, although not a member of the administration, he had obtained £20,000, the reward of his connivance at the nefarious proceedings of the employées.

There is also plenty of gold in the Wallaga district, which sends large quantities to the Liekà market. Here it is sold in the form of little bars or ingots each weighing one wokit, or $7\frac{1}{2}$ pounds, and varying in price from 60 to 80 blocks of salt, worth about sixpence each. In Cecchi's time the gold trade was conducted with great secrecy, both to avoid the heavy taxes and the footpads infesting the roads to the markets.

Hydrographic Systems: The Blue Nile; Lake Tsana

Nearly the whole of the Ethiopian uplands have a general incline from south-east to north-west, the consequence being that most of the running waters are discharged in this direction inland to the Nile Valley.

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They are grouped in the three main catchment basins of the Sobat in the south, whose upper affluents are still unexplored; the Bahr el-Azrek ("Blue Nile") in the centre; and the Atbara, or Bahr el-Aswad ("Black Nile"), in the north.

The farthest head-waters of the Abai, that is, the upper course of the Blue Nile, have their source at an altitude of over 7000 feet in the Gojam highlands, where the Abai rises at Gish Abai near the foot of Mount Denguiza, and after a rapid course of about 70 miles enters Lake Tsana through a delta of considerable size.

Tsana, one of the chief reservoirs of the Lower Nile, must be the Coloe Palus of the Ancients, although placed by Ptolemy some twelve degrees too far south. The identification rests on the fact that the Astopus, which was certainly the Blue Nile, was made to rise in the Coloe Palus, a basin formerly much larger than at present, as shown by its now dry alluvial banks. It has still an area of over 1200 square miles, is extremely deep, 40 fathoms having been revealed by the sounding-line on the south side, and presents somewhat the form of a flooded crater with cone-shaped islets in the centre, and basalt promontories on the southern margin. The water is very pure and potable, teems with fish, and is infested by hippopotami, but not by crocodiles.

On the south side the rim of the crater is, as it were, breached by a deep fissure forming an extensive bight, from the southern extremity of which the Abai escapes in a south-easterly direction. This emissary issues from the lake at an altitude of over 6000 feet; but it soon begins to descend rapidly, first at the Woreb cascade 5 miles below the outlet, and then at the Tis-esat (Alata) Falls, where the stream, 220 yards wide, plunges over a

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rocky ledge with a clear fall of 80 feet. Just below this point it almost disappears in a romantic gorge scarcely 10 feet wide, which is spanned by a bridge built by the Portuguese. Some 30 miles lower down are seen the broken arches of another Portuguese bridge, the Abai developing in this section an almost continuous series of cataracts and rapids, with a total fall of over 2000 feet. The general direction after leaving the lake is that of a semicircle sweeping round the Abyssinian plateau from east and south to north-west down to the plains of Senaar. Here the Abai, which now takes the name of the Blue Nile, has very nearly reached its lowest level, flowing with a scarcely perceptible incline in a sluggish winding channel north-westwards to its confluence with the White Nile at Khartum about 1300 feet above the sea. At Fazokl on the Abyssinian frontier it is joined on its left bank by the Tumat, and higher up by the Jabus, both of which descend from the South Ethiopian uplands, but reach the main stream only during the floods. On its right bank it also receives two considerable affluents, the Dinder, which appears to be perennial, and the Rahad, which runs out in the dry season, but from June to September sends down a large volume, overflowing its banks to a great distance.

At this period the Blue Nile itself undergoes a great change, its limpid waters becoming muddy and turbid with the organic matter brought down from the Ethiopian highlands, while its discharge is increased nearly forty-fold, from a minimum of about 6000, to a maximum of 220,000 cubic feet per second at the confluence. As the discharge of the White Nile at the same period is only 175,000 cubic feet,[1] it was long supposed that the

[1] At low water from 10,000 to 12,000 cubic feet, or nearly double that of the Blue Nile at the corresponding period.

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Abyssinian was the main branch. The inhabitants of the plateau still regard it as such, and the error, propagated in Europe by the early reports of the Portuguese, was not entirely dispelled till the discovery of the Victoria Nyanza, and of its outlet, the Somerset Nile, by Speke and Grant. But if not the longer, the eastern branch is by far the more important from the economic standpoint. To it Egypt owes its existence, for it is now placed beyond doubt that the sedimentary matter to which the lower valley is indebted for its prodigious fertility is derived, not from the equatorial lake region, but from the Ethiopian uplands, that is, mainly from the Bahr el-Azrek, and to a limited extent from the Atbara.

The Atbara, Takazzé, and Mareb Rivers

The Atbara, which has preserved its old name of *Astaboras* in a slightly modified form, is also one of the Niles, being often called by the Arabs the Bahr el-Aswad, or "Black Nile." The Takazzé, which is its largest head-stream, describes in North Abyssinia a curve somewhat analogous to that of the Abai in the south. Rising at an altitude of nearly 7000 feet in the Simen highlands, it sweeps round east, north, and west, through its tremendous cañon down to a level of about 2500 feet at the western terraces descending to the Upper Nubian steppe. Here it takes the name of the Bahr-Setit, flowing nearly due west to the right bank of the Atbara in the territory of the Hamran Arabs.

In the rainy season Takazzé, the "terrible," rises in a foaming torrent 15 to 18 feet above its usual level, forming an impassable barrier between the provinces which it separates. Describing the view from the north side of its valley across the Simen highlands, De Cosson

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writes: "From the brow of the hill we could see a great mountain range on the other side of the river which we were to cross next day. Nothing could be more imposing than the vast panorama of jagged peaks that expanded before us as far as the eye could reach, bathed in the cold beams of the moon. Far below, wreaths of malarious white mists hovered over the Takazzé as it wound its way through deep glens, whose sides were clothed with impenetrable forests, the favourite haunts of elephants and other large African game; while on the lower spurs of many of the mountains the bush had been kindled, and great fires were burning, which sent up spiral columns of smoke into the still air, and threw a lurid light over the surrounding crags and precipices. No sound disturbed the silence of the night, save the occasional baying of the watch-dogs keeping guard over the native villages, which stood perched like eyries high up on the sides of the mountains overlooking the great valley that divides Tigré from Amhara."

Although a smaller stream than the Takazzé, the Atbara, which descends from the northern slopes of the mountains encircling Lake Tsana, retains its name below the confluence, beyond which it flows north by west to the Nile a few miles above Berber. During the rains it rises high above its normal level, developing in its lower reaches a copious waterway from 25 to 40 feet deep and over a quarter of a mile broad. But in the dry season it dwindles to an insignificant stream, which gradually becomes exhausted before reaching the Nile.

Beyond the torrents descending from the plateau and its northern slopes, the Takazzé-Atbara receives no tributaries on either side except the Mareb; which, however, has almost ceased to belong to the Nile system. For two decades before the year 1864 it never once

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reached the Atbara, and since then most of the stream has been absorbed in irrigation works, so that it appears to send down a little water only in exceptionally wet seasons. The Mareb, or "West River" of the Abyssinians, has a general north-westerly trend, partly through the little known Basé (Kunama) country, where it takes the name of Sona or Soba; lower down it becomes the Khor Gash of the Arabs, whence the expression *Gash-da* ("Gash-mouth") applied by the natives to the sandy channel through which it occasionally reaches the Atbara.

Except the Blue Nile in its lower reaches, none of these Abyssinian rivers are navigable. In their upper and middle courses they have the aspect of mountain torrents, mere rivulets in the dry season, subject to sudden freshets during the rains. Farther down, their sandy beds retain a little water here and there in the deeper depressions, but are chiefly used as caravan tracts and camping-grounds for the greater part of the year.

The Coast Streams: The Hawash

None of the streams on the Red Sea slope of the plateau north of the Hawash basin are perennial, although in the rainy season a good deal of water finds its way through these channels from the eastern escarpments to the sea. Here also "the rise is sometimes so sudden that, without any warning, a dry bed may be suddenly transformed into a raging torrent, perhaps ten or twelve feet deep."[1]

All these khors, as they are called by the Arabs, are of small extent, except the Hawash (Awash Awasi), which rises on the plateau considerably to the west of

[1] L. F. James, *The Wild Tribes of the Soudan*, p. 251.

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the coast range, sweeping round in a regular semicircle between the Shoa uplands and South Ethiopia. These great bends, which impart the aspect of peninsulas to the different sections of the plateau, are specially characteristic of the large Abyssinian rivers. Nowhere else is this peculiarity developed on a larger scale. On reaching the Danâkil plains the Hawash flows northwards along the foot of the coast range in a rapid copious stream 50 or 60 yards wide, and over 4 feet deep even in the dry season. During the floods it becomes an inland sea, rising from 40 to 50 and even 60 feet above low-water mark and flooding both its banks for many miles.

Below the confluence of the Germana (Kasam) on its left bank, the Hawash turns north-east and east in the direction of Tajurah Bay, but after a winding course of nearly 500 miles it runs out in the depression of Lake Aussa (Bada, Abhelbad), which lies some sixty-five miles from the coast, and apparently below sea-level, like the neighbouring Assal lagoon, and a few other saline lacustrine basins in the same district. But Aussa, which rises and falls with the seasons, is never saline, retaining its freshness throughout the year, thanks to the great volume of water sent down by the Hawash. Hence it is largely used by the surrounding agricultural tribes for irrigating the rich alluvial soil washed down from the Shoa highlands during the floods.

The Somali Rivers—The Juba and Webi-Shebeli

South of the Hawash follow the Webi-Shebeli and the Juba, the two great rivers of Somaliland, great at least in the length of their valleys and the extent of their drainage areas, though not in their average discharge. Their upper reaches have not yet been surveyed, but both

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are known to rise in the heart of South Ethiopia, and have consequently to pierce the Galla-Somali border range on their nearly parallel south-easterly course through Somaliland to the Indian Ocean. The Juba alone reaches the coast, and this river alone is navigable by small steamers.

The Webi-Shebeli ("Leopard River"), or simply Webi, "River" in a pre-eminent sense, collects all the streams descending from the eastern slopes of the Ittu and Arussi Mountains, as the northern and southern sections of the border range are called from the neighbouring Galla tribes. It is also joined at Barri by the Tug ("Wady") Fanfare from the Harrar uplands. But all these affluents are dry for the greater part of the year, while some fail to reach the main stream even during the rainy season, but run out in the sands or in the saline depressions which have no outflow. Hence at Imé the Webi was found by Swayne to be only "about 100 yards wide or so," though fringed on both sides by fine forests, chiefly of tall casuarinas and evergreens. In this section of its course it traverses the fertile Ogaden plains, the "Paradise of Somaliland," and during the floods expands at Barri to a width of 300 feet, "its brownish waters rushing along with great violence" (Robecchi).

Yet these impetuous waters are so rapidly absorbed by evaporation, and in some districts by irrigating channels, that they never succeed in reaching the Indian Ocean. At a distance of about twelve miles inland they are deflected southwards by the intervening sandhills of the Tuni maritime zone, and continue to flow for nearly 170 miles in this direction, parallel with the coast as if to fall into the Juba estuary. But some distance north of this point the exhausted current is intercepted and completely absorbed by an intervening swampy depression.

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Thus is presented the singular phenomenon of a river many hundred miles long, with a catchment basin of probably over 100,000 square miles, prevented by a seemingly trifling obstruction from completing its seaward course.

In the inhospitable stretch of seaboard between the Webi and Cape Guardafui, Robecchi has discovered at least one little perennial stream, the Kulule, which reaches the coast a little north of the Ras el-Khail headland. Just beyond the Kulule he entered the favoured Wady Nogal, a broad valley skirted by low hills and traversed by a stream of limpid water, which, however, here and there disappears below its sandy bed. For a great part of its course the Nogal valley forms a well-marked dividing line between the hilly northern and the comparatively level southern section of Somaliland.

Climate, Flora and Fauna

The two sections differ quite as much in their climate as they do in their physical aspect. On the coastlands the wet season lasts from December to May, and is usually accompanied by beneficent showers. In the interior, on the contrary, the rains begin in March or April, followed with little intermission by heavy downpours till June. This is the *Guji*, or first rainy period, which is succeeded by the cloudy *Haga*, lasting from July to October, when little moisture is precipitated, though the sky is constantly overcast. The *Daïr*, or second showery season, extends from the end of October till December; thence onward to the end of March is the *Jilal*, or dry summer of the Somali plateau. Owing perhaps to the general absence of fever-breeding marshes, the climate is on the whole healthy, and by no means as

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hot as might be expected from the general aspect of the land and its proximity to the equator. The tropical heats are tempered by the marine breezes from the Indian Ocean, which are nowhere obstructed by any lofty ranges. Hence the conditions are rather those of an insular than of a continental climate. The highest temperature recorded by James was only 97° F. even in the Webi basin, while the glass fell as low as 47° on the hills skirting the plateau.

In the Ethiopian highlands the climatic and corresponding biological conditions are dependent far less on latitude than on elevation above sea-level. Instead of following each other horizontally between the equator and the poles, the zones of temperature are superimposed vertically and are distinguished by special names, as in Mexico and other regions of similar formation. Thus to the Central American "hot lands" correspond the *Kollas* (*Kulla, Kwalla*), comprising the lower slopes of the plateau escarpments up to an altitude of from 5000 to 6000 feet, with a normal temperature ranging from 70° to 100° F., and a luxuriant tropical vegetation. Within this belt, cotton, wild indigo, gum-yielding acacias, ebony, baobabs, tamarinds, bananas, the sugar-cane, coffee-shrub and date-palm flourish in perfection. Here also the animal kingdom is abundantly represented by the larger African fauna, lions, elephants, panthers, zebras, giraffes, besides gazelles and other antelopes, huge snakes, and deadly scorpions.

Above the Kolla follows the *Voïna-dega*, or temperate zone, extending to 8000, and in some places 9000 feet, by far the healthiest and most inhabitable region, with a temperature like that of Spain or Italy, varying from 60° to 80° F., and generally answering to the South European temperate zone. The European grasses, cereals, and shell

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fruits are here indigenous, the bamboo fringes most of the river-banks, and other characteristic plants are the turpentine or terebinth tree, several kinds of sycamores, some growing to a great size, the kolkwal (*Euphorbia abissinica*), the juniper, the kosso and zegba (*podocarpus*) high as the tallest northern pines, besides the vine, orange, and citron, peach, apricot, and other fruit trees. Everywhere the soil is either arable or affords rich pasturage, and all the European domestic animals, except the pig, thrive well.

Beyond the Voïna-dega rises the *dega* proper, third and highest belt, from about 8000 to 13,000 or 14,000 feet, with a mean temperature of 45° to 50° F., though in the higher regions the thermometer frequently falls below freezing-point. The degas are, generally speaking, the more elevated plains, ambas, and mountain slopes, with little wood and a scanty herbaceous or scrubby vegetation, merging upwards in a distinctly alpine flora analogous to that of the Cameroons on the opposite side of the Continent. The hardier cereals alone can be cultivated, but plenty of fodder is afforded on the highest plateaux for cattle, goats, and sheep with a long fleece.

The low-lying tracts along the eastern edge of Abyssinia proper, where it descends towards the arid Danâkil country, are everywhere overgrown with light shrubs and bushes, clumps of larger trees, especially the sycamore, being confined to the deeper ravines watered by the intermittent torrents. Even in the vicinity of some dry water-courses are met baobabs of a moderate size, and here and there a solitary sycamore. On the other hand, the hot valley of the foaming Takazzé on the western slope is well wooded with large timber.

On the lower belts the rainy season lasts from May or June to September; higher up the regular rains are

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delayed till July, but last on till October, while the *azmera*, or period of intermittent rains, begins simultaneously with the rainy period of the lower slopes. Farther south, and generally throughout South Ethiopia, there are two rainy seasons, the first in January or February, the second from June to September. In these southern lands the rainfall is altogether more equally

THE SYCAMORE.

distributed throughout the year, so that the vegetation of the Galla lands is far more exuberant and diversified than that of North Ethiopia, where tillage is of less importance than pasturage, and where, owing to the long droughts, even pasturage itself assumes in many places a nomad character. The annual rainfall, which on the Abyssinian plateau scarcely exceeds thirty inches, rises to forty inches and upwards in Shoa and Gallaland. Whilst continuous woodlands are rarely met in Abyssinia beyond the Kolla districts, travellers in the Shoa and Kaffa uplands speak

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of vast forests of conifers, wild olives, and other trees, under the tangled moss-grown branches of which they have travelled for hours. The climate is favourable not only to the Abyssinian flora, but also to many economic plants, which are cultivated for the sake of their leaves and berries. This true home of the coffee shrub might still supply the world with numerous other valuable vegetable products; it already yields to commerce the so-called *oggieh* or *korarima*, a fruit highly prized for its delicate flavour and aroma.

Natural Resources of Ethiopia and Somaliland

But coffee is beyond question the most important product of Kaffaland, from which region it appears to have taken its name, although supposed by some botanists to have originated in Arabia. In any case Kaffa is one of the few countries in which it is indigenous, and here, as in Liberia and Angola, it grows spontaneously and with great vigour, mostly as an undergrowth in all the forests. In Kaffa, where every house has its plantation, it attains a height of from 10 to 16 feet, and yields good crops from about its fifth to its sixteenth year. The berry is often round, like that of Yemen, with which it is mixed and placed on the market under the name of "Mocha." There is at present a yearly export trade of about 800,000 lbs.; which, according to Cecchi, might easily be increased to many millions, for the shrub flourishes not only in Kaffa, but also in Ghera, Jimma, Gama, Limma, Gomma, and the other territories stretching southwards to the Samburu depression.

Another staple resource of Gallaland is musk, which is obtained in large quantities from the civets kept in captivity for the purpose. The chief centre of the

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industry is Kaffa, where some of the "civet farmers" keep as many as a hundred of the *Viverra civetta* in cages, each yielding from one to two ounces a month. This animal, which is about the size of a fox, abounds in all

COFFEE.

the forests of South Ethiopia, where it preys on small mammals, birds, and reptiles. The musk, of which there are two qualities, the reddish and dry, and the greatly inferior whitish and sticky, finds its way to the eastern

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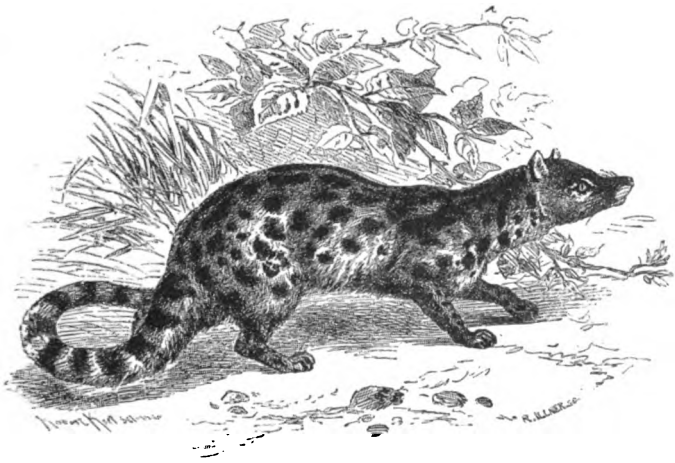
world chiefly through Massowa, where the very sludge of the streets is permeated with the fragrance of this acrid secretion. It is always brought to market in the so-called *Jerebundò*, or ox-horns, and sold on the spot at the rate of from one to three salt blocks per *wokit* (7 to 8 lbs.) The salt blocks used in this traffic (*yerè-ichevò*, or "civet-salt") differ from those employed in the coffee and ivory trades, being identical with those current



CIVET.

in Abyssinia, that is $9 \times \frac{1}{3} \times \frac{1}{8}$ in., worth seven to eight pence each. For use the musk is usually mixed with sandalwood oil from India and frankincense from Somaliland.

Till recently frankincense and myrrh were supposed to be the only products of the Somali steppe. But recent exploration has shown that this region yields a much greater variety of products, and in far greater abundance than might be expected from its generally arid character. The rich pastures of the Ogaden country,

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which rears one of the finest breeds of camels in the world,[1] had already been described by James, who also traversed some districts where the people "grow abundance of grain and possess good grazing and water for their cattle," and others where beans, pumpkins, and even cotton are grown, and where "corn, similar to that grown in Egypt, is the staple food, and attains a height of 15 feet, two heavy camel-loads costing only about seven shillings" (p. 168).

Even on the "unproductive" east coast Robecchi found the little Arab settlement of Illig "annually exporting from 15,000 to 20,000 sheep and goats, fifty tons of butter and other produce." The same traveller describes the Merehan plateau between the east coast and the Webi valley as "covered with a dense growth of mimosas, acacias, and other aromatic and resinous plants—a very sea of verdure. The country swarming with game of every description, including rhinoceroses, elephants, and lions, giraffes and zebras, leopards and antelopes, ostriches and the wild ass."

But Somaliland still remains, in a special sense, the "Regio Aromatifera" of the Ancients, supplying the world with most of such essences as myrrh, frankincense, and balsams, besides considerable quantities of gums and resins. The soil and climate are specially adapted for the growth of these aromatic plants, which need no cultivation, but flourish spontaneously throughout the Nogal valley, and in many other districts. Some etymologists have even traced the word *myrrh* to *Marehan* (*Murrehan*), the name of the plateau north of the Lower Webi, where this species (*Balsamodendron Myrrha*)

[1] On one occasion some of his baggage-camels "had, with bad food, carried their burdens 215 miles, travelling for thirteen days without drinking a drop of water" (*op. cit.* p. 105).

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appears to arrive at the greatest perfection. But it is more probably connected with the common Semitic root, *mar*, "bitter."

Inhabitants of Ethiopia

From the ethnological standpoint the expression Ethiopia comprises not only the Abyssinian, Danâkil, and Galla lands, but also the whole of Somaliland, together with the section of Nubia lying between the Nile and the Red Sea, and originally even Egypt itself. Here is the primeval home of the **Ethiopian** or **Eastern branch** of the Hamitic family, which from before the dawn of history has been in nearly exclusive possession of North-East Africa, that is to say, that section of the Continent which extends from the Nile Valley to the Red Sea and the Indian Ocean, and which reaches from the Nile Delta southwards to the equator.

FRANKINCENSE.

Throughout the Danâkil, Somali, and Galla lands, the Eastern Hamites are still everywhere the dominant race in every sense of the word, the only intruders being a

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few Arab groups on the Somali coastlands, the Negroid Adoni Bantus, formerly slaves of the Hawiya Somals, now free and industrious peasantry on the banks of the Webi-Shebeli, and along the western borderlands various Nilotic Negro peoples penetrating up the Blue Nile and Sobat affluents into Galla territory. Even in Abyssinia proper the Galla Hamites occupy extensive tracts, especially in Shoa and about the eastern tributaries of the Abai, while Hamite peoples undoubtedly form the substratum of the population in Gojam, Amhara, and Tigré, where intruding Semites (Himyarites from South-West Arabia) have long been politically dominant (p. 445).

On the other hand, much ethnical confusion prevails on the northern escarpments of the plateau, and especially about the Bahr-Setit, Mareb, Anseba, and other streams intermittently flowing either west to the Atbara or north to the Khor Baraka. Here are intermingled all the racial elements of the Continent — Negroes, Hamites, Arabs and Himyarites—some still retaining their tribal usages, religion, and primitive speech, others assimilated in one or other of these respects to their more powerful neighbours. It would be impossible here to unravel the tangled weft of ethnical shreds that has arisen by long contact, overlappings and interminglings of all sorts in this region, interminglings which probably first suggested the Arab name *Habeshi* now extended to the whole plateau (p. 445). It may, however, be stated in a general way, that the Negro element is best represented by the *Barea* and the *Basé* or *Kunama* of the Mareb basin, who retain not only their racial purity, but even their political independence, and who are possibly the last surviving fragment of the true aborigines, precursors of the Hamites themselves.

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Pure *Arab* communities are mainly confined to the Samhar, that is, the hot coastlands about Massowa up to an altitude of about 1000 feet, where they are comparatively recent intruders, still preserving their nomad habits, Mohammedan religion, and Arabic speech intact. Pure Hamites, or at least tribes of Hamitic speech, are the *Saho* (*Shoho*, *Asaorta*) of the lowlands and lower slopes west of Annesley Bay; the *Bogos* of the Keren district farther inland about the head-waters of the Khor Baraka, whose language (Bilin) is akin to the Agao (Agau), most widely diffused of all Hamitic tongues in Abyssinia proper. About half of the large Beni-Amer nation, whose territory extends along the east side of the Baraka valley, also retain their original Hamitic language, the so-called To-Bedawîyeh, common to the Hadendowas, Bisharîn, and other members of the Beja family, called "Arabs" by most English writers.

By contact with the Hadendowas, the *Hallengas*, *Zabderats*, *Algedens*, and a few other Semitic groups of the Taka district between the Mareb and the Upper Baraka have also adopted this Hamitic language, while by way of compensation several Hamitic groups, such as the *Hababs* between the coast and the Middle Anseba river, the *Mensas* east of the Bogos from whom they are separated by the Upper Anseba valley, and the *Marea*, north of the Bogos, besides half of the Beni-Amers, are all now of Semitic speech. They speak a *Tigré* dialect somewhat different from the *Tigrinya*, which is current in the kingdom of Tigré, and generally throughout North Abyssinia as far south as the Takazzé valley. Tigrinya, spoken also by the Dahlak islanders, is the best modern representative of the Gheez or old Himyaritic, which is still the liturgical language of the Abyssinian Church, and which is not yet quite extinct in South Arabia.

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Besides the Abyssinians proper (Tigré, Amharas, Shoans), the Bogos and some of the Mensas and Gallas (especially the Sidamas of Enarea) are also Christians; the Negroes and some Galla and Somali tribes are still pagans, while the Arabs and Danâkils, the bulk of the Gallas and Somali, besides the Sahos, Beni-Amer, Hababs, Hallengas, and all the rest, except the Zabalat fire-worshippers of Senaar and the Falashas, are at least nominal Mohammedans.

The Falashas, who are numerous in the province of Simen, and also scattered in small groups over the surrounding districts as far south as the Abai, are commonly known as the "Jews of Abyssinia," and have certainly practised Jewish rites from remote times. But although they claim to be of the "House of Israel," they are neither Jews nor Israelites, but mainly Hamitic aborigines, closely allied in speech and physical appearance to the Agau people of Lasta. The word *Falasha* means "Exiles," possibly in reference to some Jewish refugees, who may have reached the plateau at the time of the Babylonian Captivity, if not even at an earlier date, and who became absorbed in the surrounding Hamitic populations after bequeathing to them the inheritance of their religious ceremonial. None of their teachers have at present any knowledge of Hebrew, and their Bible is the Gheez version, common to all the Abyssinian Christians. In their upland homes they are chiefly occupied with agriculture; but considerable numbers emigrate to Gondar and other districts in search of employment as masons, workers in iron, wood-cutters, and other pursuits.

Except the Abyssinians proper, who had already been merged in a powerful Himyaritic nationality before their migration from Arabia to their present homes, all the

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Ethiopian populations are still in the tribal state. But some of the groups, especially in the Somali and Galla lands, are numerous and powerful enough to be regarded as nations. The northern Gallas, of whom alone we possess any detailed knowledge, have even established several petty States, such as the "Kingdoms" of Limmu (Enarea), Gomma, Guma, Kaffa, Jimma, Cullo, and Walamo, all, however, politically dependent on the Abyssinian empire. The Somali also appear to be grouped in three great political divisions—Hasiya, Hawiya, and Rahanwin—whose influence is felt throughout the whole of their respective domains. And even the more fragmentary Danâkils have developed more than one potent principality, such as the Sultanate of Adel, whose ruler, Ahmed Grañ, overran a great part of Abyssinia in the sixteenth century (1537), and for a moment threatened to extinguish Christianity on the Ethiopian plateau. It was owing to these disastrous wars that the Gallas were able to move northwards and establish themselves in Shoa, Gojam, and Amhara, where, although in some respects assimilated to the dominant race, they still preserve their Hamitic speech and many of the national usages. But these, like their southern kindred and their Somali and Danâkil neighbours, still also retain their tribal divisions, as shown in the subjoined table.

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Table of the Ethiopian Populations

Somali Hamites

Hasiya Division.	*Daroda Group*	Mijertin, War-Sengeli, Dolbohanti, Marehan, Yusuf, Tenade.	North Somaliland, from Tajurah Bay round to the Indian Ocean, and from Gulf of Aden southwards to Ogaden (Central Plateau).
	Ishak Group	Habr Gahr-Haji, Habr-Awal, Habr-Tol, Habr-Yunis, Issa, Gadibursi, Ghiri, Bertiri, Babilli.	
Hawiya Division.		Gurgaté, Habr-Jaleh, Daji, Karanlé, Baddabad, Habr-Gader, Kunli, Bajimal, Rer-Dollol, Ugass-Elmi.	Ogaden and Webi-Shebeli basin.
Rahanwin Division.		Kalalla, Tuni, Elai, Barawa, Gobron, Jidu, Wadan, Abgal.	Southern steppes south of the Webi-Shebeli basin.
Outcast Groups.		Midgan or Rami, numerous in Ogaden. Yebir or Yiber, amongst the Isa-Mahmud Mijertins on east coast between Ras el-Khail and C. Guardafui. Tomal or Hundad, scattered over the interior.	

Galla Hamites

Eastern Gallas.	Jarso, north of the Harrar district. Ittu, Mole, Ala, Upper Webi-Shebeli basin. Enniya, Arussi, Jidda, Arussi Mts. and Harrar district. Arussa, Panigal, Upper Juba basin.	
Abyssinian Gallas, collectively called Wollo.	Asabo, Raya, Yedyu, province of Zebul. Warra-Haimano, Warra-Kallo, Sharso, Lagga-Ghora, Tehuladéré, Boranna.	Shoa, Gojam, and Amhara.
	Wasa, Washeti, Walaga, Limmu, Gudro, Horro, Jomma, Wambera.	Within the great bend of the Abai.
Southern Gallas.	Metta, Maicha, Soddo, Adai, Abbo, Seban, Jidda, Afsala, Golan, Bejo.	South of Shoa and in Guraghé.
	Wato, Baloso, Falandoso, Maroko, Laki, Lani, Damo, Woberi, Jambichu, Sululta, Finfinni, Mai, Masso, Imer, Fullo, Kulla.	Southern districts beyond Guraghé.
	Sidama, Goma, Buno, Jimma, Mancho, Walamo, Konso, Bendilé.	Enarea Kaffa and thence southwards.

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Afar (Danâkil) Hamites

Asaîmara Division. — Saho, Irob Saho, Haddarem, Dahimela, Dumheîto, Aduleh, Dawaro, Modaîto (Modeîdo). — North Afarland from Arkiko southwards to Cape Sintiar.

Adoîmara Division. — Adel (Ad-Ali), Taltal, Debeneck, Asoba, Assa-Imara, Sidi-Habura, Galeila, Rahhita (Raheîta). — South Afarland from Cape Sintiar south-westwards to the Ittu border range.

Abyssinian (Agao) Hamites

Khamta, province of Lasta, South Tigré.
Aghagha, province of Agaomider, *i.e.* "Agao-land," within the great bend of the Abai.
Falasha, so-called "Jews," chiefly in the Simen uplands.
Kwara (*Hwara*), west and north frontiers of Agaomider.
Khamant, Amhara and Shoa, but chiefly in province of Dembea.
Vaitos, east side of Lake Tsana.
Zalan, Nomads in North Amhara and Simen.
Fighen, Nomads south-west side Lake Tsana.
Bilin (*Bogos*), Sinhait district, north-west from Massowa.

Semitised and Mixed Hamites

Marea, north of the Bilin territory.
Mensa, east bank Upper Anseba river.
Habab, between Anseba river and Red Sea.
} Hamites now of Tigré speech.

Beni-Amer, east bank Baraka river, Hamites of Tigré and Beja speech.

Hallenga, *Zabderat*, *Algeden*, } Taka district, between rivers Mareb and Baraka. } Semites of Beja speech.

Taora, *Saorta*, Buri peninsula, Annesley Bay.
Dahlaki, Dahlak Islands, near Massowa.
} Hamites now of Tigré speech.

Himyaritic (Abyssinian) Semites

Tigré, north-east Abyssinia, as far south as the Takazzé.
Amharas, central provinces of Abyssinia.
Shoas, south-east Abyssinia.

Arab (Nomad) Semites

Hamran, middle course of the Atbara river.
Hassanieh, about the Atbara-Nile confluence.

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Hotem, Red Sea coast between 17° and 18° N. lat.
Abu-Rof, West Senaar.
Zabalat, between the Blue Nile and the Dender, above the town of Senaar.
Shukrieh, *Dobeina*, } left bank Lower Atbara, and thence southwards to Senaar.
Mahra, and others, along the Somali seaboard.

NEGROES AND BANTUS

Basé (*Kunama*), *Barea*, Middle Mareb basin.
Shangalla (*Shankilla*), along all the western slopes of the Abyssinian plateau, above the the plains of Senaar.
Gambil, *Kirim*, *Mala*, *Ishing*, } west slopes of the Galla uplands (Middle and Upper Sobat basin).
Adoni, Bantu freedmen, middle course Webi-Shebeli, Somaliland.

The Somali Race

Although the ethnical unity of all the peoples here classed as Hamites cannot yet be said to be scientifically established, there can be little doubt that at least the four main groups—Somali, Galla, Afar, and Agao—belong fundamentally to one primitive stock. Amid the many differences due to the different environments, and especially to contact with the surrounding Semitic and Negro populations, an unmistakable "family likeness," as well as their common Ethiopic speech, plainly show them to be so many more or less closely related members of the Hamitic division of mankind.

So close is the relationship of the first two groups that some observers regard the Somali merely as a branch of the Gallas modified by crossings in some districts with the Negroes, in others with the Arabs. Nevertheless, even the full-blood Somali, such as the Habr-Awal, and the Mijertins, can always be distinguished from the full-blood Gallas, being generally taller (5 feet 10 inches to 6 feet), and darker (a deep shade of brown), with smaller and more highly dolichocephalic head, slightly arched

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nose, full lips, deep-set black eyes, long crisp black hair, generally slim extremities, and graceful, martial carriage.

But the type varies considerably, approaching the Galla in the north-west, the Arab on the coastlands, the Negro in the central and southern districts. For ages, certainly since the sixth century of the new era, the Arabs have never ceased to arrive, forming settlements on the coastlands, and contracting alliances with the neighbouring tribes, some of whom even claim Arab descent, while the great majority have long been zealous Mohammedans. Bardera and Een, in the very heart of the country, are still hotbeds of Moslem fanaticism, the latter place being the seat of the powerful Tarika sect, whose influence is felt throughout Ogaden and as far south as the Webi-Shebeli valley.

The presence of the emancipated Adoni peasantry in this valley shows that towards the south the Somali have also been long in contact with Negro or Negroid peoples, who may have even constituted the aboriginal element in these regions. The Andoni, however, appear to be relatively recent arrivals, their Bantu speech still bearing a close resemblance to that of the Swahili of the Zanzibar coast. They were originally introduced as slaves by the Karanle and other Hawiya tribes, who procured them at Magadosho, when that seaport was a flourishing emporium of the mediæval Zang empire. The influence of these and of other Bantus filtering in from the Tana basin is conspicuous in the less regular features and darker complexion, sometimes almost black, of the Hawiyas, and especially of the more southern Rahanwin Somali. It is noteworthy that slavery, as an institution, prevails only in the central and southern districts, as if here alone the "raw material" had been supplied by an aboriginal Negro element.

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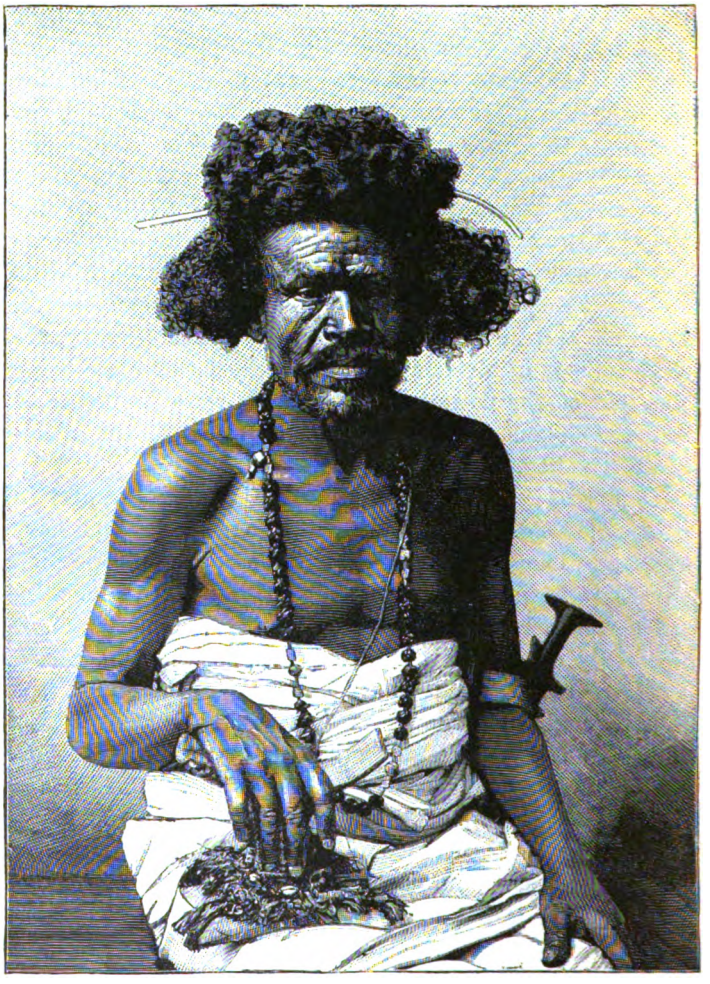

SOMALI MAN.

In other parts of the country, and especially on the north-eastern seaboard, there occur numerous remains of

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which the present inhabitants have no knowledge, or even tradition, although calling them "Galla graves."

SOMALI WOMAN.

They are neatly constructed of undressed stones without mortar, and are generally round like tumuli, or the Sar-

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dinian nuraghi, about 10 feet in diameter and 10 feet high. Robecchi was informed that in one of them was found the skeleton of a man 6½ feet high. There appear to be no ruins analogous either to those of Axum or of Mashonaland; but structures resembling the Galla graves occur in the Beni-Amer territory on the Red Sea coast north of Cape Kasar. They were visited in 1892 by Governor Lewa Holled Smith, who describes them as circular stone houses built without mortar, 10 feet in diameter and height, but overlapping inward, so as to form a vaulted roof, in which was left a hole, "evidently the entrance."[1]

The present Somali may be somewhat paradoxically described as "semi-civilised savages." Beneath a varnish of Moslem culture, shown in their religion, slight knowledge of letters and costume—a sort of classical sagum of skins or cotton clasped to the left shoulder—the savage instincts are still rampant. Brigandage, lawlessness, and tribal feuds are the normal "international relations," and wanton cruelty and indifference to human life and sufferings are almost everywhere characteristic of the race. A curious disregard of physical pain even in their own persons has been noticed by James, who tells us that so far from dreading cold steel they seemed to like surgical operations, adding, "The constant and earnest desire to be cut with a knife is, I think, a distinctive feature of the inland Somal" (p. 71). All, of course, go armed, the national weapons being spears, long knives or daggers, and the *sif*, or two-edged sword, mostly reserved for chiefs.

Except on the coastlands, where they are fishers, sailors, and traders, the Somali are essentially nomads, pastoral pursuits being conditioned by the physical surroundings,

[1] *Proc. R. Geo. Soc.*, August 1892, p. 548.

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by the chronic state of intertribal warfare, and by the loose social organisation. The innumerable *rers* or *fakidas* ("clans" or "septs") show little deference to their chiefs, and possess scarcely any political cohesion. They come together and break into fragments according to the vicissitudes of wars and alliances; but the so-called "Sultans" of the Hashiyas and other confederacies exercise little influence beyond their immediate vicinity. In the north, several of these potentates have gladly accepted the British protectorate, as affording them the best security for the stability of their power. Even as far south as the Webi-Shebeli many are already calling themselves "British subjects," and show a growing disposition to submit their incessant wranglings to the arbitration of the English authorities at Berbera. But on the south-east coast the tribes are still refractory, and have recently (1893) come into collision with the Italian officials at Obbia.

The Galla Race

Of all Hamitic peoples the Gallas are by far the most numerous, being estimated by Krapf at from 6,000,000 to 8,000,000, spread over a domain of some 400,000 square miles, comprising the whole of South Ethiopia, besides large tracts in Abyssinia, and most of the little-known region which extends through the Samburu depression to and beyond the Tana river. Like the Somali, they differ considerably in physical appearance; but the typical Gallas of Kaffa and surrounding regions are perhaps the finest people in all Africa, tall, of shapely build, with high, broad forehead, well-formed mouth, Roman nose, oval face, coppery or light chocolate colour, black kinky hair, often worn in "finger curls" or short ringlets round the head. Mentally also they compare favourably

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with all the surrounding populations, and although generally nomad pastors, display considerable capacity for agricultural pursuits in the forest clearings and other arable lands.

Although of native origin, the term *Galla*, "Conquerors," is not their present national name, the most usual designation being *Orma* (*Oróma*), that is, "brave," or more fully, *Ilm'orma*, "Sons of the Brave." Galla, however, already appears on Fra Mauro's map of 1459, where the lower course of the "Xebe" (Juba) is called the *fluvio di Galla*, "Galla River," as if at that time the Gallas were in possession of the whole of the Juba basin, of which they still hold the head-waters. A much earlier reference to the race occurs on the Greek inscription of Adulis, where mention is made of the *Arousi* people south of Shoa, near the territory of the *Arussi*, still one of the most powerful Galla tribes.

All still retain the tribal organisation, each tribe comprising two social divisions—the aristocratic *prutuma*, "herdsmen," and the plebeian *argatta* or *kutto*, tillers of the soil. These probably represent the agricultural aborigines subdued by the pastoral Gallas, who at some remote period penetrated from the north into their present domain, where they still regard themselves as invaders, *Ilma Galla*, "Sons of the Conquerors." Here many have at different times been brought under Abyssinian and Arab influences, while others have hitherto kept entirely aloof; hence some are still pagans, some Mohammedans, some (the so-called Sidamas) members of the Abyssinian Christian sect.

Hence, also, despite a certain vague sense of a common nationality, the several groups have long been animated by mutual feelings of hostility, intensified by the Mohammedan slave-hunting expeditions. The result is a chronic

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state of intertribal warfare, while many of the prutuma class are "professional marauders," raiding their neighbours, and levying blackmail on caravans passing through their territory. The national arms are the spear, sword, and shield, and most of the northern tribes fight mounted on small, mettlesome horses. The men wear a cotton loin-cloth saturated with butter, to which the wealthy add drawers, a short kilt, and ivory armlets, one for every enemy killed in battle. The dressed skin smock and short tunic, forming the garb of the women, are supplemented by copper or tin bracelets and a profusion of glass beads worn round the neck. Polygamy is prevalent, and the women occupy a degraded position in most of the tribes, in which the communal system forms the basis of the social organisation. All authority is centred in the prutuma class, which is grouped in *pakhidas*, with a council of 100 elders elected for sixteen years. These elders elect in their turn an assembly of 300 members, by whom is chosen the *buku el Kebir*, "great Chief." In the northern districts several of these chiefs rank as princes or "kings," and the Italian explorers even speak of an "emperor" of Kaffa. But all render a more or less reluctant obedience to the Negus Negust of Abyssinia, who claims to be lord paramount over the whole of Gallaland.

The Afar and Agao Hamites

The triangular space comprised between the Red Sea and the foot of the Ethiopian plateau, and extending from above Massowa southwards to the neighbourhood of Harrar, is occupied by a distinct group of Hamite nomads, who call themselves *Afar*, but who are better known by their Arab name, *Dankâli* (plural *Danâkil*). Another

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common designation, current especially in Abyssinia, is *Adel* (*Adäel*, *Ad-Ali*),[1] which, like Dankâli, is merely the name of a particular group applied by extension to the whole people. Of such groups, rather family than strictly tribal divisions, as many as 150 have been enumerated, all comprised in two main branches—*Asaïmara* in the north, and *Adoïmara* in the south, though it is not always clear with which branch certain groups should be classed. Each group has its own *Ras*, or Chief, while all recognise three great Chiefs, or "Sultans," residing at Tajurah, Aussa, and Raheita, who have recently accepted the Italian protectorate. The Afars are a fierce, warlike people of splendid physique, tall, slim, and agile, of a deep bronze or very dark brown colour, with black curly hair, straight nose, and regular European features, compared by Dr. Kirk to Flaxman's finest models. As amongst so many other Hamites, the spear and shield are the national weapons, though in recent times often displaced by firearms. The eastern tribes are all fanatical Mohammedans, while those of the interior are much more lax, some being even still pagans, or else half Christians of the Abyssinian sect. The Taltals and a few others find employment at the salt works which abound in their territory; but the great majority are pastors and caravan leaders.

Everywhere on the Abyssinian plateau, except in the northern and central provinces of the kingdom of Tigré, the bulk of the population is still Hamitic. But here this aboriginal element is broken by the intruding and dominant Semites into separate groups without any

[1] With this may be compared *Aduleh*, name of a tribe about the head of Annesley Bay and thence southwards. In their territory lies the seaport of *Zula*, that is, *Adulis*, which ancient city is supposed to have been named from the Aduleh inhabitants of the district. If so, Aduleh must be one of the oldest tribal names still surviving in Africa.

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political cohesion, and even without any collective name. They may, however, be conveniently comprised under the general designation of *Agao* (*Agau*), which has the prestige of history in its favour, and which survives in the name of the province of *Agao-medir* ("Agao-land"), still almost exclusively occupied by them. The word occurs in its present form in the relation of Cosmas, who writes Ἀγαῦ, and who tells us that in his time (523 A.D.) they recognised the authority of the kings of Axum. Four hundred years later, the Agao of Simen, who have also been identified with the *Athagao* of the Adulis inscription, were strong enough under their queen, Judith, to expel the Menilek dynasty from the throne of Axum, a revolution which is one of the turning-points in the history of Abyssinia. The name of this queen shows that a section, still represented by the Falashas, had already been Judaised, although the bulk of the people continued long after to be nature-worshippers, and are even now little more than nominal Christians.

Most of them appear to have maintained their political independence till the seventeenth century, when those of Lasta in Tigré were completely reduced, and many others driven beyond the Abai south-westwards to Agaomedir. This region was also conquered, and for the last two centuries all the Hamites of the Abyssinian plateau have been subject to the Negus Negust, though still preserving many of the national usages, and to a great extent retaining their primitive Hamitic speech. Agao is spoken under various names and with considerable dialectic variety by numerous communities throughout all the Abyssinian lands, from the Sanhait district in the extreme north-east to Gojam and Shoa in the extreme south. In this direction it overlaps at some points the kindred Galla intruding from South Ethiopia, while in the northern borderlands it

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comes in contact with the Beni-Amer and others of the allied To-Bedawiyeh (Beja) speech, and thus serves to complete the zone of populations forming the Ethiopic division of the Hamitic race, and extending with little interruption from Masailand nearly to the Mediterranean.

The *Vaito* (*Wito*) people, fishers and hunters of the hippopotami round the shores of Lake Tsana, are a remarkable and apparently aboriginal race, quite distinct from and despised as outcasts by both Hamites and Semites. They present some peculiar features which have greatly puzzled ethnologists, a retreating head with the outer corners of eyes and eyebrows sloping upwards, aquiline nose curved like a beak over the upper lip, enormously long chin, pointed ears, short woolly hair, altogether a combination of discordant traits, such as scarcely occurs in any other race. Yet some of the women are said to be really beautiful even to a European eye. They are otherwise a harmless people, avoiding contact with their neighbours, and living in tiny conical huts made of reeds taken from the lake.

The Abyssinian and Arab Semites

In this Hamitic zone the chief intruders are the Himyaritic Semites, who arrived in prehistoric times from Arabia Felix (Yemen), and who settled mainly on the uplands, and the kindred nomad Arabs who began to arrive in the seventh century, settling almost exclusively on the lowlands. Throughout the historic period the Himyarites have constituted the dominant political people on the Abyssinian plateau, where they form two distinct groups, the *Tigré* in the north, and the *Amhara* in the central and southern provinces, the Takazzé river forming the ethnical parting-line between the two groups. Under early Greek influences all adopted the general name of

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Itiopiavian, "Ethiopians," which is still used in diplomatic and elevated style; under later Arab influences they adopted the general name of *Habéshi*, "Abyssinians," which is used in familiar language and universally by strangers. But the true national name would appear to be *Aga'zi* (*Agaazi*), *i.e.* "Axumites," a word formerly used as synonymous with the region corresponding to the present Tigré, and still retained by a small community on the north-east frontier of that kingdom.

As Tigré represents the old empire of Axum, the Tigré people are by far the purest descendants of the Himyaritic founders of that empire (p. 445). Their Tigrinya language also is the best representative of the original Himyaritic Gheez (*i.e.* Aga'zi), from which it was differentiated during the twelfth to the fourteenth centuries. When the Aga'zi crossed the Takazzé and extended their conquests southwards, they became more and more intermingled with the Agao aborigines. Hence the southern Abyssinians of Amhara and Shoa are a mixed Hamito-Semitic people, whose very name is borrowed from the primitive Hamra (Amhara) inhabitants of the central provinces between the Takazzé and the Abai.[1] Their Amharinya speech also has been so profoundly modified by Agao elements that some philologists regard it rather as a Hamitic language affected by Semitic influences than a Semitic degraded by contact with Hamitic tongues.

[1] Beke calls the Hamitic language current in the central districts *Hhamera*, obviously the same word as Amhara. This word has by others been equated with *Khamta*, collective name of the Hamites of Lasta in Tigré, which again is but a variant of Khamant, collective name of the Amhara and Shoa Hamites. Even the Lasta Hamites are said to call themselves *Hamra* and their language *Khamtinga*, and in any case it seems established that *Amhara*, present name of the Southern Himyarites and of the central kingdom between Tigré and Shoa, was originally and still remains the collective designation of a large section of the Hamitic aborigines.

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Both Tigrinya and Amharinya are written with a peculiar syllabic alphabet running from left to right, derived from the Himyaritic characters of the still undeciphered rock-inscriptions of South Arabia, and perfected in its vocalic system under Greek influences in Ethiopia.

In other respects all the Abyssinians proper constitute a single people differing little in character and temperament, possessing the same usages, traditions, and religion, and although for ages torn by dynastic wars, recognising their common nationality, and animated by a highly patriotic sentiment. Nevertheless the physical type varies considerably, as is always the case where miscegenation has been in operation for long periods of time. The prevailing colour is a distinct brown, shading northwards to a light olive and even fair complexion, southwards to a deep chocolate and almost sooty black. There are Abyssinians who may certainly be called black, but whose features are never Negro, though a strain of Negro blood may be suspected in the somewhat tumid lips, small nose, and frizzly black hair, due, perhaps, to contact with the Shangallas of the western slopes, and to the long-established institution of slavery. Of frequent occurrence are features recalling those of the old Egyptians as expressed in the head of the Sphinx, while the skull is not only very long and compressed like that of all Hamito-Semitic peoples, but is also very high like that of the Melanesians. Other marked traits in the north, where the purest type must be looked for, are a long, arched nose, slightly oval and animated eyes, rather high cheek bones, small hands and feet, a lively intelligent expression, which, however, does not inspire confidence.

In fact, although obliging and even hospitable, the Abyssinians are as untrustworthy as they are vainglorious, boasting, and indolent. Socially they represent an inter-

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esting phase of barbaric culture, the foundations of which were laid in Arabia Felix thousands of years ago, while the superstructure was raised first under Greek, then under Christian influences, and later developed under generally unfavourable conditions, in the midst of rude Hamitic populations. Perhaps the greatest obstacle to the progress of the nation to a higher civilisation has been its isolated position, cut off from all further intercourse with the Byzantine empire after the irruption of the Moslem Arabs into the Nile Valley in the seventh century, and later deprived of their only outlet to the eastern world by the seizure of Massowa by the Saracens and Turks.

Before these events, Christianity had been introduced by Frumentius and other missionaries from Alexandria, and by the close of the fourth century the great bulk of the Axumites appear to have been converted. About the same time the Bible was translated into Gheez (Himyaritic), which was at that time the current, as it still is the liturgical, language of the country, and which has preserved some early Christian documents, the Greek or Syriac originals of which have been lost. Having received its teachings from Alexandria, the National Church is a branch of the Coptic, and consequently professes monophysite doctrines, recognising but one (the divine) nature in Christ. The *Abuna*, its spiritual head, is always consecrated by the Patriarch of Alexandria, and for the last 700 years has even been of Coptic nationality. But his possibly dangerous influence in political matters is entirely neutralised by the *Echaghey*, a kind of national high priest, his equal in dignity, and at the head, not only of the numerous monasteries, but also of the *dabtara*, or men of letters. Although laymen, these dabtara enjoy exceptional ecclesiastical privileges, conferred on them apparently with a view to counteracting the

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influence of the religious orders, comprising about 12,000 monks, and owning a large part of the land.

Through these orders the dabtara control educational matters, the monasteries and churches being the schools of the country, as the mosques are in Mohammedan lands. Attendance at these schools is voluntary and the instruction free, being mainly limited to reading and writing, a little grammar, poetry, and the study of the sacred texts. The industries are neglected, or left to the Falashas, who practise most of the crafts, and who, like the Jews in the Christian lands, are hated and oppressed as *budas*, or "were-wolves." Painting, introduced in Byzantine times, is still cultivated for the decoration of churches, a fundamental principle of the native artists being to represent all Abyssinians and their friends in full face, their enemies, Jews, devils, and others in profile. But the generally low state of the arts is sufficiently attested by the fact that in a country where bridges are so much needed, none have ever been built, except two or three by the Portuguese,[1] and one in 1883 by an Italian engineer across the Abai between Gojam and Gudru.

Although in theory absolute, the Negus Negust is controlled by custom, by the power of the feudal chiefs secure in their mountain fastnesses, and even to some extent by the "King's Guide," a written code of great antiquity attributed to Constantine. But this code, while assigning to the father the right of life and death over his children, extends the same absolute power to the king over his subjects. Such power has frequently been exercised with ruthless cruelty during former dynastic and religious wars, and notably in recent times by King Theodore, who fell at Magdala (p. 508). The royal

[1] The broken central arch of one of these bridges crossing the Abai has never been rebuilt, but is merely spanned by a frail rope substitute.

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authority has also been strengthened in the present century by the creation of a body of mercenaries answering to the standing armies of European Powers, but completely under the control of the king, and armed with rifles, against which the retainers of the feudal lords with their spears and shields are powerless. But owing to the absence of good roads and the extremely rugged nature of the country, the paramount lord exercises little personal jurisdiction beyond his camping-grounds and the more accessible districts. Both Theodore and his successor John passed most of their time in these encampments, feeling safer in the midst of paid hirelings than within the walls of the royal residences.

Of all the Arab tribes that have obtained a footing in Ethiopia, the best known and the most [illegible]ous are the *Hamrans* (*Homrans*) of the river Atbar[illegible]t the Bahr Setit confluence. They penetrated at a very early date up the Baraka Valley into this region, where they have formed a few agricultural settlements along the river banks. But most of them have been induced by the abundance of game in their country to adopt the chase as a profession. They are largely employed by dealers in animals to capture elephants, lions, and other wild beasts for the European markets, and are known as "sword-hunters," from the weapon with which they pursue these animals. Most travellers who have visited them speak highly of the courage with which they will attack the lion, buffalo, rhinoceros, and other formidable game, armed only with the sword.[1] Some of the Hamrans are of very dark complexion.

[1] Myers's *Life with the Hamran Arabs*, 1876. Since Myers's time many have been supplied with rifles, with the result that the game is disappearing from the plains and withdrawing higher up the Abyssinian slopes. James, who also visited them, is less loud in their praise (*Wild Tribes of Soudan, passim*).

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Still more interesting are the *Zabalat* Arabs, who have been settled in the district between the Blue Nile and the Dender affluent from time immemorial. They, in fact, claim to have come from Yemen before the spread of

HAMRAN BEDOUIN.

Islam in that region, and the claim seems confirmed by the fact that they are not Mohammedans, but "fire-worshippers," like so many of the Arab peoples in pre-Moslem times. The fire itself, however, is not worshipped,

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but only regarded as a great purifier, and as an emblem of a Supreme Being who reveals himself in this element as well as in the heavenly bodies. Hence they turn in prayer towards the stars, or towards the rising and setting sun, and kindle great fires over the graves of the dead. But there is also a supreme demon, as in the old Persian system, who has to be propitiated with offerings and sacrifices. The Zalabats differ from the Mohammedan Arabs in many other respects, being strict monogamists, keeping no slaves and recognising no hereditary sheikhs. The tribal affairs are regulated entirely by a traditional code, which is interpreted by the elders, who also choose the chief from amongst the best candidates, irrespective of all family claims.

Topography of Ethiopia

Besides the already described seaport of *Massowa*, there are several centres of population scattered over North and South Ethiopia, important, if not for size, at least for their historic associations and as local markets. Some have been royal capitals for ages, although as a rule the seats of government have, like the bulk of the people, been somewhat of a nomadic character, the royal residences shifting from province to province, and even from kingdom to kingdom, either with the whim of the ruling Negus, or with the ascendency of one or other of the rival dynasties. At first the supreme power was concentrated in the north, where was founded the now ruined metropolis of Axum (p. 446), later succeeded by the neighbouring city of Adua, as capital first of the empire, and then of the northern kingdom of Tigré. But when Amhara acquired the ascendency, the political centre of gravity was shifted farther south, and throughout

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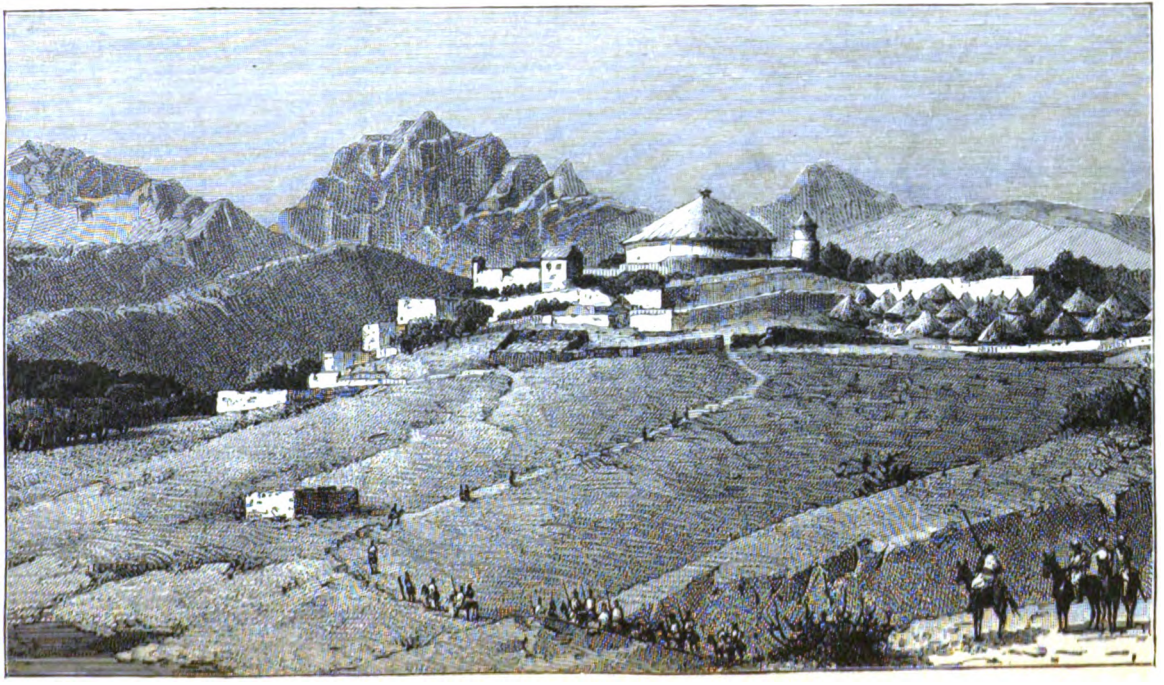

ADUA.

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mediæval and modern times Gondar, Debra Tabor, Magdala, or some other city of the Central region between the Takazzé and the Abai, has been chosen as the imperial residence.

Adua, Gundet, Keren, Gondar

Adua, capital of Tigré, and one of the largest markets in Ethiopia, stands at an altitude of nearly 6500 feet on the water-parting between the Takazzé and the Upper Mareb, not far from Axum, and about 110 miles by the ordinary trade route from Massowa. All the transit trade between the coast and Abyssinia necessarily passes through this place, which nevertheless has been greatly reduced by dynastic wars since the beginning of the century, when it was described by Salt as a city of great importance, both for population and for its weaving industry, and as the great centre of traffic between Abyssinia and the Red Sea. At present the population has fallen to less than 4000, living in wretched dwellings scattered over the plain and neighbouring slopes. During the first quarter of the century the residence of the Ras ("King") was removed to *Antalo*, which crowns an amba about the head-waters of the Takazzé, 8000 feet above the sea. But Antalo, like Adua, was ruined by the wars, and most of the inhabitants have migrated to the pleasant town of *Chelikot* (*Chalikut*), six miles farther north.

Gundet (*Gudda-Guddi*), which lies north of the Mareb on the route between Massowa and Adua, is memorable for the complete rout of two Egyptian armies, which had advanced from the Red Sea to the conquest of Abyssinia in 1875 and 1876. These defeats were the first-fruits of the ambitious policy which led to a long

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series of disasters, culminating in the Mahdist revolt. Nearly due north of Gundet, and 75 miles west by north of Massowa, is situated the little station of *Keren*, so often mentioned in books of travel. It occupies a pleasant position in the Upper Anseba valley, and its importance is due to the fact that it is the chief settlement of the Bogos nation, and for many years the central station of all the surrounding Roman Catholic missions. Formerly claimed both by Egypt and Abyssinia, Keren is now held by the Italians, being included with the whole of the Sanhait district, Bogos and Mensa territories in the Massowa division of Eritrea.

In the central kingdom of Amhara no place has enjoyed the privileges of a royal residence more frequently or for longer periods than *Gondar* since its foundation in the seventeenth century. But although usually spoken of as the permanent capital of the empire, the place is more a religious than a political centre. Amid all the vicissitudes of dynastic and religious strife, it continues to be the residence of the Abuna, and consequently the metropolis of the Abyssinian Church. Gondar occupies a central position about 6500 feet above the sea, near the divide between the Atbara and Takazzé basins and the torrents flowing through the fertile plains and valleys of Dembea south to Lake Tsana. The city comprises a Christian and a Jewish (Falasha) quarter, with a population formerly estimated as high as 50,000, but now reduced to 5000.

The most striking monument, not only in Gondar, but in the whole of Abyssinia, is the so-called *Gimp* ("Castle"), a half-ruined but still imposing turreted structure, the "Windsor of the Ethiopian Monarchs," built by Indian craftsmen under the direction of Portuguese architects. It was burnt by King Theodore when he withdrew from

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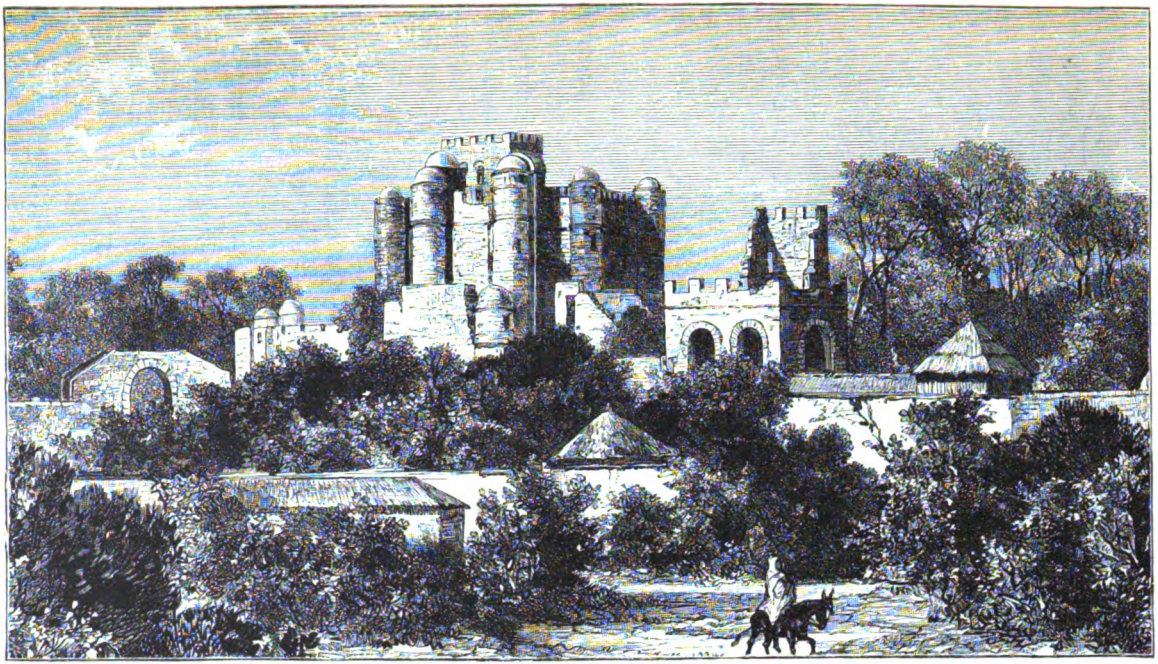

GONDAR.

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Gondar, under the impression that the British advance would be made from the Egyptian side. Its towers and galleries and long crenellated walls of solid masonry, decorated with fanciful tracery in red sandstone, now draped with the gorgeous foliage of trailing plants, are abandoned to the leopard, owls, and bats.

Debra Tabor, Korata, Sokota, Lalibala

About the same distance to the east that Gondar is to the north of Lake Tsana, but 2000 feet higher above the sea, lies the rival capital, *Debra Tabor*, that is, "Mount Tabor," so named from a neighbouring shrine much frequented by devout pilgrims. Close by are the villages of *Samára*, where King Theodore mostly resided, and of *Gafat*, where he had established an arsenal for the manufacture of his war materials under the enforced direction of some Protestant missionaries. Debra Tabor, which is 18 miles south-east of Gondar, occupies a more important strategic position in the very heart of the country, and at the junction of the best military and trade routes converging from Tigré in the north, and from Shoa and Gallaland in the south. Whoever holds Debra Tabor commands the plateau. Some miles to the south-west is *Mahdera-Mariam*, "Mary's Rest," another temporary royal residence near the source of the Gumera, which flows north-west to Lake Tsana.

On the south-east margin of the lake, between the mouth of the Gumera and the Abai outflow, stands the famous market of *Korata* (*Koarata*), in which is centred the trade of the whole basin. About the middle of the century, when Islam was making rapid strides and threatening, not for the first time, to make a clean sweep of the debased Abyssinian Christianity, Korata was one

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of the headquarters of the Moslem propaganda, and probably the largest city in Ethiopia. But when the reaction set in against this religious movement, a reaction stimulated by the Negus Negust for political reasons, all the Mohammedans were expelled from Korata, the population of which fell from about 14,000 in 1864 to scarcely 1000 twenty years later. The district grows coffee of prime quality.

Since the decay of Korata, the chief market in Amhara is undoubtedly *Sokota* (7500 feet), which occupies a central position in the province of Wahag between the two head branches of the Takazzé, 110 miles south by east of Adua, and 240 east by north of Assab on the coast, at the converging point of the trade routes from these places, and of others from Shoa and Gallaland. Markets are held here every other day to meet the constant demand for the salt bricks from Lake Alalbed, which from this place are distributed as currency throughout Ethiopia. But in recent times Sokota has suffered much from epidemics, by which the population is stated to have been reduced from 6000 in 1868 to less than 2000 in 1881.

About midway on the track leading from Sokota south by east to Magdala is situated the holy city of *Lalibala*, the "Jerusalem of Abyssinia," with its "Mount Olivet," and its rock churches, the most remarkable and probably the oldest south of Tigré. These curious structures resemble the Indian Jaina temples, each being hewn out of a single block of basalt, altars, columns, and porches all complete. They appear to be of various dates, as if the style first introduced had been religiously perpetuated by the priests and monks, who with the lay brethren still form the almost exclusive population of Lalibala.

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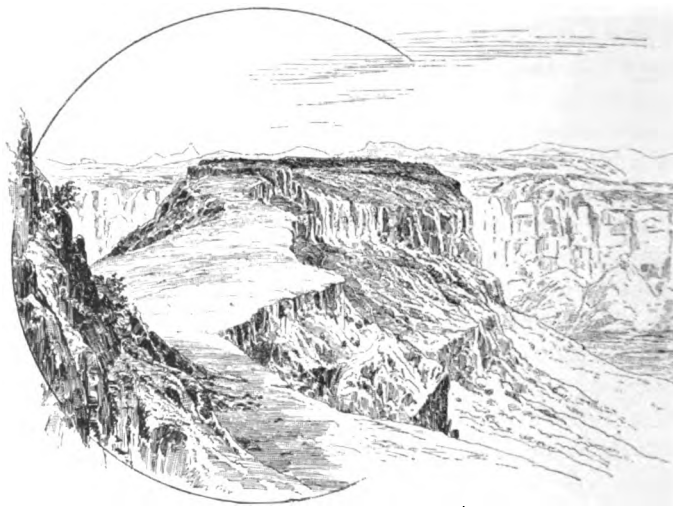
Magdala, Basso, Ankoper, Liekà, Bonga

The famous stronghold of *Magdala*, where King Theodore fell in the attempt to arrest the advance of the British expedition of 1868, crowns an isolated crag, which rises about 3300 feet above the Bashilo, easternmost affluent of the Abai, and 9000 above sea-level. From



MAGDALA.

Annesley Bay, where the expedition started for the interior, it is distant in a nearly due southerly direction 320 miles in a bee-line, and from Gondar 160 miles by the south-eastern trade route. Before its capture by the English, Magdala was supposed to be absolutely impregnable, the basalt cliff on which it stands being apparently unassailable from any quarter, and terminating westwards in a nearly vertical wall over 2000 feet high. Here

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Theodore had confined the British subjects, whose captivity led to the war; and here he had constructed arsenals, barracks, fortifications guarding every approach, granaries and reservoirs sufficient for a protracted siege. But he rashly quitted his entrenched lines to meet the invading force in the open, and the result was the rout of his half-disciplined levies, his own death, and the instant capture of the place. The fortifications were all destroyed by the English; but such is the vital importance of this advanced bulwark of Abyssinia towards Shoa and Gallaland that Magdala has since been rebuilt, and appears to be once more the strongest citadel on the Ethiopian plateau.

In the kingdom of Gojam the most noteworthy places are not the "royal residences" such as the present capital, *Monkorer*, south of Mount Naba, but the three market towns of *Dambacha*, north-west of Monkorer; *Mota*, on the Abai near the ruined Portuguese bridge; and especially *Basso*, lower down the same river, about 180 miles south-west of Sokota, and next to it the largest market in Ethiopia.

In Shoa, on the other hand, both political and commercial interests have long been centred in *Ankober*, to which place the seat of government was removed from *Debra-Bram* by King Oizen Segged about 1725. Since then Ankober has always been the capital, except for a short interval in the first half of the present century, when King Sahlé Sahlassé removed his head-quarters to *Angolola*, some miles farther west, in order the better to overawe the turbulent Galla tribes of the Abai basin. Ankober lies at a height of 9725 feet on the outer slopes of the border range, whose running waters drain to the Hawash. Before the accession of King Menelek to the imperial throne it had a reputed population of about

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10,000; since then it has sunk to the position of a provincial capital, though still an important station on the trade route between Tajurah Bay and Gallaland.

In this southern region, as in Gojam, the chief centres of population are the markets, of which by far the most important are *Liekà* on the *Billò* plain, near *Sopsò*. 180 miles south-west of Sokota and *Bonga*, in the "empire" of Kaffa, 115 miles south-west of Liekà. Liekà, which is often well stocked with European wares, has the advantage of direct communication with Gojam, Shoa, and all parts of Gallaland, of which it is the busiest trading place next to Bonga. This southernmost emporium of Ethiopia is visited by traders from every part of Kaffa, as well as from Kullu, Kobo, Wallamo, and other remote principalities.

Trade Routes: Harrar

The native commodities brought to these southern marts are mainly corn, flour, cotton, indigo, cattle, hides, beer, korarima, wax, honey, and the four staple products of the land—ivory, gold, musk, and coffee. Hitherto these wares have reached the coast by the long roundabout and difficult routes through Shoa, Amhara, and Tigré. But there is a much shorter and in every way more convenient highway well known to the natives, but carefully concealed from the outer world by the interested policy of the Abyssinian rulers, anxious to control, and secure the profits on the transit trade by forcing it to pass through their territory. This "back door" to South Ethiopia, by far the richest region between the equator and Egypt, runs from the Kaffa and Galla lands eastwards to a pass in the Arussi section of the border range, beyond which it follows the eastern

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foot of this escarpment north-eastwards to Harrar, whence it bifurcates, one branch taking the well-known road to Zeila, the other the more easterly track to Bulhar and Berbera, near the head of the Gulf of Aden. The road from Bonga by this route to the coast at Zeila is only 490 miles long, whereas by the Sokota route it is 630 miles to the Red Sea at Massowa and 650 to Assab above the Strait of Bab el-Mandeb.

As Zeila, Bulhar, and Berbera all lie within British territory, it follows that the future highway from the coast to South Ethiopia must be completely controlled at its seaward termini by Great Britain. In the interior, however, it traverses Abyssinian territory at *Harrar*, which town, formerly a hot-bed of Mohammedan fanaticism, was occupied by the Abyssinians from Shoa in 1887. Harrar is a place of great strategic and commercial importance, forming a sort of fortified oasis about the sources of the northern affluents of the Webi-Shebeli midway between Shoa and the Gulf of Aden. The distance to Zeila is about 186, to Ankober and Bulhar 145, and to Berbera 190 miles by the caravan tracks. The natives, long governed by an independent Emir (prince), were originally Christian Abyssinians, and still speak a corrupt Himyaritic (Amharic) dialect. Although for some generations fanatical Mohammedans of the Shiah sect, they have preserved many Christian traditions, are mostly monogamists, and treat their women with great respect, allowing them to go unveiled, and relieving them from much of the hard work. The Harrari are specially noted for their love of letters, and have developed a local literature, using the Arabic characters, which, however, are written in vertical instead of horizontal lines from right to left. Bookbinding, pottery, weaving, and dyeing are flourishing local industries, and a considerable

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trade is carried on in coffee, musk, cattle, hides, and dye-stuffs, with a total annual value of about £180,000. Harrar had an estimated population of nearly 20,000 in 1890. Although held by the forces of the Negus, the revenue derived from its transit trade is pledged to the Italian Government in return for an advance of £160,000 made by the Italian National Bank to King Menelek some years ago. As there appears to be little prospect of this sum being refunded, Harrar may be regarded as practically an Italian outpost towards the interior, holding in this respect somewhat the same relation to South Ethiopia that Asmara does to Abyssinia proper (p. 441).

The British Somali Coast Protectorate

For some years before the Mahdist revolt the whole of the North Somali coastlands as far as Cape Hafun, below Cape Guardafui, on the east side, had been included in the Khedival possessions. Berbera, Zeila, and for a time even Harrar were held by Egyptian garrisons, the Egyptian flag floated over several other stations along the seaboard, and in 1875 Egyptian troops had even occupied the coast towns of Brava and Kismayo, belonging to the Sultan of Zanzibar. But the schemes of conquest indicated by these movements were suddenly arrested by the Mahdi's rebellion, which obliged Egypt to withdraw her forces from all her outlying possessions on the north-east African seaboard.

It was then that England interfered, and partly to save the country from relapsing into barbarism, partly to prevent its occupation by other Powers, by which the overland route to India might be seriously menaced, she took possession of Zeila, Bulhar, Berbera, and the other Egyptian stations along the north coast of Somaliland,

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nearly as far as Cape Guardafui. Thus was constituted the British "Somali Coast Protectorate," which was recognised by all the interested Powers, its southern limits being determined by the Anglo-Italian Treaty of 1891, its north-western by the Anglo-French Convention of 1888. Here the parting-line runs from the coast village of Lawada (Lehada), midway between Zeila and Cape Jibuti, by the Haddon Wells and Abassuem, along the caravan route through Bia Kaboba and Gildessa to Harrar. This line thus separates British Somaliland first from the French enclave of Obok and Tajurah Bay at the head of the Gulf of Aden, and farther on from the south-eastern frontiers of Eritrea and Abyssinia. The position is of great prospective importance, in view of the future development of traffic along the above-described commercial highway between South Ethiopia and the coast over against the British strongholds of Aden and Perim.

Since the British occupation the ports of *Zeila*, *Bulhar*, and *Berbera* have already become flourishing outlets for the produce of Harrar and North Somaliland. At Berbera, which had a permanent population of 30,000 in 1891, often swollen to over 70,000 during market days, cattle and excellent sheep are shipped in great numbers; and here also are exported most of the gums, hides, ostrich feathers, coffee, drugs, and other products that are now beginning to find their way from the interior to the coast. The total value of all the exports from British Somaliland rose from about £600,000 in 1887 to nearly £800,000 in 1889, and now (1894) probably exceeds £1,000,000.

Berbera stands at the head of a deep inlet which forms the only sheltered haven on the south side of the Gulf of Aden, and which has consequently been an active

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seaport from remote times. It was well known to the Greeks of Alexandria, who gave to these coastlands the general though somewhat vague name of *Barbaria*, of which *Berbera* is a modified form. Since the British occupation extensive harbour works have been in progress, and Berbera is now provided with two lighthouses, piers, warehouses, a strong fort, a hospital, barracks, and other Government buildings, besides an aqueduct seven miles long, which supplies the town with a copious stream, thermal at its source in the neighbouring hills.

The caravan route from Harrar strikes the coast, not at Berbera, but at Bulhar some 45 miles farther west. Although possessing no natural harbour, and scarcely accessible even to small craft, Bulhar is preferred to Berbera by the Somali caravan leaders, on account of its abundant pasturage. Hence the produce brought down from Harrar by this route has to be transferred to fresh convoys, by which it is conveyed along the coast to Berbera, where it is shipped chiefly for Aden, distant about 160 miles due north.

Owing partly to these commercial relations, the Somali Coast Protectorate is administered by a political agent and consul subordinate to Aden. The coastlands actually under British rule, extending from Cape Jibuti to Bundar Ziadeh, west of Cape Guardafui, have a total area of 30,000 square miles, with an estimated population of 240,000.

The Island of Sokotra

On Aden is also politically dependent the island of Sokotra, which forms geologically a north-easterly extension of Cape Guardafui through Abd el-Kuri, The Brothers, and numerous other rocks and reefs stretching in an almost continuous chain of islets right across the

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intervening channel, although the channel is over 150 miles broad and in some places 150 fathoms deep. The island is about 80 miles long, with a mean breadth of 20 miles, an estimated area of from 1000 to 1500 square miles, and a population of about 12,000. The surface is hilly, with several rugged and stony plateaux from 1600 to 2000 feet high, above which rise several short irregular limestone hills, from 3000 to 4000 feet, culminating towards the centre in the granitic Mount Hajar (4660 feet).

Thanks to the alternating monsoons, Sokotra enjoys a milder climate than the neighbouring African and Asiatic mainlands, but it appears to be unhealthy and little suited for European settlement. Despite its generally rough and stony aspect, the rainfall is copious enough to clothe the northern slopes with a green carpet of herbaceous and bushy plants, comprising 828 known species, of which about one-fourth are indigenous forms occurring nowhere else. Amongst them are the dragon's blood and aloes of prime quality. This remarkably original flora indicates long separation from the mainland, as is also attested by the great depths of the intervening waters. The fauna, on the other hand, is poor, with scarcely any original forms. The wild ass and the civet do not appear to differ from those of the Somali and Galla lands; the birds are nearly all African, the mollusks chiefly Arabian. Domestic animals, such as the camel, ox, and especially sheep and goats, have been introduced in historic times, and thrive well.

Sokotra was known to the Hindus, and still bears the Sanskrit name of *Dvipa Sukhatara*, which by a popular etymology the Greeks transformed to *Dioscoris* (the *Dioscoridis Insula* of the Romans), but which the Arabs have more faithfully preserved under the form of *Sokotora*.

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The first inhabitants appear to have been Himyarites from Yemen, still represented by the so-called "Bedouins" of the interior, who resemble the Himyarites surviving in the Mahrah district of South Arabia, and speak a language like the Ehkili of that district, quite unintelligible to the Arabs of Koranic speech. All were converted to Christianity at an early date, and still retained traces of that religion at the arrival of the Portuguese early in the sixteenth century. But for many generations they have been Mohammedans, like the coastlanders, who are chiefly more recent arrivals from Arabia with a considerable Negro element, for the most part fugitive slaves from Muscat and Zanzibar.

The coasts are destitute of havens, except on the north side, where is situated *Tamarida*, the capital, about 500 miles from Aden. Some distance west of Tamarida is the little port of *Gollonsir*, called also *Kallausiya*, which some etymologists suppose to be a corrupt form of the Greek *ecclesia*, "Church." Some Portuguese and other ruins of unknown origin have lately been explored by Riebeck and Schweinfurth; but beyond a few illegible Greek letters, nothing was found to throw light on their nature.

After its abandonment by the Portuguese in the sixteenth century, Sokotra remained unoccupied by any European Power till 1835, when the English placed a garrison in Tamarida with the consent of the Sultan of Keshim in South Arabia, whose family had for centuries claimed jurisdiction over the island. But after being decimated by fever the troops were withdrawn in 1839 to the new fortress of Aden, which was immeasurably stronger if not much more healthy. A fresh Treaty, however, was concluded in 1876, in which the Sultan undertook not to cede the island to any other Power without the consent of England, and this was followed

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by the Treaty of 1886, by which Sokotra passed into the possession of Great Britain.

The French Colony of Obok

The only territory on the East African seaboard over which the French flag flies is the colony of *Obok* on Tajurrah Bay, which with the surrounding district (about 25 square miles) was purchased from a local chief by the French Government in 1855, though the Treaty was not ratified till 1862. A first factory was established at Obok in 1881, and this event was followed by a number of Treaties with the neighbouring "Sultans" in 1882, 1884, and 1885, in virtue of which the colony has expanded to a territory 3860 square miles in extent, with a population of 22,000 scattered in small groups round the sandy shores of Tajurrah Bay. Obok thus became conterminous south-eastwards with the British protectorate of North Somaliland, where the frontiers were settled by the Anglo-French Treaty of 1888 (p. 513).

The French attach no importance to this colony, except for its position close to the Strait of Bab el-Mandeb on the flank of the overland route to India, and at the head of a marine inlet penetrating far inland in the direction of the productive regions of South Ethiopia. But, as already seen (p. 511), the best route to these uplands lies much farther south through Harrar, over which Italy has a prior claim. For Obok, which in itself has no resources, it is difficult to anticipate any economic developments, or any future, except political complications with the conterminous spheres of influence.

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CHAPTER VIII

EGYPT AND NUBIA

Preliminary remarks, extent, population—Distribution of population in the Nile Valley—Historic Survey; the Ancient Egyptian Empire—The Middle Empire—The New Empire—Egypt under the Greeks, Romans, Arabs, and Turks—Recent Events; the British occupation; Results—Physical Features—The Nile Valley—The Nubian and Arabian Deserts and Mountains—The Bahiuda Steppe—Geological Formations; Minerals—Nubo-Egyptian Hydrography: The Nile from Khartum to Cairo—Lake Moeris and the Fayyum—The Nile Delta—High and Low Nile—The Khor Baraka—The Suez Canal and Isthmus—Climate—Flora; Agricultural Resources of Egypt—Fauna—Inhabitants—Table of the Nubo-Egyptian Populations—The Nubians—The Bejas—The Fellahîn and Copts—The Egyptian Arabs—Topography—Administration—Material and Social Condition—The Future of Egypt.

Preliminary Remarks—Extent—Population

ALTHOUGH temporarily divorced by the Mahdist revolt, Egypt and Nubia are so intimately associated by their common physical constitution, historic evolution and commercial interests, that they cannot be conveniently separated in a survey which is necessarily of a summary character. Both are, so to say, indissolubly strung together by the coils of the great artery, which traverses them in their entire length, and which throughout nearly

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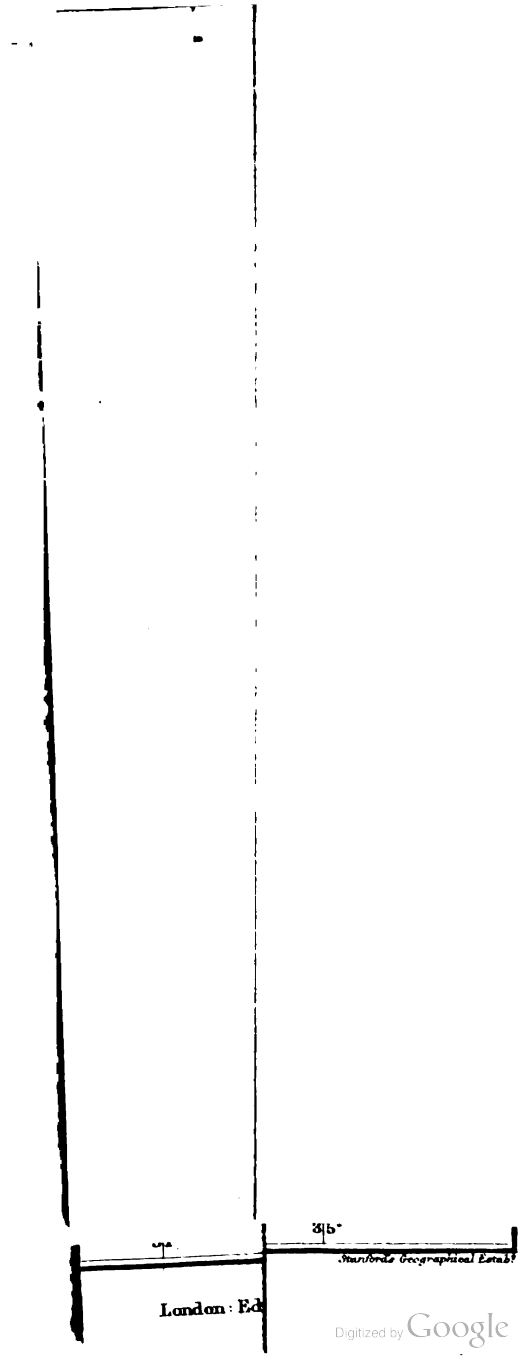

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its whole course winds in its narrow rocky bed between the same sandstone, limestone, and granite walls. So purely conventional is the boundary line drawn near the Tropic of Cancer between the two regions, that it is nowhere marked by any prominent feature except in the Nile itself, where the so-called "first cataract" with the neighbouring island of Philæ has for ages been regarded as the landmark of the Egypto-Nubian frontier. Yet even this landmark is so little conspicuous that it was entirely overlooked in 1884, when Nubia, with the whole of Eastern Sudan, had to be abandoned, and when the new frontier was advanced considerably farther south to the "second cataract" at Wady Halfa, as offering a stronger strategic position against the victorious Mahdists.

Nevertheless the old limit corresponds better to the physical as well as to the ethnical conditions, for here is the parting-line between the Egyptian and the Nubian races, and here the Nile has surmounted the last obstructions on its long seaward course, flowing from Assuan below the first cataract, to the Mediterranean, that is, throughout the whole of Egypt, in a placid stream unruffled by a single rock or reef. Egypt thus comprises that section of the river which extends from the mouths of the Delta to Assuan, while the limits of Nubia, otherwise a somewhat vague geographical expression, coincide with the considerably larger section, which comprises all the six cataracts, or rather groups of rapids, and which stretches southwards to Khartum, where the White and Blue forks converge to form the Nile proper.

In some other important respects the resemblance between the northern and southern regions is complete. Thus, at or near Khartum, the Nile enters an almost

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rainless zone, which prevails thence to the Mediterranean, and which is indicated by the presence of the Sahara, approaching close to both banks of the river under the name of the Libyan Desert on the west, and of the "Arabian" and Nubian Deserts on the east side. The names may differ, but the conditions are the same, and, as already seen (p. 172), the Sahara extends almost uninterruptedly from the Atlantic to the Red Sea, and in its eastern section, from the Mediterranean to below Khartum. In this section of the desert there are certainly some few thousand square miles of marvellously fertile tracts; but they are, so to say, an oasis in the wilderness, the creation of the river, and entirely dependent on its regime for their existence. On the other hand, the river itself, although a copious, perennial stream, is joined by no perennial affluents either in Nubia or Egypt, and throughout the 1800 miles of its course through these lands, it depends entirely on the supplies which it draws from the Ethiopian uplands and from the lacustrine equatorial plateau. In fact, Egypt and Nubia have no existence as habitable regions apart from the Nile, beyond the left bank of which they merge at once in the Libyan Desert. Eastwards, also, they are even more closely confined to the right bank of the river by the sandy or stony wastes and arid steppes extending thence to the Red Sea.

But the trough of this long marine inlet trends north-west and south-west, whereas the Nile flows normally from south to north, so that, despite its enormous windings in Nubia, Khartum in the extreme south lies nearly under the same meridian (32° east) as the Damietta branch of the Delta in the extreme north. The consequence is, that the space between the river and the coast broadens out southwards, giving a far greater area

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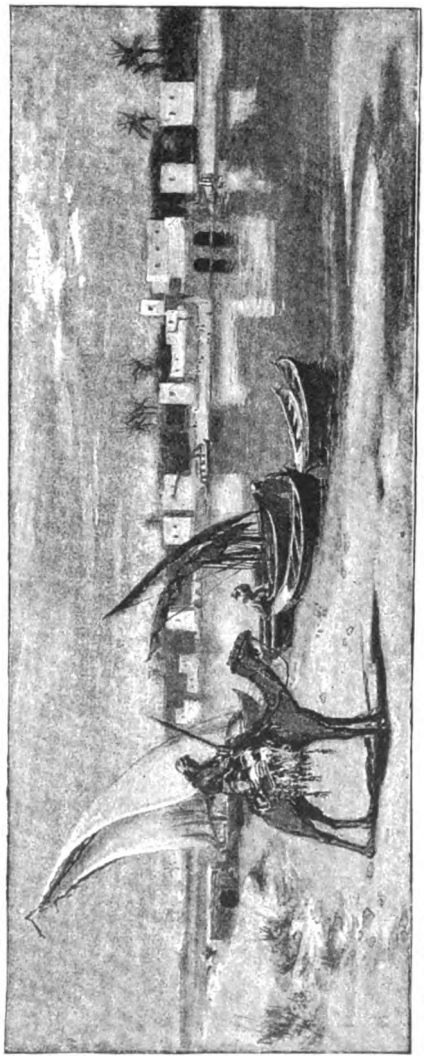
to Nubia, the southern, than to Egypt, the northern, division. At its widest part, about the twenty-eighth parallel, Egypt is scarcely 160 miles broad, whereas between Dongola and Suakin, Nubia expands to about 430 miles. But a far more important consideration than mere size is the extent and fertility of the arable lands, in which respect all comparison ceases between the two regions. Thanks to the periodical rise of the Nile, a factor of slight economic importance in the upper reaches, hemmed in between high rocky cliffs, the Delta alone contains a vastly larger area of productive soil than the whole of the narrow



THE NILE AT KHARTUM.

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riverine tracts and arid steppe lands between Egypt and Khartum. Hence also the great bulk of the population, and nearly all the wealth of the Nile Valley, are concentrated in those parts of Egypt which receive the full benefit of the annual fertilising floods. Scarcely another region of the same extent in the whole world can compare in this respect with the 6000 square miles intersected by the innumerable branches and irrigation canals of the Delta between Cairo and the Mediterranean. The enormous disparity in the distribution of the inhabitants in the Nile Valley and surrounding wastes is shown in the subjoined table of areas and populations, the figures for Egypt being official according to the last returns (1882), those for Nubia approximate only :—

	Governments.	Area in sq. miles.	Arable area in sq. miles.	Population.	Density per sq. mile.
Lower Egypt.	Cairo	6	6,300	374,838	62,473
	Alexandria	33,280		231,396	7
	Damietta	360		43,616	122
	Rosetta	50		19,378	380
	Behera	4310		398,856	93
	Sharkieh	1750		464,655	260
	Dakhalieh	830		586,033	700
	Gharbieh	1240		929,488	750
	Kaliubieh	330		271,391	802
	Menufieh	630		646,013	1,002
Isthmus.	Port Said	2500		21,296	13
	Suez			11,175	
	El Arish	36,500		3,923	·09
Upper Egypt.	Assiut	51,500	7,000	562,137	19
	Beni-Suef	20,000		219,573	22
	Fayyum			228,709	
	Gizeh	10,000		283,083	21
	Minieh	44,000		314,818	7
	Girgeh	6,300		521,413	83
	Kosseir	35,000		2,430	20
	Kana			406,858	
	Esneh (El Hedud)	168,000		237,961	10
	Egypt	380,086	13,300	6,817,265	18
	Nubia	420,000	500	650,000	1·6

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Distribution of Population in the Nile Valley

In order fully to appreciate the significance of this table, it should be mentioned that the greater part of the government of Esneh, or rather of El Hedud, in which Esneh has been merged since 1888, really forms part of Nubia, being that portion north of Wady Halfa which was attached to Egypt in 1884. It should also be noticed that the region, 36,500 square miles in extent, forming the government of El Arish lies altogether beyond the frontier of Egypt proper, being that section of the almost uninhabited Sinai Peninsula assigned politically to Egypt, and further, that most of the 33,280 square miles constituting the government of Alexandria is merely a sandy waste, being that portion of the Libyan Desert which extends from the Delta westwards in the direction of the Siwah Oasis politically included in Egypt. With these deductions Egypt will be reduced to about 180,000 square miles, the population remaining much the same, while Nubia will be enlarged to over 500,000 square miles, with no perceptible increase of population. The real densities are thus seen to be about 38 and 1·3 per square mile respectively. In other words, small as is the actual population in Egypt, it is still nearly 38 times greater than that of Nubia.

But even 7,000,000, the estimate for 1894, may seem a large number for a region which, after all, possesses only about 13,000 square miles of cultivable land. As shown in the above table, the density in some provinces of Lower Egypt does, in fact, rise to 700, 800, and even to 1000 per square mile, that is considerably more than in the most thickly peopled rural districts of

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England, Belgium, India, or China. It is probable that the density was even greater in ancient times, when the irrigation system was more complete and better regulated by the great reservoir of the Fayyum (Lake Moeris), than it has ever been during the last 2000 years. Many tracts even in Upper Egypt, where the hydraulic works have long been obliterated by the sands of the desert, may well have supported a frugal population of over 1000 to the square mile. Such numbers seem in fact implied both by the direct allusions of early Greek writers to the size of Thebes with its "hundred gates," and of many other great cities scattered over the Lower Nile Valley, as well as by the amazing extent of the still extant ruins of those cities and of the surrounding burial-places.[1]

To explain such a phenomenal density persisting for at least 7000 or 8000 years wherever the artificial irrigating works have been kept in repair, it should be remembered that the arable lands of Egypt are about three times more productive, acre for acre, than average arable lands elsewhere, and consequently, that, for instance, the 13,000 square miles of settled territory in modern Egypt are equivalent to some 40,000 square miles of settled territory in most other regions of the globe. This enormous superiority is due mainly to a combination of highly favourable conditions occurring on a large scale nowhere else. Such are an equable climate with a temperature suitable for the growth of most economic plants of the tropical and many of the temperate zone; the possibility of carrying on field operations

[1] The census taken by Omar after the Arab conquest (A.D. 640) returned, excluding Alexandria, over 6,000,000 Kopts, not reckoning the aged, women, and young, besides 300,000 Greeks. This would imply a total population of at least 15,000,000 at a period of extreme exhaustion and decadence.

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throughout the whole year under cloudless skies; a constant supply of water that can always be depended upon and kept under control; but above all a soil needing no manure, but perpetually renovated and fertilised by the rich sediment contained in the Nile waters, a soil at the same time so soft and light as to dispense largely with the use of the plough. All this means an agriculture relieved from most of the drawbacks to which it is elsewhere subject—long droughts, excessive rains, nipping frosts, parching heats, land impoverished by over-production or unskilful tillage.

Historic Survey—The Ancient Egyptian Empire

Nothing can exhaust the perennially renewed land of Egypt, which consequently seemed fore-destined to become the cradle of the highest form of human culture, that form which is necessarily based on husbandry. Whatever date be assigned to Menes, reputed founder of Memphis and of the Egyptian monarchy, whether 5004 B.C. with Mariette, or 4400 with Brugsch, it is obvious that there were powerful rulers of men in the Lower Nile Valley long before his time. Recent interpreters of Manetho's chronology, aided by the now decipherable Egyptian texts, and by certain astronomic determinations, have been able to fix the building of the third pyramid of Gizeh by Menkaura (Mycerinus) of the 4th dynasty

[1] Manetho, an Egyptian priest of Heliopolis under Ptolemy Philadelphus (286-247 B.C.), wrote in Greek a history of Egypt, which is lost. It was epitomised by Julius Africanus of Alexandria (220-221 A.D.), whose work is also lost. But parts of it have been preserved by Eusebius (264-340), including Manetho's list of the thirty Egyptian dynasties, beginning with Menes (5000 B.C. ?), and ending with Nectanebo II., last of the native rulers, overthrown by Artaxerxes Ochus (second Persian conquest, 340 B.C.)

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somewhere about 3010 B.C. But two other and larger pyramids had already been erected in the same district by other kings of the 4th dynasty (Shufu or Kheops, and Khafra or Khephren), and these had been preceded by the more primitive pyramid of Meidum assigned to Snefru of the 3rd, and by the rude step-pyramid of Sakkarah attributed to Uenephes of the 1st dynasty.

Under Snefru (4500 B.C. ?), the first king whose name occurs inscribed on contemporary monuments, Egypt already formed an organised State with foreign possessions, such as the Sinai Peninsula, where a bas-relief of the king has been discovered in the Wady Magharah. The monuments themselves reveal a state of culture as fully developed as at the time of the Persian Conquest, with thoroughly original features and all the marks of a long previous existence. The statue of Khephren, one of the oldest extant, is also one of the most life-like, a true portrait at the highest level of native art. Every fresh discovery confirms the impression that this early artistic period was far more vigorous and true to nature than that of later times, conventionalised, and, so to say, stereotyped by religious influences and traditions.

The ox, dog, and other useful animals had already been domesticated, and the Egyptian language was completely formed and differentiated not only from the remotely connected Semitic languages, but also from the allied Hamitic dialects of Libya and Ethiopia. But even before Menes himself there occur references in the hieroglyphic texts to the "slaves of Horus," already erecting buildings on regular plans traced by the architects on antelope skins. At the same time a religious cult of a highly symbolic type had been developed, and long before the worship of Apis was established at Memphis and that of On at Heliopolis by Kakau

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(Kaiechos) of the second dynasty (4750 ?), Horus-Sopt, "Spirit of the East," probably Venus, the morning-star, had been deified as the herald of the sun, not only at its daily rising, but also at its first rising—that is, at the very dawn of creation, at the beginning of all things.[1]

These sublime ideas, revealed in our days by students of Egyptology after lying dormant, so to say, for thousands of years in the tombs of kings and priests, point, like the magnitude of the monuments and the perfection of their sculptures, at long ages of a slow evolution from the rudest beginnings of paleolithic man, whose chert implements have been found by Pitt Rivers and others in the undisturbed river-drift of the Nile Valley opposite Thebes, incalculably older than many of the neighbouring tombs, themselves 6000 to 8000 years old.[2] In fact, the alliance of kings and priests, by which the whole nation was reduced to a state of abject servitude, and the erection of such useless structures rendered possible, shows that already at the dawn of recorded history Egypt had in some respects arrived at the age of decrepitude. But this long period of decadence witnessed the rise and fall of three successive empires, with many shiftings of capitals from Thebes in the extreme south to Memphis at the head of the Delta, and Tanis near the Mediterranean coast.

According to Mariette's arrangement of Manetho's list, the *First Empire* comprised the first ten dynasties, and lasted for nearly 2000 years (5004-3064). The centre of authority appears to have been mostly at Memphis, though once under the 5th dynasty transferred to Elephantine on the Ethiopian frontier. Besides the

[1] M. E. Naville, *Goshen and the Shrine of Saft-el-Henneh*, p. 10.

[2] General Pitt Rivers, "Discovery of Chert Implements in the Nile Valley," etc., in *Journal of the Anthrop. Institute*, June 1881.

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foundation of Memphis and the erection of the Meidum, Gizeh and Sakkarah pyramids, the most memorable events were associated with the reign of Merira Pepi of the 6th dynasty, and the somewhat legendary Queen Nitocris, last sovereign of the ancient empire. Pepi's name occurs on many monuments throughout the whole of Egypt, as well as in the Sinai Peninsula, and he was probably the first to hold undisputed sway over all the Nile Valley from the Mediterranean to Syene (Assuan), traditionally reigning for 100 years. Under Teta, also of the 6th dynasty, the still free and unfettered native art arrived at marvellous perfection, as shown by the family burial-place of Mera (Meru-Ra) brought to light at Sakkarah in 1893, probably the most beautiful of all such monuments yet discovered. Here are the three tombs of Mera, wife and son joined together with only one approach, and comprising over thirty chambers and passages, eighteen of which are covered with well-preserved painted sculptures, besides a finely painted stela dedicated to his wife, whose tomb is of rare beauty, with brightly painted scenes, splendid examples of contemporary art. In 1893 were also found even older monuments in the Abusîr district, including two lotus columns, which show that the columns erected much later by Rameses and his successors were but poor copies of the fine works of this remote epoch.

But before the close of the 6th dynasty (3703-3500) the first civil troubles began with the usurper Akthoes, who established himself at Herakleopolis in the Delta. Queen Nitocris, renowned for her beauty and wisdom, in vain endeavoured to stem the torrent of revolt, and after her death (about 3400 ?) the country remained divided into two States, one comprising the Delta, the other the Nile Valley thence to Ethiopia (Lower and Upper Egypt). Now ensued a sudden and hitherto unexplained eclipse

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in Egyptian culture, and for 300 years there is a complete blank in the national records.

The Middle Empire

A revival took place under the 11th dynasty, first of the *Middle Empire*, which comprised altogether seven dynasties, four native (11-14) seated at Thebes (3064-2214), and three foreign, the Hyksos, or "Shepherd kings" (15-17), seated at Tanis (2214-1703). Sankhara of the 11th dynasty was the first to send an expedition to the land of Ophir and Punt (either Somaliland or South Arabia, or possibly both), as recorded on an inscription in the Wady Hammamat between Coptos and the Red Sea (2400 ?). The monuments of this dynasty are of a rude and primitive type, as if the people had begun to rebuild the fabric of the national culture almost from its very foundations after the ruin or retrograde movement of the previous three centuries.

But the recovery was very rapid, and Egypt achieved her most solid triumphs under Amenemhat III. of the 12th dynasty, perhaps the greatest of her rulers, by whom were constructed extensive canals, dykes, and reservoirs to husband and regulate the flood waters of the Nile. Amongst these vast works was the famous Lake Moeris, *i.e. Mer-uer*, "Great Water," in the *P-ium*, "Lake District," a name still surviving under the Arabic form *Fay-yûm*, "the corn-bearer," as it is popularly interpreted. The reservoir, of which nothing now remains except the somewhat brackish Birket el-Qarûn, "Lake of Horns," must have formerly flooded the whole of the Fayyum depression, over 100 miles in circumference, right up to the Hawara plateau on its south-east margin. Here stood near the site of the modern Medinet el-Fayyum, the great city of

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Shed, with a royal residence and a stupendous temple, dedicated to the crocodile god Sebak, far larger than those of Luxor and Karnak at Thebes. In the neighbouring necropolis was the brick pyramid tomb of Amenemhat III., who is traditionally credited with the construction of the lake. But this was too large a work (by far the most extensive basin ever constructed by human labour) to have been entirely executed in a single reign; and it would now appear from the cartouches of his two predecessors, Amenemhat I. and Usertesen II., found near Medinet, that the great inland sea was in progress throughout the whole or most of the 12th dynasty (3064-2851), and probably only completed by Amenemhat III. This king seems, however, to have certainly constructed in the same district the scarcely less famous labyrinth, a term which Brugsch suggests may be a corruption of *Ra-pa-ro-hunet*, "temple at the canal mouth."[1] The canal in question, *Hune* or *Hunet*,[2] was cut from the Nile to feed the lake and control the discharge of the flood waters.

Even a more glorious reminiscence of the monarchs of the 12th dynasty than their material works is the inscription from the tombs of Beni-Hassan recording the beneficent deeds of Ameni, one of their overseers, who resumes his administration of the land in these words: "All the provinces were tilled and sown from the north unto the south. Nothing was stolen from my workshops; no little child was ever harmed, no widow oppressed by me. I gave to widow and wedded wife alike, and in

[1] *Lake Moeris*, *Société de Geographie Khediviale*, 8th April 1892.

[2] The full hieroglyphic form is *La-Hune*, whence the Arabic El-Lahûn, "opening or mouth of the canal," the canal itself being called the *Bahr-Yusef*, "Joseph's river," not, as is commonly supposed, because attributed to the Joseph of Scripture, but because constructed or repaired by Yusef Salah-ed-Dîn, the Saladin of the Crusades.

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all the judgments pronounced by me no favour was shown to the great over the lowliest subject of the king."

In the third year of Sebekhotep III. of the 13th dynasty, the rise of the Nile is inscribed on the rocks at Semnet, the first reference to a Nilometer. Monuments of this epoch (2851-2398) occur throughout Lower and Upper Egypt from Tanis to Syene, and as far south as the island of Argo near Dongola, showing that the empire was still held together. But during the next dynasty great commotions arose between the rival houses of Thebes and Xois in the Delta. This led to the irruption of the nomad Semitic tribes of Arabia, Syria, and Mesopotamia, who overthrew the native rulers, and set up the 15th, 16th, and 17th dynasties of the Hyksos, fixing their capital at Tanis (San), where they have left monuments more beautiful and in better taste than those of the contemporary Theban kings, who appear to have continued to rule in Upper Egypt as their vassals or viceroys. Under Nub (Nubti), last of the Hyksos, Joseph, son of Jacob, is said to have arrived in Egypt, where he rose to be "governor of all the land" (1750).

The New Empire

Ahmes (Amosis) of the house of Thebes now revolted, and after expelling the Hyksos, again raised Egypt to great power, and established the *New Empire*, which comprised all the remaining native dynasties (18 to 30), and which ruled for about 1500 years from 1703 till its final overthrow by the Persians in 340. This was a period of foreign conquest, much military glory and architectural display, followed by dynastic rivalries, religious wars, invasions, exhaustion, and loss of national independence, which Egypt has never recovered.

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Thothmes I. (18th dynasty) overran Syria, and introduced the horse, which figures on no monuments before his reign (1630 ?). Soon after Queen Hatasu (Hastop) sent a famous expedition to Punt, and maintained friendly relations with the people of that region, as recorded on the walls of Dair-el-Bahri at Thebes. Her brother Thothmes III. extended his conquests far into Western Asia, and founded the stupendous temple of Karnak at Thebes, covering its walls with inscriptions commemorating his mighty deeds and giving long lists of the lands and peoples overcome by him. No other name occurs so frequently on monuments and remains of every kind throughout Egypt (1600). A hundred years later Amenhotep III. advanced the frontiers of the empire up the Nile Valley, probably as far as Senaar. His glory is perpetuated on the temples of Luxor and Karnak, and on the colossi of Memnon bearing his cartouche. Religious discord began with his successor Amenhotep IV., who substituted the Semitic divinity Aten (Hormakhu, the Sun's Disk) for the Theban god Amen, and removed his residence from Thebes to Khuenaten, founded by him, and now known by the name of Tell el-Amarna. Here have recently been discovered numerous tablets of great interest, throwing much light on the political and social relations of Egypt with Babylonia and Syria in remote times.

The religious innovations of Amenhotep IV. were abolished by Horemheb (Horus), who restored the old worship and brought back the seat of government to Thebes. Some authorities have suggested that the Israelites, who had greatly increased in the land of Goshen, may have played an important part in these religious troubles. It is noteworthy that the beginning of the persecution by the Pharaoh "who knew not

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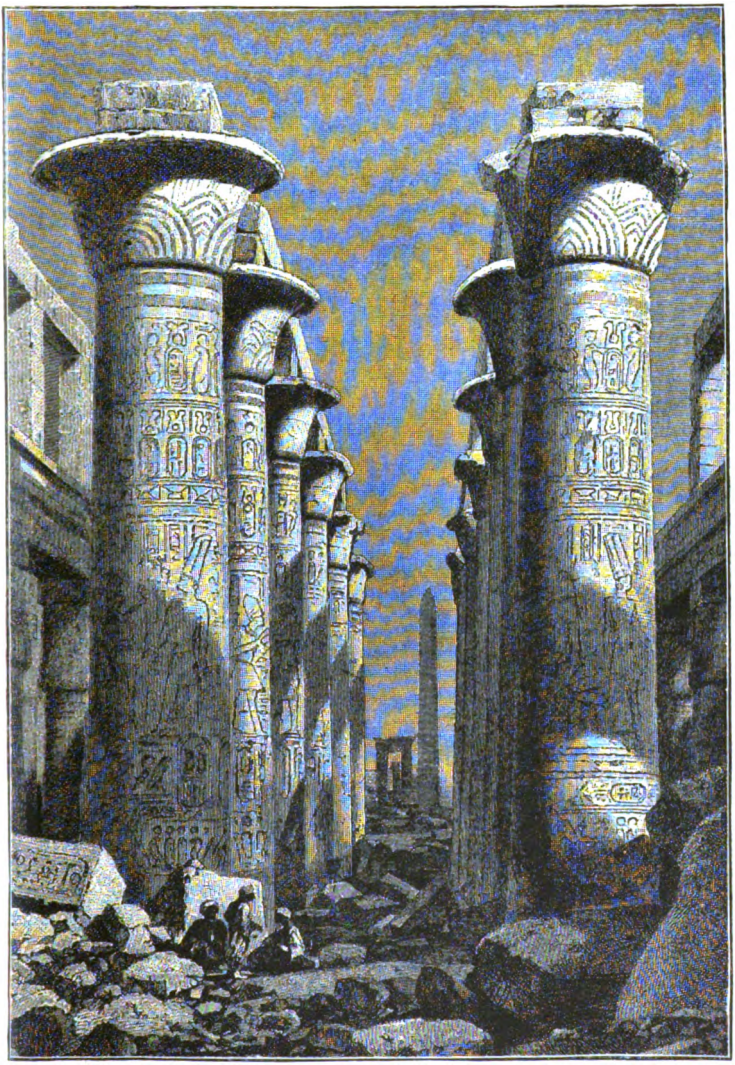

GREAT HALL OF COLUMNS, KARNAK.

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Joseph" coincides with the restoration of the worship of Amen, the triumph of the national party ending later in the "Exodus," that is, the expulsion of the weaker faction from Egypt.

Sethi I. of the 19th dynasty warred in Asia, and constructed the first canal from the Nile to the Red Sea. Numerous monuments of his reign still exist at Karnak and Abydos; and of all the royal tombs on the left bank over against Thebes, that of Sethi I. (Meneptah) is in every respect the most remarkable. With his successor, the vainglorious Ramses II., the "Louis Quatorze" of the Egyptian monarchy, Egypt may be said to have reached the height of that outward splendour, which, unless based on the nation's welfare and happiness, is the sure forerunner of decay. Such was the *éclat* of his reign, that at an early date his name, like those of Alexander and Charlemagne, had already passed into the region of fable. Sesostris the "Great," as the Greeks called him, was credited with many deeds, which he either never performed or which should be attributed to his greater predecessors, whose monuments he appropriated by substituting his own for their cartouches. Despite his undoubted triumphs over the Ethiopians, the Hittites, and many other peoples, the colossal power built up by the Thothmes and Amenhoteps of the previous dynasty everywhere shows symptoms of crumbling to dust. Ethiopia was in continual revolt; Lower Egypt was hard pressed by the Libu (Libyans), and by others with "blue eyes and light hair" descending on the mainland from the islands of the Mediterranean (Hellenes, Itali, Etruscans?); lastly, after eighteen years of incessant warfare in Asia, Ramses was compelled to treat with the Hittites and their allies, leaving them in possession of all their territories. In Exodus Ramses is the persecutor of the Hebrews, and

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contemporary documents lately brought to light also depict him as an oppressor of his own people, and especially of the peasantry, doomed then, as ages after, to bear all the burdens incurred by ambitious or wasteful rulers.

Sethi II., son and successor of Ramses, is commonly identified with the Pharaoh of the Bible, in whose time the Israelites were led out of Egypt by Moses. He completely routed the Libyans and their European allies, who had wasted the Delta and attempted to establish themselves as masters in Lower Egypt. His death was followed by a long series of domestic and foreign troubles described on the "Harris Papyrus" now in the British Museum, and not concluded till the accession of Ramses III. (Rhampsinitus) of the 20th dynasty, last of the great Egyptian warrior kings. But his wars were mainly defensive, undertaken to stem the flood of barbaric invasion dashing with ever-increasing fury against all the frontiers of the empire. He overcame the Hittites and their Pelasgian and Teucrian confederates by land and sea; but the Libyans secured a permanent footing in the Delta, and before the close of the dynasty all the Asiatic provinces had been abandoned, never to be recovered. The high priests of Ammon also had gradually usurped the supreme power in Thebes, substituting a pure theocracy for the alliance of "Church and State" which had hitherto prevailed.

From the time of Ramses III. Egyptian chronology acquires a sort of mathematical certainty, thanks to an astronomic date recorded on the Medinet-Abu calendar fixing the accession of this king at 1212 B.C. For the next hundred years the inscriptions discovered by Mariette in the tomb of the sacred bulls at Apis supply the years, months, and very days of each reign.

Hiron, high priest of Ammon, reputed founder of the

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21st dynasty, removed the capital to Tanis, probably to resist the advance of the Assyrians, who during this epoch first invaded Egypt under Naromath (Nimrod) about 1100. The instability of the empire is now shown by the frequent shiftings of the seat of government, which under Sheshonk I. of the 22nd dynasty was transferred to Bubastis near the centre of the Delta. Sheshonk (Shashank) is the Shishak of the Bible, son of Nimrod, who overthrew Roboam of Judah, and who was the first of a number of princes bearing Assyrian names (Osorkon, *i.e.* Sargon, Takeloth, *i.e.* Tiglath, and others), who ruled all or part of Egypt either as satraps of the Assyrian kings, or as adventurers from Mesopotamia.

It is difficult to follow the course of events at this period; but it would seem that after the overthrow of the usurping high priests by the Assyrians, Thebes ceased for ever to be the centre of power, which was henceforth, down to the present day, fixed in Lower Egypt (Bubastis, Tanis, Sa or Saïs, Mendes, Sebennytus, Alexandria, Cairo). The change was perhaps mainly due to the far greater difficulty of keeping the irrigation works in repair above than below the Fayyum depression, so that in times of disorder the whole of the Thebais tended rapidly to revert to the desert state. But the evolution of political power in the Mediterranean lands (Ionia, Greece, Macedonia, Italy) also exercised an attractive influence, strengthened by the development of commercial relations with the East by the Red Sea route.

The 22nd or Assyrian dynasty, as it may be called, soon resolved itself into a number of petty military principalities, practically independent of the feeble monarchs of the 23rd and 24th dynasties, who were seated first at Tanis and then at Sa. During this period the descendants of the Theban high priests withdrew to

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Ethiopia (Nubia), where they set up a powerful State, claiming sovereignty over all Egypt. Piankhi, one of these theocratic princes, actually overran the Nile Valley as far as the Mediterranean, as recorded on a monument at Jebel-Barkal, near the ruins of Meroe above the Atbara confluence. Henceforth Æthiopia supra Ægyptum, that is, Nubia, follows in its historic evolution the destinies of Egypt, and for a short interval under the 25th or Ethiopian dynasty, even acquired the ascendency. Shabak, successor of Piankhi, ruled from Meroe to the Mediterranean (700 or 715), and his son (?) Shabatak has been identified with the "So, king of Egypt," with whom Hoshea of Judah sought alliance against Shalmaneser of Assyria (2 Kings xvii.) Takaraka also, Shabatak's successor, is the "Tirhakah, king of Ethiopia," against whom Sennacherib warred (*ib.* xix.), and who had reduced the whole of Egypt. But he was expelled from the Delta by Sennacherib's grandson, Esarhaddon, whose son Assurbanipal made an end of the Ethiopian dynasty, driving Takaraka's successor, Urdamaneh, out of Egypt, and capturing and half destroying Thebes, cradle of the Ethiopian sovereigns (700-666).

Lower Egypt was now divided by Assurbanipal into twelve vassal principalities, the *Dodecarchy* of Greek writers, held in awe by Assyrian garrisons maintained in the chief strongholds. But by the aid of Greek and Carian adventurers, Psammetichus, one of the twelve kinglets seated at Sa, not only reduced all the others, but also threw off the Assyrian yoke, and founded the 26th dynasty, which once more ruled over a united Egypt from the Mediterranean to Nubia. Under him the Greeks obtained a permanent footing in the Delta, in which they founded the flourishing city of Naucratis, where many objects of archaic and later Greek art have

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lately been brought to light. His son Necho attempted to restore Sethi's canal, and sent a Phœnician fleet to explore the African seaboard (610). It seems even probable that this first recorded "voyage of discovery" really succeeded in circumnavigating the continent from east to west, else it is difficult to understand how its "circumnavigation" should have been even thought of, much less familiarly discussed, as it was by ancient writers from Herodotus downwards. Certainly the notion was never suggested in respect of Eurasia; and with the prevailing crude ideas regarding the configuration of the earth, one does not see how it could have occurred to any one in respect of Africa, unless this continent had actually been circumnavigated.

Under Hophra (Apries) of the same dynasty, who had aided Zedekiah against Nebuchadnezzar, many Jews, after the Babylonian captivity, took refuge in Egypt, where they established permanent flourishing communities. On the other hand, his successor the usurper Ahmes (Amosis) favoured the Greeks, and after his conquest of Cyprus, encouraged them by many privileges to settle in the country. But his son, Psammetichus III., was defeated by Cambyses at Pelusium in 527, when the whole country was speedily reduced to the position of a Persian satrapy. The first Persian dynasty (27th of Manetho) lasted till 406, when Amyrtæus restored the new monarchy, fixing his capital at Sa (28th dynasty 406-399). There followed two other native dynasties, the 29th seated at Mendes, and the 30th at Sebennytus, closing with the overthrow of Nectanebo II., last native ruler, by Artaxerxes Ochus (340). The 31st (second Persian) dynasty lasted till 332, when Alexander the Great expelled the Persians, founded Alexandria, and constituted the 32nd or Macedonian dynasty.

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Egypt under the Greeks, Romans, Arabs, and Turks

In the partition of the Macedonian Empire at Alexander's death (323), Egypt fell to his general, Ptolemy Lagus (Soter), natural son of Philip of Macedon, first of the Ptolemaic (33rd and last) dynasty, who fixed his residence at Alexandria, and added Cyprus and parts of Libya, Syria, and Arabia to his possessions. He built the Pharos, one of the "Seven Wonders," founded the great library, and by his encouragement of science and letters made Alexandria the true capital of the Greek world, and the chief centre of human culture and progress for nearly 1000 years. His son, Ptolemy Philadelphus (286), also encouraged learning, and caused the Hebrew Bible to be translated into Greek (Septuagint version), for the use of the Hellenised Jews, and of the Alexandrian philosophers. Nine other Ptolemies followed, the last being Cleopatra, with whom the dynasty closed and Egypt became a Roman province under the Emperor Augustus (B.C. 30).

With the final division of the empire at the death of Theodosius (395 A.D.) Egypt passed under the Byzantine rule, marked chiefly by fierce religious controversies on subtle points of Christian dogma. These Gordian knots, insoluble by human reason or by texts of scripture, were, so to say, severed by the sword of Islam in 640, when, from its geographical position, Egypt had to bear the first brunt of the Arab irruption, which burst over North Africa after the death of Mohammed. At that time theological discussions about divine and human natures and persons had grown so embittered, that through hatred of the orthodox Greek party, the 70,000 monks of the desert holding the national monophysite "heresy"

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came forth to meet Calif Omar's lieutenant, Amr Ben el-Asi, and tender their submission, accepting from him a charter of protection. Thus was preserved the Coptic (Egyptian) Church, which still survives, while the 300,000 Greek Christians then inhabiting Egypt were rapidly exterminated, expelled, or absorbed in the flood of Moslem invasion.

Arab fatalism, reared on the ruins of the old Egyptian symbolism, Hellenism and Christianity, ruled with many dynastic changes till the middle of the thirteenth century, when it was succeeded by nearly three hundred years of a pure military despotism (the Mamaluke period, 1254-1517). But although their dynasty was supplanted by that of the Osmanli Turks under Selim I. in 1517, the Mamalukes, originally Circassian slaves and mercenaries, continued to be virtually the ruling class, a terror to governors and governed alike, till their extermination by Mehemet Ali in 1811. These lawless "Prætorian Cohorts," refugees in Nubia during the French occupation of 1798-1801, had returned to Cairo, and in defiance of the Turkish authorities, had chosen as their leader the Rumelian adventurer, Mehemet Ali, who had arrived in 1799 with a corps of Albanians, and aided the British in the expulsion of the French. These events brought Mehemet to the front, and after his official appointment to the pashaliks of Cairo (1806), and of Alexandria (1807), this resolute governor dealt summarily with his former allies, the turbulent and unmanageable Mamalukes. A few who had escaped the wholesale massacres of 1811 again took refuge in Nubia, and against these, after reducing the Wahabite fanatics of Arabia, Mehemet sent an expedition under his son, Ismail, with a general commission to extend the Turkish dominions up the Nile Valley (1820-21). The result was the annexation

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of the whole region, as far as the Abyssinian frontier, to the viceroyalty under the title of Egyptian Sudan (p. 245).

During the next ten years Mehemet, while maturing further ambitious schemes, was mainly occupied with internal reforms, repair, and extension of the irrigation works, development of trade and the industries, organisation of regular fleets and armies, gradual introduction of European culture. The fleet perished at Navarino (1829); but the land forces were intact, and these were for the next decade (1831-41) almost continually engaged in war with the Sultan, the ostensible first cause being dissatisfaction at the inadequate reward (Island of Candia) for his services in the Greek War of Independence, the real object being the creation of an independent Egypt under a new dynasty. The full realisation of this object was prevented only by the active intervention of the European Powers alarmed at the threatened premature dismemberment of the Turkish empire. But Mehemet so far succeeded, that, in return for the surrender of his Asiatic conquests, he obtained the Sultan's consent to the hereditary possession of Egypt by his family under the suzerainty of the Porte (Treaty of 13th February 1841). Thus was constituted the present semi-independent Egyptian State, upon whose rulers the Sultan later conferred further prerogatives together with the title of Khedive,[1] first assumed by Ismail I. in 1866.

Of what may be called the New Egyptian dynasty, which is practically independent of Turkey, though subject to an annual tribute raised in 1866 from

[1] A vassal prince or ruler, from the Persian root خدا *Khudā* = lord, supreme lord, the deity. The full Perso-Arabic title is Khidēwi-Misr, "Prince of Egypt."

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£376,000 to £720,000, there have been altogether seven rulers as under:—

	Born.	Died.	Reigned.
Mehemet Ali	1769	1849	1811-48.
Ibrahim, son of Mehemet	1789	1848	1848 (six months).
Abbas I., grandson of Mehemet	1813	1854	1848-54.
Said, son of Mehemet	1822	1863	1854-63.
Ismail, son of Ibraim	1830	...	1863-79.
Mohammed Tewfik, son of Ismail	1852	1892	1879-92.
Abbas II., son of Tewfik	1874	...	1892

Recent Events—The British Occupation—Results

Mehemet abdicated in 1848, the year before his death, in favour of Ibrahim, and Ismail, who was ruining the country by his reckless expenditure of the public revenues, was compelled by England and France to resign in 1879 in favour of Tewfik. But history will have to record of him that in his reign was opened the Suez Canal, which transformed Africa to an island, and revolutionised half the sea-borne traffic of the globe. Although banished from the country, Ismail continued secretly to influence the course of events, employing much of his unnecessarily liberal State pension in fomenting intrigues and spreading discontent, especially amongst the bureaucratic and military classes.

To this must largely be attributed Arabi Pasha's military revolt of 1882, which called for the intervention of England to safeguard the Suez Canal route to India and prevent the occupation of Egypt by Powers unfriendly to British interests in the East. The bombardment of Alexandria and overthrow of Arabi at Tel-el-Kebir were followed directly by the military occupation of the country, which still continues, and indirectly by a vast improvement in every branch of the administration, such

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as had not been witnessed in the Nile Valley probably since the remote epoch of the 12th dynasty, when the lord, Ameni, could leave it on record that in his dispensation of justice "no favour was shown to the great over the lowliest subject of the King." As in those days, the life-giving irrigation system has been improved and extended by English engineers, who have completed the great dam at the head of the Delta, left unfinished by their French predecessors in office, whereby hundreds of thousands of acres have been reclaimed from the desert sands. These and many other works of great permanent utility have been executed by free hands, the corvée or enforced labour system, old as the pyramids, having now also for the first time been abolished at a cost of £400,000 a year. With it have disappeared the cruel kurbash wielded by a truculent police, arbitrary taxation and fraudulent tax-gatherers, shameless official peculation, venal magistrates, and endless other abuses, endurable only through use and wont. At the same time the country has been rescued from imminent bankruptcy, the result of long misgovernment, and financial equilibrium established, despite the remission of numerous taxes, and the heavy annual charge of about £4,500,000 on an enormous public debt amounting in 1893 to £106,372,000. The revenue rose from £8,000,000 in 1880, to £10,600,000 in 1891, showing a surplus of £1,073,000, besides an accumulating reserve fund of £2,407,000 at that date. Such brilliant results of the British occupation have closed the mouths even of English sentimentality, and of French chauvinism; and M. Dubois, sent by a Paris journalist in 1893 to report on British misrule in Egypt, was fain to bring back empty, as he put it, the large portmanteau which he had taken to cram with "the voluminous documents he

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expected to collect against the British occupation. The portmanteau remains just as it was when I started. The space reserved for the anti-British documents has not been required." [1]

Physical Features—The Nile Valley

About thirty miles below Khartum the Nile begins to develop its great double bend, first to the east, then to the west, which is completed at Korosko, midway between Wady Halfa and Assuan. Thus is described an irregular figure of S, enclosing the Bahiuda Desert in the south, and the Bishari (Nubian) Desert in the north, and comprising with the Red Sea coastlands the whole region properly called Nubia. This region often bears the fuller name of "Lower Nubia," in contradistinction to an "Upper Nubia," an extremely vague expression to which it is difficult to assign any definite meaning, but which may roughly be said to comprise the so-called "Island of Meroe," between the Lower Blue Nile and the Atbara, together with the province of Taka, and generally the lower slopes of the Ethiopian plateau up to the political frontiers of Abyssinia.

But although vague, the distinction is important, because a great part of Upper Nubia, as thus defined, presents some striking contrasts in its physical constitution, climate, and natural history to Lower Nubia, that is, the arid steppe region between Khartum and Egypt. The Taka district, especially, lying still within the rainy zone, and being watered by several affluents of the Atbara and Mareb, may almost be described as a tropical land covered in some places with dense forest growths, in others with rich arable and grazing grounds.

[1] *Figaro*, 6th June 1893.

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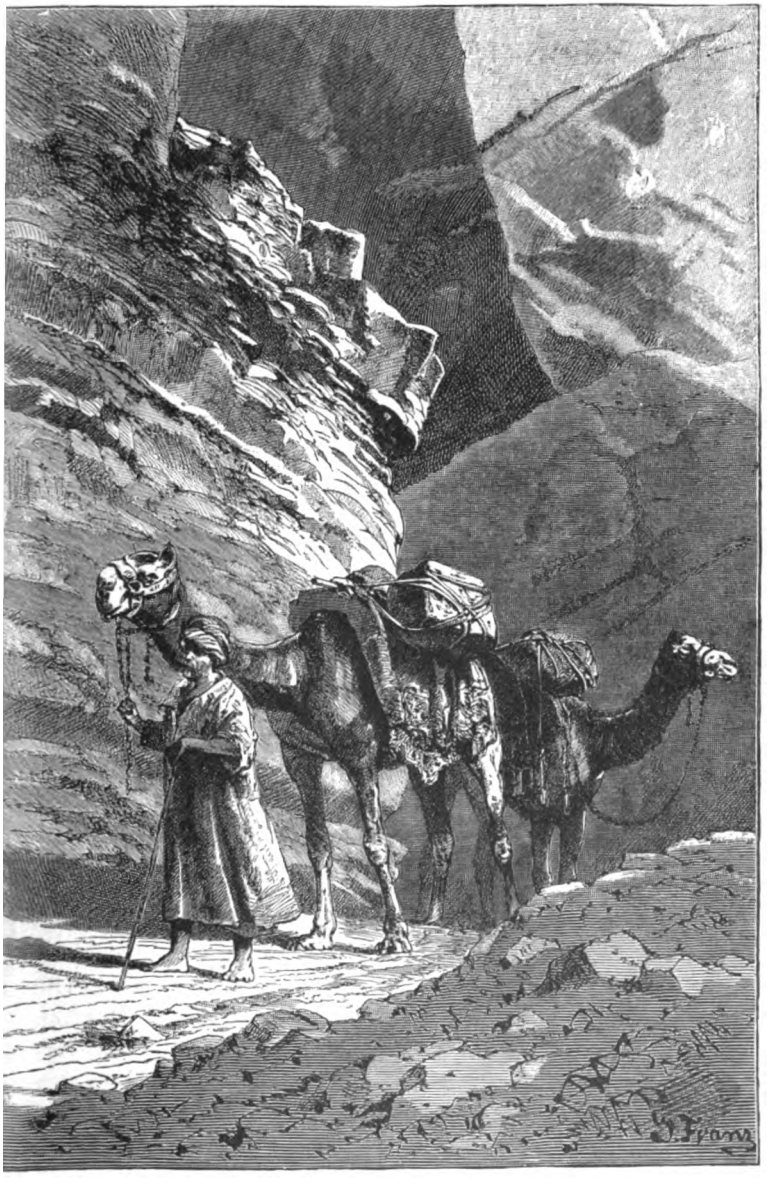

IN THE NUBIAN DESERT.

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It is not merely the most fertile, but the only fertile and permanently inhabitable tract in the whole of Nubia, apart from the Nile Valley itself.

But this valley, which expands into broad alluvial plains in the extreme south (Senaar above Khartum), and in the extreme north (Lower Egypt), is confined in Nubia proper and in Upper Egypt to narrow cultivable strips between the plateau escarpments and the river. These strips, which in Nubia have an average width of scarcely more than half a mile, are not even continuous, the rocky walls of the plateaux and fringing hills approaching in some places right up to the river banks and leaving no space for tillage. In remote geological times the hills, mostly sandstones and limestones, with syenite and other granites cropping out about Assuan (Syene) and elsewhere, were connected at intervals by cross ridges, which have entirely disappeared in Egypt, where the river has completed its natural evolution. But in Nubia the Nile has not yet finished the work of erosion, and here it is consequently still entangled in many places in the remains of the cross ridges. Thus are formed the "six cataracts," an expression handed down from antiquity which conveys no adequate idea of the true nature of these obstructions. They are in no sense cascades or waterfalls, but long series of reefs extending in some places for miles, as at the second or "great" cataract above Wady Halfa, and at the fourth above Meroe. Except at low water they do not even entirely obstruct the navigation, as seen during the English expedition of 1884-85 to the relief of Gordon, when the Canadian boatmen, accustomed to such impediments on the impetuous streams of the Laurentian basin, were able with strenuous efforts to surmount the Nile rapids. Some notion of their great extent may be

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formed from a study of the Wady Halfa Cataract, which is usually stated to be about 16 miles long. But this forms merely the lower section of a succession of similar obstacles which occupy a total length of no less than 100 miles, where the river presents everywhere the same aspect. Its broad channel is studded in the dry season with innumerable rocks and reefs, between which the stream rushes in a thousand foaming torrents. Here as many as 350 distinct isles and islets have been reckoned, without counting the reefs and half-submerged ledges, all of which disappear during the floods. Farther north this labyrinthine system of intermingled rocks and channels is continued along the right bank by a chaos of extinct craters.

The Nubian and Arabian Deserts and Mountains

North of the Atbara the steppe lands, from 300 to 400 miles broad, intervening between the Nile and the Red Sea, are traversed by chains of moderately elevated hills, which are separated from the escarpments of the Abyssinian plateau by deep depressions, and by the beds of wadys dry for most of the year. Beyond the Baraka valley and the Sawakin district, these hills, which are nominally disposed south-east and north-west parallel with the Red Sea coast, assume the aspect of mountains in the auriferous Elba (Etbai) group, which gives its name to the neighbouring Ras (Cape) Elba nearly opposite Jidda on the coast of Arabia, and which rises in the Soturba peak to a height of 6900 feet.[1]

[1] In the generally confused Egyptian geographical nomenclature, this seat of the oldest gold mines on record, occurs in a great variety of forms —Elba, Elbe, Olba, Otabi, Etbai, Etbaïeh, Edbai, etc. The word has been connected by some writers with Bega (Beja), collective name of the surrounding Hamitic aborigines.

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From about this point to its termination in the Isthmus of Suez the parallel ridges merge in a single range, which takes the name of the "Arabian Chain," because when seen from the banks of the Nile, the long line of crests seems to bound the eastern horizon along the Arabian seaboard. The same name was afterwards extended to the rugged stony plateau which occupies the space between the hills and the Nile, and which figures on the maps as the "Arabian Desert." The Arabian Chain, for which a more appropriate name would be the Egyptian Coast Range, has been explored in the south lately by Mr. E. A. Floyer, in the Khedival service, who conducted a scientific expedition in 1886 to the district between the parallels of Kosseir and the Jimsah headland opposite the apex of the Sinai Peninsula, and another in 1891 to that part of the desert which extends from the Red Sea to the Nile between Assuan and Esneh. Thus was completed a preliminary survey of the whole region from the Nubian frontier to the Gulf of Suez. Beyond this latitude the plateau has been visited chiefly by Güssfeldt (1876-77), and Schweinfurth, whose explorations have been continued with little intermission from the time of his return from the "heart of Africa," down to the present day.

About the Egypto-Nubian frontier the five-peaked Jebel Ferayeg, that is, the Pentedactylos Mons of the Ancients, is dominated by the Bodkin, Purdy, and Twin crests, ranging from 4036 to 4440 feet above the sea. A little farther north the coast range attains a much greater altitude in the Berenice group, where the blunt cone of Abu Gurdi (5050) and the Hullus and Khashir crests (4500 ?) are overtopped by the imposing Jebel Hamata (Hamada), which towers to a height of at least 6300 feet. Beyond this ancient mining district the

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coast range appears to resolve itself into a chaos of low ridges and isolated hills interrupted by broad wadys, and falling in some places nearly to the level of the plateau, but again rising in the Kittar group north of Keneh to a height of nearly 4000 feet, and in the neighbouring Um Sidr peak to 6000 feet. But even here the system is broken by low passes and shingly or sandy plains crossed from remote times by the most convenient trade and military routes between the Red Sea at Kosseir and the Nile at Coptos or Cenopolis (Keneh) below Thebes. In this district Mr. Floyer was overtaken by a snowstorm, and found the Jebel Shaib covered with a white mantle in the winter of 1886. "When we woke we were covered with snow. The valley was a network of running streams, but the bushes were covered with white. The great Jebel Shaib took upon himself the appearance of the Matterhorn, and an old grey-beard, a long-time comrade, hastened up swelling with pride and chattering with cold, to explain to the ignorant Englishman what had happened to his beloved mountains. 'You see,' he said, 'those soft white clouds; when it became cold, those clouds came so low down that they were caught upon the mountains and upon the trees; I have seen Jebel Shaib white before.'" [1]

Beyond the Jebel Dokhan, the Mons Porphyrites of the Ancients, the coast range appears to culminate in another great porphyritic mass, the Jebel Gharib (Agrib), about 28° N. lat., which is estimated by Schweinfurth at 7880 feet, or some 2000 feet higher than that of the British coast survey. In any case this group, which lies north-west of the Jebel Zeit petroleum district, is certainly the highest land in the whole of Egypt. Farther north the Jebel Tenasep, about the parallel of

[1] *Proceedings of the Royal Geo. Soc.*, 1887, p. 678.

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Girgeh, has still an elevation of over 3000 feet; but beyond this peak the system falls rapidly, terminating somewhat abruptly in the Jebel Mokattam (450 feet) above the citadel of Cairo. On the east slope of this western spur of the Arabian chain is seen the so-called "petrified forest," that is, a few clusters of tree-stems transformed to silica or chalcedony, and mistaken by the Ancients for the masts of stranded vessels overwhelmed by the sands. Such fossil remains occur in several other parts of the desert on both sides of the Nile Valley, some extensive enough to justify their claim to be called "petrified forests."

The whole region between the Abyssinian escarpments and the Mediterranean is essentially a part of the Great Desert interrupted in Lower Egypt by the rich alluvia of the Nile Delta. Beyond this artificially watered district it merges eastwards in the Sinai wilderness, from which, however, it is now separated by the trough of the Suez Canal. Like the Sahara itself, the section between the Nile and the Red Sea formerly enjoyed a copious rainfall, as abundantly attested by the numerous wadys which descend from the divide formed by the Arabian chain in short, precipitous beds eastwards to the Red Sea, and in more gently inclined channels down the western slopes to the Nile. Although often dry for years together, these wadys are still occasionally flushed by sudden freshets, which suffice to retain a little moisture in the deeper depressions, and even to feed several perennial springs and *galts* ("reservoirs"), such as the Abrak (improperly Abiag) pools a little west of the Jebel Ferayeg, near the head of the great Wady Hothein, and the galt in the well-timbered Wady Lehema just above Berenice, which at the time of Floyer's visit (1891) "contained 13,000 gallons of delicious water." This moisture supports a

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scanty vegetation of coarse grasses and thorny scrub, some of which affords excellent fodder for the camels, sheep, and goats of the nomad Arab and Hamitic groups scattered over the Nubo-Egyptian wilderness. Güssfeldt was able to collect in the Wadys Warag and Ashar a considerable number of plants, such as the colocynth, cassia (senna), seyal (a dwarf gummiferous acacia), and altogether as many as fifteen species not previously known to flourish in Egypt. Floyer also met in the verdant Wady Jemal and other districts various acacias, good fodder shrubs, such as the murkh (*Leptadenia pyrotechnica*), natash (*Crotalaria Ægyptiaca*), shush (*Panicum turgidum*), and even large trees like the Higlik, here growing to a height of 40 feet. This writer explains the extraordinarily sudden character of the freshets noticed by all travellers. "The suddenness with which water comes down is explained as follows, as I once saw: The water on four broad mountain slopes converged. One ran freely, but three carried so much ibex dung, dead shrubs and twigs that they dammed themselves. One held up a considerable head of water, and in bursting loosened the second and quickly the third, when they all poured tumultuously down together."

The Bahiuda Steppe

The same general characteristics prevail on the west side of the Nile Valley in the Bahiuda steppe, which has also its sandy wastes and dry watercourses, its occasional downpours and patches of scrubby vegetation, affording some fodder for the camels and goats of the Kababish nomads. There are even a few little oases fed by perennial springs along the caravan routes, which are subtended like chords to the semicircular arc 500 miles

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round, developed by the Nile between the sixth cataract and Ambukol below Korti. But this dreary steppe region differs from the Arabo-Nubian wilderness in one respect. The surface of the plateau is here broken, not by continuous ridges such as the Egyptian coast range, but by low isolated groups, such as the Jebels Magaga and Ghilif (3500 feet) in the centre, and in the far west the Jebel Simrieh crossed by the caravan route from Kordofan to Old Dongola.

About midway between these two groups the Bahiuda steppe is traversed nearly in its entire length by the so-called Wady Mokattam ("Carved or Written Wady"), which runs from about the parallel of the sixth cataract, thirty miles below Khartum northwards to the Nile at Ambukol. This now dry watercourse, which is disposed in a line with the valley of the Blue Nile, shows every indication of having formed at a remote geological epoch the main branch of the Nile itself. At that time the river must have flowed in a normal north-westerly direction from the Ethiopian uplands to the neighbourhood of Korti, traversing the Bahiuda wilderness in a straight line. But it appears to have been deflected to the right, and compelled to take its present great bend to the east, by the lavas and scoria ejected by the long extinct and mostly obliterated craters of the igneous Magaga, Ghilif, and Ghekdul groups. Ussub-Ommaneh, culminating cone of Magaga, forms a huge dome of red porphyry, and the whole district thence to the head of the Wady Mokattam is strewn with erupted matter of great age.

Geological Formations—Minerals

In the Nubo-Egyptian plateau region the prevailing crystalline rocks are granites—grey, blue and red

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(syenite); the sedimentary are chiefly red and pink sandstones, nummulitic and other limestones; the igneous, diorites, dolerites, porphyries, and others of archæan or very remote origin. Thus there is a general absence both of recent stratified and of recent volcanic formations, from which it may be inferred that the Nilotic lands, like the neighbouring Sahara, have been subject neither to subsidence below sea-level nor to igneous eruptions since pre-tertiary times. In some places the sandstones are distinctly metamorphic, showing every transition from their primitive stratified condition to the crystalline state. The Jebel Simrieh is a huge mass of pink sandstone, and sandstone cliffs also skirt the Nile Valley for hundreds of miles all the way to the New Dongola district. But farther north the crystalline rocks again crop out about the third cataract, forming the so-called "cataract granite," and acquire an immense development towards the Egyptian frontier, where the lovely syenite, named from the city of Syene, supplied the finest materials to the old Egyptian builders. Beyond this district limestone seems to be the most prevalent formation along the Nile Valley for the rest of its course to the Delta. "Geologically the Nile hollow is denuded out of a plateau, which is limestone from Luxor to Cairo."[1]

But the eastern (Arabian) border range presents a considerable variety of formations, especially between Sawakin and Cape Benass, north of the ancient port of Berenice. Here the prevailing rocks are granite, gneiss, and crystalline schists, with a limestone horizon farther south. Porphyries also crop out in many places, but appear to be nowhere metalliferous. Gold, however, occurs in several districts, and especially in the Elba Hills, where the mines were worked by the ancient

[1] J. F. Campbell, *Journ. of Anthrop. Institute*, June 1881.

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Egyptians, and even down to mediæval times, and although now abandoned are not quite exhausted. This auriferous district of *Nub* or *Nob* ("Gold") is supposed by some authorities to have given its name by extension to the whole of *Nubia;* but the resemblance between the two words is a mere coincidence, and it will be seen (p. 588) that "Nubia" has an ethnical origin. Silver was also said to occur in this district, besides sulphur in the Jimseh Peninsula, 27° 40′ N. lat., and petroleum at the Jebel Zeit (Oil Mountain), twenty-five miles farther north. Topaz mines were worked at Rizk Allah in the Wady Khashab under the Ptolemies, while the emerald mines of the Wady Sikait in the hilly Zabara district, forty miles north-west of Berenice, are "perhaps the oldest and most extensive in the world, the only ones known till the conquest of Peru" (Floyer). Other mineral resources are the salt and alum occurring in the Natron valley (p. 142) and elsewhere, besides the granites, sandstones, and limestones worked for ages, and offering an inexhaustible supply of the finest building materials in the world.

Nubo-Egyptian Hydrography: The Nile from Khartum to Cairo

Between Ethiopia and the Mediterranean the only perennial stream is the Nile, a term referred to a Semitic root *nahhal*, meaning "valley," "river valley," and then "river," which may here be taken not merely in a pre-eminent, but in an exclusive sense. For the ancient Egyptians it was the *Ar* or *Aur* (Coptic *Iaro*),[1] that is, "black," whence the Greek *melas*, doubtless in allusion to the colour, not of the water, but of the sediment

[1] This root also occurs in its Ethiopian name *Siris*, and in the Hebrew *Shihhor*, *Sihor* (Jeremiah).

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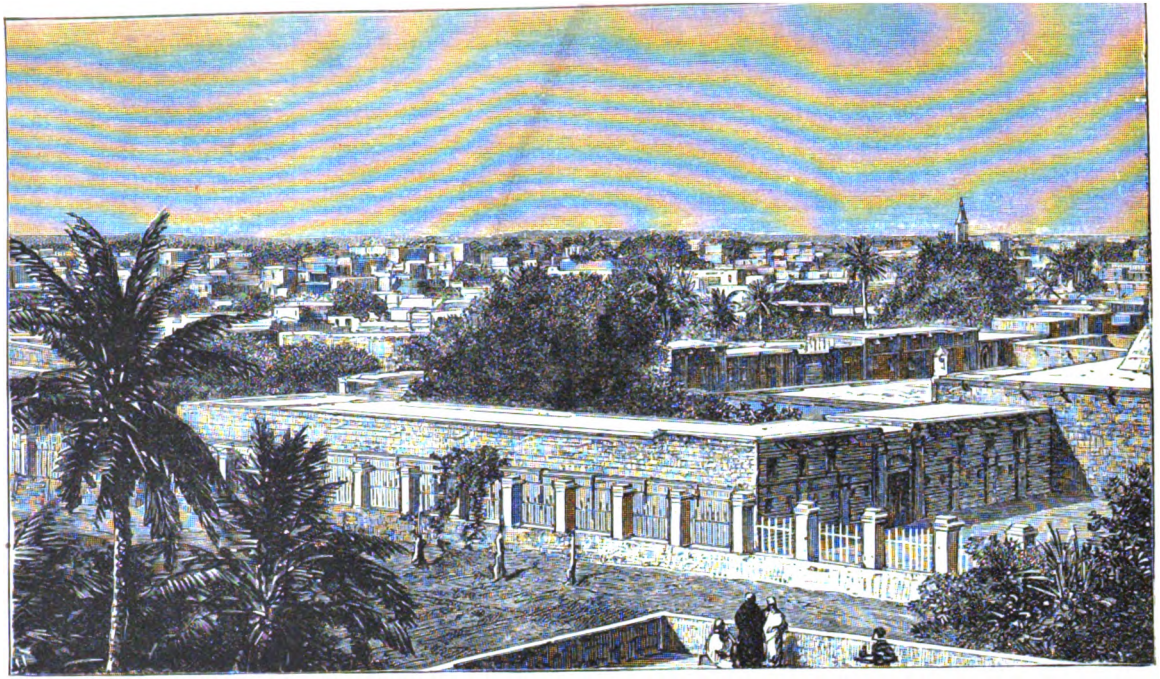

KHARTUM.

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precipitated during the floods. In contrast to the yellow sands of the surrounding desert the Nile mud is black enough to have given the land itself its oldest name, *Kem*, *Kemi*, which has the same meaning. At Khartum, where the White is joined by the Blue river, the main branch descending from the lacustrine equatorial plateau has fallen from over 4000 to a level of about 1200 feet in a distance roughly estimated at 2300 miles. From Khartum to the sea the united stream crosses 17 degrees of latitude (16°-33°), or nearly 1200 miles in a straight line, with an actual course, including all the windings, of little less than 1840 miles, representing a mean fall of about 8 inches a mile. This course of 1840 miles comprises three distinct sections—the Nubian Nile, including all the cataracts, with a total fall of 800 feet in a distance of 1150 miles, or rather over 18 inches a mile; the Egyptian Nile, with a total fall of 360 feet in a distance of 550 miles, also about 18 inches per mile; lastly, the Delta with a fall of 40 feet in a distance of 136 miles, or nearly 3½ inches per mile, as shown in subjoined table:—

Sections.	Length in Miles.	Height above Sea.	Total Fall.	Fall per Mile.
Nubian Nile .	1150	1200 to 400 feet	800 feet	1½ feet
Egyptian Nile .	550	400 to 40 ,,	360 ,,	1½ ,,
Delta . . .	136	40 to 0 ,,	40 ,,	3½ in.
Total .	1836	1200 to 0 feet	1200 feet	8 inches

It thus appears that the Nubo-Egyptian Nile flows normally in a placid stream with a scarcely perceptible mean incline of 8 inches per mile, and would consequently be everywhere navigable but for the obstructions in the Nubian section. Although joined by no perennial affluent throughout its whole course, its volume is maintained with but little diminution all the way to the Mediter-

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ranean, even at low water, despite the losses caused by evaporation, infiltration, and the irrigating works along its banks. These losses would therefore appear to be compensated by supplies drawn from deep springs welling up in or near its bed.

Owing to the spin of the globe from west to east, the Nile, like all large rivers with a meridional flow, tends to infringe on its right bank, where the current is incessantly eating away the sandstone and limestone cliffs. Hence the fertile belt with most of the rural population lies chiefly on the left bank, although Ombos, Luxor, Chænopolis (Keneh), Chemnis (Akhmin), and many other ancient cities stood on the east side. At the Silsilis (Silsileh) narrows below Ombos (Kûm Ombo), where the cliffs approach the brink on both sides, the valley is contracted to about 1300 yards. But it again broadens out to 9 or 10 miles at Thebes, and farther on to 12 or even 15 miles in the Keneh district. Here the river makes a considerable bend to the east, approaching to within 60 miles of the Red Sea, to which it may have formerly sent a branch through a gap in the Arabian chain strewn with rolled shingle.

Lake Moeris and the Fayyum

About 70 miles below Keneh the Nile trends round north-westwards to Sohag, where it throws off from its left bank the Bahr-Yusef branch (p. 530), a small current with a mean breadth of about 350 feet, which flows for hundreds of miles through the broader strip of alluvial land between the main stream and the Libyan escarpments. In the Beni-Suef district, about 300 miles below Sohag, the Bahr-Yusef bifurcates, the chief branch continuing to wind along the Nile Valley to a point above

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the Delta, where it again joins the main stream. The left branch penetrates westwards through a gap in the Libyan escarpments into the Fayyum depression, where it ramifies into a thousand irrigation rills, discharging its excess into the Birket-el-Qarûn, "Lake of Horns," which still floods the lowest cavity, and which is usually regarded as a remnant of the ancient Lake Moeris (p. 530). The Fayyum itself, supposed to have been gradually reclaimed from that lake, is now an exceedingly productive district, a sort of inland delta, fed, like the marine delta, by the fertilising flood-waters of the Nile. "Here," writes Junker, who visited the district in 1875, "I found myself surrounded by a garden tract of unsurpassed fertility, where there was scarcely room for a path amid the exuberant growths, where pedestrians, riders, and animals had to move about along the embankments of countless canals. Now a land of roses, of the vine, olive, sugar-cane, and cotton, where the orange and lemon plants attain the size of our apple trees, it was in primæval times an arid depression of the stony and sandy Libyan waste. Then came an early Pharaoh, who cut a deep channel through the rocky barrier towards the Nile, and thus let in the western arm of the river. Since the 12th dynasty, this Ta-she, or 'Lake-land,' has been a land of blessing and abundance. The tract thus reclaimed from the desert was justly a wonder amid the wonders of Egypt; here the marvellous and recently again much-talked-of Lake Moeris regulated the water-supply of the land."[1]

How to restore this great storage reservoir is one of the engineering projects most discussed in recent years in connection with the development of the agricultural resources of Egypt. Of the flood-waters not more than

[1] *Travels*, i. p. 43.

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one-fourth are at present available for irrigation purposes, all the rest, about 3200 billion cubic feet, being discharged seawards—that is, from the economic standpoint, running waste. To capture all or a considerable portion of this waste by simply enlarging the Bahr-Yusef, and thus flooding the Fayyum, would at once involve the loss of many thousand acres of some of the richest land in the world, and would be attended by many almost insurmountable difficulties, the bed of the depression having been considerably raised by silting since the formation of the lake. Hence Mr. Cope Whitehouse proposes to utilise another depression, the Wady Rayan, which lies south and south-west of the Fayyum, but separated from it by an intervening limestone plateau, 85 feet above the sea. Being enclosed westwards by steep cliffs, and standing in its deepest part 131 feet below sea-level, it might easily be flooded by a cutting from the Bahr-Yusef above the Lahun canal (p. 530), and as it is 250 square miles in extent, it has a storage capacity of about 1200 billion cubic feet at a surface level of 100 feet above the Mediterranean. Hence the inference that the Rayan basin, though never at any time flooded, as shown by the absence of sediment, might be transformed to a storage reservoir, fulfilling all the purposes of the ancient Lake Moeris.

But Major Brown, inspector-general of irrigation for Upper Egypt, concludes, after a careful study of the last surveys, that the original Lake Moeris flooded the whole of the Fayyum up to the contour line of 85 feet; that, however, it was not of artificial formation, but brought under control by the Pharaohs, and that it might have been employed as a reservoir to supplement the Low Nile. This purpose might also be fulfilled by Mr. Cope Whitehouse's plan for utilising the Wady Rayan; but it could

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not perform the double function of supplementing low Niles in Lower Egypt, and at the same time of modifying or controlling the Nile floods themselves, which was presumably not done even by the original Lake Moeris. The Rayan depression, however, might probably be also used to receive the drainage and surplus flood-waters of the Upper Nile Valley. Whether these purposes would suffice to justify the necessary outlay is a question that has yet to be considered.[1]

The Nile Delta

Beyond the Fayyum the Nile continues its tranquil course for about 70 miles nearly due north to Cairo, where the two lines of cliffs, confining the stream as in a ditch, begin to fall in height and to recede to the right and left. Space is thus left for the river to ramify over the alluvial plain created by its own sediment, where in remote times it had developed numerous distinct branches, forming so many mouths through which its contents were discharged into the Mediterranean. But the more these branches were tapped for irrigation purposes the more the natural scour was weakened, and the seven mouths still known to the Greeks of the Ptolemaic period, besides several *pseudostomata*, or "false mouths," are now all, except two, reduced to this condition of false mouths—that is, stagnant or uncertain channels and backwaters, continually shifting their beds, and no longer reaching the coast even during the floods. The two still existing, those of Rosetta and Damietta (Bolbinitic and Phatnitic), appear to have always been the largest and most important. They branched off formerly close to the spot where Cairo now stands, that is, a little below Memphis; but during

[1] Major R. H. Brown, *The Fayyum and Lake Moeris*, Stanford, 1892.

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the last 2000 years the fork has gradually been shifted about 13 miles lower down, the Rosetta branch flowing nearly in the normal direction of the main stream with a point to the west, while that of Damietta diverges considerably to the east.

To the triangular space thus enclosed by the two branches and the coast-line the Greeks gave the name of their triangular letter *delta*, Δ, a name which by extension is now applied to all similar formations elsewhere. At the head or apex of the triangle stands the famous *barrage* or dam, begun in 1847 by Mehemet Ali for the twofold purpose of reclaiming many thousand acres of waste land, and of regulating the discharge and the navigation throughout the Delta. But the work, consisting of two bridges of 134 arches, about half a mile long, or with the approaches over a mile, was badly built, and left in an unfinished state till the present British occupation of Egypt. At Cairo, where it is spanned by a fine iron bridge, the Nile is about 350 yards wide, and has a mean discharge of 160,000 cubic feet per second, rising at high water to 470,000, and falling at low water to 15,000 or 16,000. Of this volume about one-twelfth is distributed over the Delta by the Menufieh Canal, constructed in connection with the barrage. All the rest is carried off by the Rosetta and Damietta branches, the former taking the larger share, but flowing at too low a level to be of much avail for irrigation purposes. Both are about the same length, 130 and 140 miles, and both are equally inaccessible to vessels of heavy draught, owing to the bars formed by the Nile deposits at their mouths with depths varying from 6 to 8 feet. These deposits, to which the whole of the Delta owes its existence, still continue to encroach on the sea, but apparently at a rate scarcely exceeding 8 or 9 feet a year. Such at least is

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the inference drawn from a comparative study of the 100 miles of shore line between the Rosetta and Damietta mouths as it now exists, and as it must have stood 2000 years ago.

The slow advance seawards, as compared with the progress of the Ganges, Niger, and many other deltas, may be due partly to a general subsidence of the whole region, of which there are some indications, such as the now submerged tombs known as "Cleopatra's Baths," excavated in the cliffs at Alexandria. But perhaps a more potent cause of retardation is the peculiar configuration of the seaward front, which is skirted throughout its entire length by a chain of large but shallow lagoons, the so-called "Lakes"—Mareotis (Mariut), west of Alexandria, 60 miles in circumference; Edku, between Alexandria and Rosetta, about the same size; Burlos, between the two branches; and Menzaleh, extending from Damietta to the Suez Canal, respectively 400 and 500 square miles during the floods. These coast lagoons have little communication with the sea, and being fed chiefly by the Nile waters, must receive a vast quantity of the sediment, which would otherwise go to advance the Delta front seawards. Mareotis in the extreme west was dry land in remote times, as is evident from the ruined monuments found in its bed; but during the military operations at the close of the last century it was flooded by the English, who cut the dyke separating it from the sea. It is now again silting up since the dyke has been repaired, while the eastern extremity of Menzaleh has been drained since the construction of the Suez Canal, separating it from the Nile basin. The rest of Menzaleh has an average depth of little over 3 feet, and at no distant period all these flooded depressions will probably disappear. When the Nile alluvia have completed this

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work, the encroachments of the Delta on the Mediterranean may be expected to proceed at an accelerated rate.

High and Low Nile

If the Lower Nile basin is in process of sinking, as above indicated, it is obvious that the tendency of the periodical deposits to raise the level of the Delta will be counteracted to the extent of the annual subsidence. Girard, of the French scientific expedition, has calculated the actual rise caused by the Nile mud at not more than five inches in a century, or about 20 feet during the last 5000 years. Doubtless the Memnons and some other monuments, even of Upper Egypt, dating from that remote epoch, now lie buried to a considerable depth below the surface. But this should probably be attributed less to a rise caused by accumulating deposits, than to the opposite movement of local subsidence of heavy bodies in the soft alluvial soil. The old Nilometer found in Elephantine Island had itself sunk some 8 or 9 feet. Consequently in comparing present with former high Niles by this gauge, allowance should be made for any apparent discrepancies to the extent of its subsidence. It will then perhaps be found that the annual rise to which Egypt owes its existence has varied within very narrow limits throughout the historic period. It was seen that the mean discharge at Cairo during the floods was some 470,000 cubic feet per second, which may be taken as indicating a range of about 26 feet between low and high water levels in the narrow trough of the Nile Valley above the Delta. This range would appear to be a somewhat constant quantity during recorded time, as far as can be judged from known data. The petrified forests already referred to as occurring in

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many parts of the Lower Nile Valley, as well as the numerous dry watercourses, some of great size and capacity, show that, like the Sahara, the Nubo-Egyptian desert was formerly an abundantly-watered and well-timbered region, with a hot, moist climate resembling that of the Congo basin. But these conditions prevailed in remote geological times, probably before the creation of the Delta, and consequently before there could be any question of "high or low Niles" in Lower Egypt.

The periodical rise, recurring as regularly as the revolutions of the heavenly bodies, necessarily remained an unsolved mystery for the Ancients, being, in fact, quite inexplicable before the discovery of the "Nile fountains" themselves. The phenomenon is now known to be mainly due to the Blue Nile, which, being swollen by the tropical rains, periodically sends down a great rush of water heavily charged with rich alluvia, while the normal current is maintained throughout the year by the White Nile descending from a lacustrine plateau region of perennial rainfall. Without the Ethiopian highlands, where a vast body of water is captured and discharged northwards during the rainy season, there would be no great rise nor any fertilising deposits; but the Nile would still be a permanent stream, flowing at or about its present low-water level for nearly 2000 miles through an absolutely rainless zone. Without the White Nile the stream would run out for most of the year long before reaching the Egyptian frontier, and the Lower Nile would assume the character of an intermittent wady, such as the neighbouring Khor Baraka, periodically flushed by the discharge of the torrential downpours from the Abyssinian uplands.

That the White Nile contributes little to the deposits, is obvious from the fact that it descends from a moderately inclined plateau region, where the soil

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is bound fast by an exuberant tropical vegetation. Even the flood-waters are in great measure prevented from rushing down, like the tumultuous torrents of the Ethiopian highlands, by the dense masses of this "vegetable drift," which, combining with the forests of aquatic growths, forms those prodigious "grass barriers" known by the name of *sudd* (p. 310), powerful enough not only to arrest all navigation, but to dam up large bodies of water. A great portion of the floods is thus compelled to discharge into lateral depressions, such as the temporary Lake No, and, when these are filled, to spread out over the level Dinka plains, where even a slight rise suffices to convert large tracts to inland seas, exposed to an enormous loss through evaporation and percolation in the spongy soil. Thus comparatively little is left to swell the volume discharged farther down by the Blue Nile, and occasionally by the Atbara.

This discharge begins to make itself felt in Lower Nubia and Egypt towards the middle of June, at first slightly, then after the middle of July much more rapidly, the river continuing to rise steadily till the first week in October, when it reaches high-water mark, about 54 or 55 feet on the Egyptian frontier, and 25 to 26 at Cairo. A subsidence then sets in, continuing till low-water level is again reached, usually about the end of May. The floods are thus much higher, but also confined to a narrower space in the Nubian than in the Egyptian Nile, while they gradually die out, as if exhausted in the region of the Delta, where the excess is discharged seawards by the Rosetta and Damietta branches. The Ancients had already set up *Nilometers*, that is "Nile gauges," not only at Memphis, but also in Elephantine Island at the first cataract, and even in Nubia. At present the only gauge in use is the *Mekyas*,

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"measure," at the southern extremity of Rudah Island, just above Bulak Island at Cairo. Here a square well has been sunk, communicating with the river, above which rises a column with a graduated scale, where the yearly records show that the high and low levels vary within a somewhat narrow range. The full rise which is cried thrice a day in Cairo, is considered insufficient for a good harvest if below 20 feet, and abundant at 26 feet—any excess above this figure doing more harm than good by causing destructive inundations.

It is popularly supposed that at every rise the plains of the Delta are inundated, but such is not the case. Floods, as ordinarily understood, that is, the actual overflow of river and canal banks, are the exception, and always disastrous. The irrigation of fields and plantations is effected, so to say, not from above, but from below, by slow infiltration through, not over, the retaining dykes, which are prevented from bursting or from overflowing by this process of continuous absorption. So true is this that the first lands to be affected are not those in immediate proximity to the canals, but the more distant, because, lying at lower levels, they are the first to be reached by the percolating waters. A somewhat analogous process is seen in Manitoba, where during the long summer droughts the crops also receive their moisture from below, the wheat and other cereals striking their rootlets deep enough to tap the underground reservoirs; only in Canada the plants seek the water, whereas in Egypt the water is guided to the plants by the hand of man.

An analysis of the Nile alluvium, which has accumulated in the course of ages to a thickness of from 30 to 40 feet above the old river-bed, shows that it contains considerable percentages of such fertilising sub-

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stances as carbonates of lime and magnesia, silicates of aluminium, carbon, and several oxides. Where the water has to be raised to higher levels, two processes are in use, the primitive *shadûf* of native origin already figured on monuments 3300 years old, and the more elaborate *sakieh*, apparently introduced in later times from Syria or Persia. The former is used chiefly on small farms, the latter on plantations, but they occur also in combination; and the Nile banks are lined with these contrivances incessantly at work from Lower Egypt all the way to and beyond Khartum. The shadûf, which will raise 600 gallons 10 feet in an hour, consists of a stout pole attached like a lever to a frame, weighted at the short end to counterbalance a leather or earthenware bucket suspended by a rope to the long end. It is worked by a man, who dips the bucket in the river, using the weighted end to raise and discharge the water into an irrigation rill. The sakieh, which will raise 1200 gallons 20 to 24 feet in the same time, is a modified form of the Persian wheel with a series of cogged wheels worked by an ass, an ox, a buffalo, or camel, each revolution bringing up a succession of earthenware vessels which are similarly discharged, like the buckets of a dredge, into a trough or other receptacle. Before the recent reforms these appliances were heavily taxed, and served as convenient instruments of official extortion.

The Khor Baraka

Of the numerous intermittent watercourses between the Nile and the Red Sea, by far the largest is the Khor Baraka (Barka), which rises on the Dembelas plateau west of Hamasen, and after receiving numerous affluents from the Kunama, Barea, and Bogos districts, follows a

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northerly course to the Red Sea coast, where it develops a considerable delta near Tokar south of Sawakin. Its regime presents some analogy to that of the Nile, and in ages past it was undoubtedly a copious perennial stream, nearly 250 miles long with a drainage area of from 7000 to 8000 square miles. At present its flat sandy bed, winding between well-wooded banks, is dry for a great part of the year, offering easy access from the coast to the Abyssinian slopes and the fertile Taka district. In peaceful times this route is largely utilised for the caravan trade between Sawakin and Kassala, and was followed in 1876 by Junker, to whom we are indebted for the best account of the Baraka region.

The Baraka freshets reach the Delta in September, but the flow is intermittent, so that the land is flooded twice, or even oftener, during the month. On the subsidence of the first inundation tillage begins in the soft fertilising mud brought down from the same uplands as the Nile mud. But it sometimes happens that the second rise is too strong to be controlled by dams and sluices, and then the sprouting corn, chiefly sorgo (*Sorghum vulgare*), is swept away, and the work has to be done all over again. The natives also grow cotton, which fetches a higher price than the American, having a longer and finer staple. The Baraka having no depressions to fill up like the lagoons of the Nile Delta, the sediment annually washed down accumulates rapidly, causing the channels to silt up and constantly shift their beds. The Khor Aquetîd, northernmost of the two largest branches, now remains dry, even during the highest floods, and the flood-waters now reach the Red Sea only through the Khor Antiteb. All the branches, ten or twelve in number, are disappearing, and the deposits are gradually building up a barrier which must eventually compel the

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Baraka to seek another seaward outlet. The chief affluent is the Anseba, which descends from the Hamasen plateau, and joints its right bank west of the Hagar heights, about 17° N. latitude.

The Suez Canal and Isthmus

If Egypt has no navigable stream accessible by large vessels from the sea, she possesses in the Suez Canal a marine channel which serves all the purposes of a great navigable river. It was seen (p. 538) that during the New Empire a successful attempt was made to connect the Nile with the Red Sea by a navigable waterway, accessible at least to small craft. But the care and expense needed to keep even that modest work in repair appear to have been too much for the subsequent period of foreign conquest and social convulsions. Later, however, a navigable canal, known as "Trajan's River," was constructed by that emperor from the head of the Delta round by the Timsah and Bitter Lakes to the Red Sea. This work was kept open for centuries, and even restored by Calif Omar in the seventh century; but about the year 880 it was finally closed by Calif Abu Jafar el-Mansur for strategical reasons, and its course can now be traced with difficulty through the sands of the surrounding desert.

It was reserved for our days to see the accomplishment of a far greater project by which, not the Nile, but the Mediterranean, was made to communicate with the Red Sea; not by a flooded ditch, but by a ship canal deep and broad enough to admit vessels of many thousand tons burden. This magnificent hydrographic work, by which Africa has been transformed to an island, and the Atlantic connected through the two inland seas with the

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Indian and Pacific Oceans, was mainly due to the restless energy and enthusiasm of the French diplomatist and speculator M. Ferdinand de Lesseps. The Canal, which has a total length of 98 miles—66 through dry land and 32 through the Menzaleh, Ballah, Timsah, and Bitter Lakes—was begun in 1859, and completed at an expenditure of about £20,000,000 within the decade, having been thrown open to the navigation of the world on November 17, 1869. England, where public opinion was most opposed to the project, has derived most benefit from its realisation, and since the purchase in 1875 of 176,600 Khedival shares for £3,977,000, now worth four times that sum, the British Government is by far the largest single shareholder. Of the shipping, which avails itself of this shortest route to the East by some 6000 miles, and which has enormously increased since the opening, about 80 per cent, more or less, flies the British flag. Thus in 1891, of 4207 ships with gross tonnage 12,218,000, as many as 3217 of 9,484,600 tons were British, and this proportion tends to increase with the development of the sea-borne traffic between Great Britain, India, China, Japan, and Australasia. All vessels passing through are now steamers mostly constructed specially for this service. The increase of traffic since 1870 is shown in the subjoined table:—

Year.	Vessels.	Tonnage.	Passengers.	Receipts.
1870	486	437,000	27,000	£185,000
1876	1457	2,097,000	72,000	1,129,000
1880	2026	3,058,000	102,000	1,500,000
1886	3100	8,883,000	171,000	2,389,000
1889	3425	9,606,000	180,000	2,735,000
1893	3341	7,659,000	186,495	2,840,000

The daily receipts now average about £6000, and in 1893 the net profits were £1,600,000. To provide for

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this vast and unexpected development of traffic, extensive works are now (1894) in progress to enlarge the dimensions of the Canal, from an average width of 75 to 215 feet on the bed of the channel, and 264 between banks, and from a minimum depth of 26 to 28, and eventually to 30 feet. Luminous buoys and electricity have also been introduced to facilitate the night traffic, so that the through passage has now been reduced from 35 or 40 to about 20 hours, thereby nearly doubling the capacity of the canal. Thus has for the present been obviated the necessity of constructing another navigable waterway a little further east, a project which had lately been seriously discussed. By the Anglo-French Convention of October 1887, the Canal has acquired an international character; both the waterway and the isthmus, for three miles on both sides, are declared neutral territory, exempt from blockade, fortification, or military occupation of any kind, the passage remaining open to the ships of all nations, whether armed or not, during peace and war. In the Convention is included the Fresh-water Canal, which runs from Cairo to Ismailieh, and thence along the west side to Suez, and which was constructed in 1862 as part of the general project to supply potable water to the land and floating populations along the Ship Canal, to whose existence it is indispensable.

The Isthmus of Suez, now intersected by this great engineering work, presents some geological features of considerable interest. At its narrowest part, between the Mediterranean and the Red Sea, it is traversed by a chain of lakes or flooded depressions, which at first sight look like the remains of a marine channel flowing between the two inland seas within comparatively recent times. But these lakes belong to two different basins, the northern (Menzaleh with its southern extension, Ballah) to the

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Mediterranean, the southern (Timsah and the Bitter Lakes) to the Red Sea, as shown by their aquatic shells identical with those still surviving in the Gulf of Suez. Between the two basins the isthmus culminates in the Ghisr plateau, about 8 miles wide and 50 feet above sea-level, which appears to have been dry land at all events since the early Tertiary (eocene) epoch, except, perhaps, for a short time during the Quaternary age. It follows that there has been no direct communication between the two inland seas for a vast period of time, and this conclusion is confirmed by the great difference observed between the Red Sea and Mediterranean faunas.

On the other hand, Timsah ("Crocodile" Lake), which stands exactly midway between the two seas, was formerly connected with the Nile, which sent, and even still occasionally sends, some of its overflow to this depression through the Wady Tumeilât. This water-course, which has been identified by M. Naville with the "Land of Goshen,"[1] served at one time to irrigate a large tract of cultivated and densely peopled land, for here are the remains of some famous monuments and even cities, such as the recently explored "treasure cities, Pithom and Raamses," built by the Israelites for the Pharaoh "which knew not Joseph" (Ramses II.) Tumeilât joins Lake Timsah at Ismailieh, a new town which has sprung up in connection with the Ship Canal, and at the other (west) end of the Wady stands the "Great Mound," Tel-el-Kebir, memorable for the crushing defeat of Arabi Pashi by the English in 1882. Thus are intermingled the past and present everywhere throughout the land of Egypt.

[1] It should, however, be stated that, although at first received with general approval by Egyptologists, M. Naville's identifications have since been questioned amongst others by Mr. Cope Whitehouse (*Expositor*, November 1893).

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ENTRANCE TO THE SUEZ CANAL, PORT SAID.

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Climate

Depending more on the physical conditions of the environment than on latitude, the climate is essentially the same, or at least differs only in degree, and that within somewhat narrow limits, throughout the Nubo-Egyptian section of the Great Desert, from which, in respect of its meteorology, the Nile Valley cannot be separated. The occurrence or absence of regular rains is a more potent factor than a thousand miles nearer to or farther from the equator, and as the zone of tropical rains has its northern limit about the parallel of Khartum, both Nubia and Egypt are practically rainless lands. Except in the southern steppe between the Nile and the Red Sea, where the moisture-bearing clouds penetrate northwards to 21° or 22° N. lat., and occasionally even to the Egyptian frontier, the annual rainfall nowhere exceeds three or four inches. West of the Nile years sometimes pass without any precipitation, and then the wells along the caravan routes dry up, rendering the tracks across the Nubian and Bahiuda steppes as impassable as the neighbouring Libyan desert itself.

In Egypt, where regular records have been made since the French Expedition of 1798, the rainfall does not appear to have perceptibly increased during the last hundred years, despite the millions of mulberry and other large trees planted by Mehemet Ali and his successors. Some improvement has been noticed at Alexandria, Port Said, and one or two other points, but whether temporary or permanent will need longer observations to determine. The so-called "rainy days" rose at Port Said from 9 to 61 between 1869 and 1871, and at Alexandria from 22 to 38 between 1870 and 1872, the average at Cairo

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being about 9. But these are rather "showery" than "rainy" days, and a thoroughly wet day is an unknown phenomenon, except now and then on the Mediterranean sea-board, where the average is higher than elsewhere in the Nile Valley.

The uniformity of the climatic conditions in a region stretching across 16 degrees of latitude (16°–32° N.) is also shown in the slight discrepancy of temperature between Upper Nubia and Lower Egypt. In Nubia the isothermal line of normal heat lies about 78° or 80° F., with an extreme range of 44° (60° to 104° in the shade). At Cairo also the mean is about 72°, and the extremes 54° (February) and 90° to 95° (July). In general there is a difference of little over 10° between the southern and northern regions, and this difference may be accredited to latitude. Occasionally also far greater extremes have been recorded in Egypt than are indicated by these figures—over 100° at Cairo and 113° at Luxor in summer; 41° at Luxor and 35° to 36° at Cairo in winter, and even two or three degrees of frost in the Delta.

In Nubia the north winds are the most prevalent, and tend to increase the great difference between the day and night temperatures, due, as in the Sahara (p. 217), to excessive radiation. In this extremely dry atmosphere scarcely any dew is precipitated, and the carcases of animals dying by the wayside become mummified without passing through the process of putrefaction. In Egypt the winds are more diversified owing to the influence of the surrounding marine waters. The summer heats are somewhat tempered by the north and north-west breezes dominant during high Nile, from June to September. Later the south-east winds set in, lasting irregularly from December to March, and these are too often followed by the dreaded Khamsîn (p. 219), and the

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still more dreaded Simûm (p. 219), which sweep the Nile Valley at intervals during the spring and summer months. In Egypt the Simûm is still more stifling than the Khamsîn, but fortunately is of shorter duration, seldom lasting more than 15 or 20 minutes.

The climate of Egypt is often described as not merely healthy, but "health giving," an expression which, without qualification, might lead to serious misconceptions. It is mainly true of the winter season both for Egypt and Nubia, which of the two is on the whole the more salubrious region, being exempt from ophthalmia, from the plague formerly almost endemic in the Delta, and from cholera, which appears to have never penetrated beyond the neighbourhood of the second cataract (Wady Halfa). For some time after the subsidence of the flood-waters, low and even malignant fevers are to be dreaded in Lower and parts of Upper Egypt, as well as in parts of Nubia, where after the inundations some of the alluvial tracts are transformed to stagnant meres. Hence the Nile Valley should be avoided by those intending to "winter in Egypt," till about the month of December; nor should residence be protracted much beyond the month of March, after which the benefits derived from an intensely dry atmosphere are largely neutralised by the summer heats, and the almost intolerable plague of dust, flies, and mosquitoes. In any case, continuous residence in Upper Egypt is injurious, and often even fatal, under the most favourable conditions, to all but the full-blood natives. The enervating effects of a normally high temperature render strangers less capable of resisting the occasional visitations of the pestiferous desert winds; and under these brazen skies the children even of Eurafrican half-castes seldom survive beyond their tenth or twelfth year. No European race can be

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acclimatised in the Nile Valley above Lower Egypt, where the experience of ages has shown that Greeks and Italians can settle and found permanent homes.

Flora—Agricultural Resources of Egypt

The distinction elsewhere drawn between a spontaneous and a cultivated flora scarcely applies to Egypt proper, where nothing grows except what is sown, and where for thousands of years every square foot of available land has been under careful tillage. Hence the only wild growths met anywhere are the aquatic plants along the Nile banks, and the thorny and scrubby vegetation of the almost uninhabited Arabian steppe (p. 548). On the *bayadi* or *rayi*, that is, the land watered by direct infiltration (p. 566), are chiefly grown wheat, barley, lentils, beans, peas, lupins, flax, and clover. These crops are sown after the subsidence in November and December, and all harvested usually by the end of April, though sometimes not till June. They are called the "winter crops," and are followed by the "summer crops," chiefly cotton, sugar-cane, rice, maize, sesame, indigo, and vegetables of all kinds sown on the *nabari* or *sharaki*, that is, the artificially irrigated lands (p. 567), in March, April, and May, and garnered mostly in October and November, although cotton cane and indigo lie in the ground throughout the year. Lastly comes the "autumn crop," rice, sorgho, durra, the staple food in Upper Egypt and Nubia, sown in July, and garnered in November and December.

The vine, formerly widespread, is now mainly confined to the Fayyum, while the papyrus and lotus, so intimately associated with the culture of Ancient Egypt, have nearly disappeared from the Lower Nile Valley.

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At present the chief arborescent plants are the mulberry, acacia, sycamore, dûm-palm (above Girgeh), and especially the date-palm, of which about 3½ millions were yielding fruit or seed in 1891. In the same year over 6 million feddans[1] were under various crops, as in the subjoined table:—

Wheat	1,215,841	Sugar-cane	64,539
Maize and durrah	1,530,983	Potatoes and other vegetables	34,542
Clover	820,263	Chickling Vetch	38,702
Cotton	871,241	Melons	43,180
Beans	643,751	Lupins	17,355
Barley	460,330	Pulse	7,169
Lentils	75,756	Flax, henna, indigo	5,829
Rice	167,164	Castor, sesame	9,664
Fenugreek	139,500	Total	6,145,849[2]

After meeting the local demands, Egypt was able in 1891 to export agricultural produce to the total value of about £13,000,000, of which cotton and cotton seed represented over £10,000,000. A scheme has now been matured for constructing a great reservoir to retain the superfluous waters of the Nile in Upper Egypt. This project, which is soon to be taken in hand, is expected to add £4,000,000 to the yearly value of the crops in that region.

In Nubia the cereals most cultivated, chiefly by artificial irrigation, are durra and dukhn. Very few fruits or vegetables succeed, although the date-palm is the most characteristic tree, supplying the natives not only with food, but also with materials for their dwellings, mats, clothing, and other purposes. Both the baobab and the deleb-palm begin to make their appearance in the extreme south, while the dûm-palm penetrates north-

[1] A feddan is rather larger (1·03) than an English acre.

[2] *Statesman's Year Book*, 1893.

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wards to about the fifth cataract. In the Nubian desert occur thickets of the *argûm*, popularly called dûm, and resembling it in its bifurcation, but with a fruit which tastes like gingerbread. The sycamore ranges southward to Dongola, but in the steppes on both sides of the Nile Valley little is seen except various species of acacias and mimosas, and towards Kordofan, the gigantic heglik (*Balanites Ægyptiaca*).

Fauna

In Egypt the fauna, like the flora, belongs mainly to the domestic order. All large carnivora have disappeared, except the hyæna and jackal, and the crocodile, of which there were formerly five species, has retired with the hippopotamus to the higher reaches of the Nile. No hippopotamus has been seen north of the third cataract since the middle of the present century, when the last was shot in the vicinity of Hannek, about 19° 40′ N. lat. Numerous venomous snakes, however, still infest the cultivated districts, amongst others the formidable *naia haje, i.e.* the well-known Egyptian hooded snake resembling the Indian cobra, and figuring on some of the old monuments. Other highly characteristic animals associated with the early national cult, and still surviving in the country, are the ichneumon, a species of civet which preys on small reptiles, the ibis, and the curious dung-beetle (*Scarabæus Ægyptiorum*). The eagle, falcon, vulture, and pelican are still frequently met, as well as a species of swallow said to be peculiar to Egypt. The lynx-like fennec, noted for its large ears, and the jerboa or jumping-mouse, noted for its long hind legs, are common both to Egypt and Nubia.

The lion, leopard, hyæna, gazelle, and other antelopes,

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and the ostrich, still frequent the mimosa thickets of the Nubian steppe lands. Monkeys also descend the Nile to and beyond Berber; but the elephant and rhinoceros are

FENNECS AND JERBOA.

not met farther north than the forest districts of the Middle Atbara (province of Taka).

Egypt possesses some domestic breeds of excellent quality, notably the horse, ass, and mule, which are the admiration of all visitors. The horse, introduced at an

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early epoch, is used only as a mount, and appears to be a cross between the old stock and the Arab. The Nubian horse seems, on the contrary, to be of pure Arab descent, resembling that of the neighbouring Kababish Arabs, and although less handsome than its prototype, still a valuable animal, extremely agile and mettlesome. The camel figures nowhere on the old monuments, and evidently first made its appearance in the Nile Valley in company with the Arab invaders of the seventh century. It is now the only beast of burden on the great caravan routes crossing the steppes between the Red Sea and the Nile, and between the Lower Nile and Soudan.

In Egypt proper, both the buffalo and ox are numerous, and much used as draft animals and for working the sakiehs (p. 567). There are two species of sheep—the ordinary with a thick woolly coat, and the fat-tailed, this appendix often attaining a considerable size. Pigeons and poultry abound, and the old process of artificial incubation still prevails. The ovens are heated to 100° or 104° F., and on the average, three-fourths are successfully hatched out in the natural period of 21 days. From 14 to 16 million chicks are annually reared at the *ma'amals*, as these incubators are called. In 1891 the live stock (cattle, horses, camels, etc.) numbered 1,669,000, a considerable increase on previous years.

Inhabitants

In their ethnical relations, as in many other respects, Egypt and Nubia have been intimately associated almost throughout the whole period of recorded history. In the light of recent research, the assumption that the first or even any of the cataracts formed a divide between the

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Retu, as the Egyptians called themselves, and the Wawa,[1] as they called the aborigines of the Nubian Nile, must now be abandoned. These Wawa, whose name occurs on mural inscriptions over 4000 years old, doubtless represent an indigenous race distinct from the Retu; but both peoples were already intermingled in the Nile Valley beyond the third cataract some 6000 years ago. The island of Argo, near the present town of New Dongola (19° 20′ N. lat.), was a great centre of Egyptian culture, and here was a thriving Egyptian colony founded long before the building of the great pyramids of Gizeh, as proved by the magnificent colossal statues of Sookhotpu IV., besides royal tombs and exquisite sculptures covered with hieroglyphics, all dating from the third dynasty (4500-4235 B.C.) The neighbourhood of the fourth cataract had been reached over 2000 years before the new era; for the name of Amenemhat III. of the 12th dynasty occurs on the monuments of Marawi, the Napata of Herodotus, though most of the buildings appear to have been erected much later by Ramses II. of the 19th dynasty. The ruins of this famous city are the most extensive in the Nubian Nile Valley, next to those of another and still more famous Marawi, the Meroe of the Ancients, properly Meru or Merua, which gives its name to the "Island of Meroe," that is, the Mesopotamia between the Black and the Blue Niles. On the site of this ancient "Capital of Ethiopia," founded by the royal high-priests, refugees from Thebes (about 900 B.C.), are three groups of pyramids, eighty in all, besides pylons, temples, colonnades, statues,

[1] This name *Wawa* or *Uaua* occurs on a tomb at Memphis, dating from the time of Pepi (6th dynasty), and constantly afterwards down to the Ptolemies, as the most general name of the Æthiopian aborigines beyond the Egyptian frontier.

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and avenues of animals, covering a vast space, but mostly erected, it would seem, by Ethiopians under Egyptian control. At least, the hieroglyphics are badly copied by artificers ignorant of their meaning, while many of the inscriptions are in the Demotic Ethiopian character of Egyptian origin, and in the Ethiopian language, either that of the Hamitic Blemmyes, or of the Negroid Nubas. But the Retu had penetrated at an early date far beyond this point, and the native reports of numerous remains scattered over the Island of Meroe, but not yet visited by any Europeans, seem confirmed by the ruins of Naga near the Jebel Ardan, east of the sixth cataract below Khartum. Here are an avenue of sphinxes and two temples covered with sculptures describing the triumphs of a Pharaoh of uncertain dynasty over the surrounding Wawa populations; and amongst the Mesaurat remains a few miles farther north, are the still standing columns and walls of one of the largest buildings ever erected by man, with a circumference of over 1000 yards.

For a long way beyond the present Egyptian frontier the Nile banks are lined with tombs, sculptures, statues of the gods, more numerous than the living inhabitants of the river valley; sphinxes, pyramids, colossi, obelisks, and temples, such as that of Ramses II. at Kalabsheh, and the astounding rock temples of Ibsambul (Abu-Simbel) dedicated to Ammon-Ra and the goddess Hathor, also by Ramses II., whose triumphs over the Hittites (battle of Kadesh) are commemorated by painted mural sculptures comprising no less than 1100 distinct figures. Other splendid monuments follow at Semneh (21° 30′ N. lat.), where Lepsius discovered the Nilometer and records of high Nile under Amenemhat III.; at Soleb (20° 30′ N.), where are the remains of a superb temple with carvings, graceful columns, and inscriptions, also recording the

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peaceful triumphs of Amenemhat III., and so on all the way to Argo Island, centre of all these imperishable glories of the old Egyptian Empire.

Thus it is evident that the Nubian section of the Nile Valley right up to the Blue Nile confluence (*Æthiopia supra Ægyptum*) was not merely conquered, but largely settled and colonised by the Retu race during the vast period extending from the 3rd to the 20th dynasty. Later the Egyptians, as again in the present day, were expelled or absorbed by the surrounding Ethiopian populations, such as the Blemmyes, who invaded and occupied the Nubian Nile in the time of Dioclesian, and their successors and conquerors, the Nobatæ, whose Nubian descendants still hold that region from the Egyptian frontier nearly to the fourth cataract.

Still later another and a greater dislocation of the aboriginal elements took place with the irruption of the Moslem Arabs in the seventh century. These fiery zealots not only effaced what remained of Byzantine and earlier Greeks and Romans in the Delta and the Fayyum, but also drove the Hamite Nomads (Libyans, Macrobii (?), Blemmyes, Bugaitæ) either west to the Siwa Oasis, where they still persist, or south to the Nubian Steppe between the Nile and the Red Sea, where their more or less Arabised descendants also still survive in the present Beja inhabitants of that region. In Egypt itself they gradually transformed the Coptic, that is, the old Retu peasantry (over 60 per cent of the whole population) to Arab-speaking Mohammedan fellahîn of modified Retu type.

But along the Nubian Nile Valley the Arabs failed greatly to disturb the prevailing ethnical conditions, because here traditions of monarchical rule still survived from the time of the old Ethiopian empire with its two

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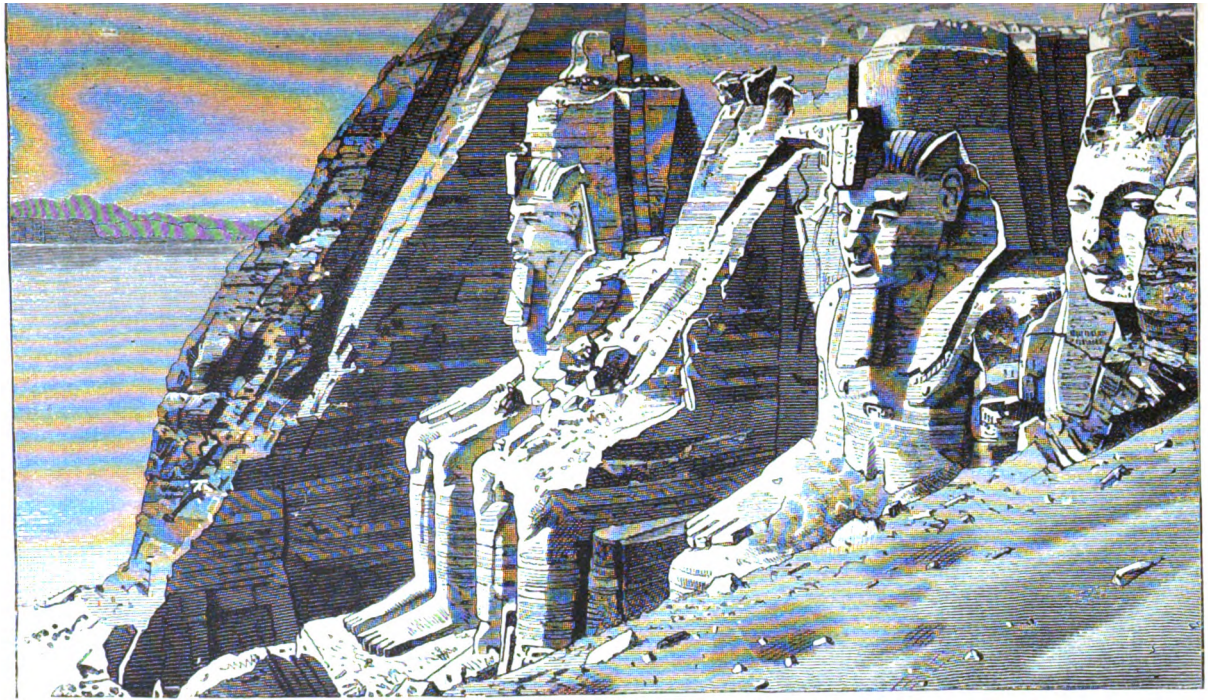

ROCK TEMPLE OF ABU-SIMBEL.

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great capitals the Northern and Southern Merua. After a long interval, this empire was, in a sense, revived by the Nilotic Nubians, who had early been evangelised from Alexandria (A.D. 545), and who established a powerful Christian kingdom[1] with capital Old Dongola, which ruled over the region between Egypt and Abyssinia for nearly 800 years (sixth to fourteenth century). Although this State was at last overthrown by the Arabs about 1316, the tenacious Nubian peasantry retained, and still retain, their Negro speech, which reveals the secret of their origin from their namesakes, the Negro Nubas of Dar-Nuba, South Kordofan (p. 421). They, however, were fain to accept the religion of their conquerors, and little trace of their former Christianity now remains, except one or two expressions such as *Kiraghé*, the Greek *Kyriakē*, the "Lord's Day," Sunday.

Apart from the Jewish and later Levantine settlers in the Delta, no other foreign peoples have effected a permanent footing in the Nubo-Egyptian lands. The Turks and the Circassian Mamelukes came as rulers and oppressors, and never founded social communities in the country. The Mohammedan Bosnians, also, who were sent by Selim I. in 1520 to restore order amongst the unruly tribes beyond the Egyptian frontier, were unable to maintain their distinct nationality, and the *Kalaj*, as they are locally called, all now speak the Kenusi (Nubian) dialect current between Assuan and Korosko.[2]

It results from this rapid historic survey that at

[1] Silco, founder of this kingdom, bore the title of "King of the Noubads, and of all the Ethiopians." His victories over the Blemmyes are recorded in a Greek inscription on the Temple of Ramses II. at Kalabsheh (Talmis) on the Tropic of Cancer.

[2] Miss Edwards met some of these Bosnians distinguished by "light blue eyes and frizzly red hair," who were "immensely proud of their alien blood." (*A Thousand Miles on the Nile*, ii. 140.)

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present the region between Abyssinia and the Mediterranean is mainly occupied by the Negroid NUBIANS, the Hamitic BEJAS, the Semitic ARABS, and the Arabised EGYPTIANS, distributed as in the subjoined.

Table of the Nubo-Egyptian Populations[1]

NUBA GROUP

NUBAS PROPER. — *Nuba, Kargo, Kulfan, Kolaji, Tumali* — Chiefly in Central and South Kordofan (Dar-Nuba), 11°-13° N. lat.

NILOTIC NUBAS (NUBIANS, BARABRA):

- *Mattokki* (*Kenus*) — From first cataract to Sebu and Wady el-Arab, with a few settlements in Upper Egypt.
- *Saidokki* (*Mahai, Marisi*) — From Korosko to the second cataract.
- *Dongolawi* (*Danagele*) — From second cataract to Merawe (Napata) below the fourth cataract, with numerous settlements in Kordofan and Dar-Fur.

BEJA GROUP

Amarrar, Ashraf, Artega, Hadendowa. — Sawakin district, and thence south to Abyssinia.

Bisharin, between the Hadendowa and the Nile Valley.

Ababdeh, Arabian steppe, Upper Egypt, and Nubian steppe south to about 22° N. lat.

EGYPTIAN GROUP

Fellahîn, the Egyptian peasantry, first cataract to Mediterranean.

Copts, the Egyptian Christians; a few separate communities, but mostly interspersed in the general population.

ARAB GROUP

Settled: Chiefly in the towns intermingled with the Moslem, Egyptians, and Turks, but also numerous, especially along the right bank of the Nile Valley.

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[1] From this table are excluded those Hamitic and Semitic tribes, such as the Halengas, Beni-Amers, Jalins, and Kababish, that have been more conveniently dealt with in previous chapters. They occupy the ill-defined border-lands between Upper Nubia, Abyssinia, and Kordofan.

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Nomad and Semi-Nomad.

- Maâzeh, Hawâitât, Terrabin, Amrân, Aiaideh, Hawâsin. — East of the Nile, south to about the parallel of Kosseir.
- Aulad-Ali, Hanâdi, Gawâbi, Aulad-Suleimân, Azaleh, Fergân, Tarhôna, Gumât. — West of the Nile between Alexandria and Cyrenaica, about the Fayyum, and farther south.
- Shagîah, with 12 subdivisions. — Both banks Nubian Nile from Korti to near Birti, and part of Bahiuda steppe.

The Nubians

Although it can no longer be connected with the *Nub* of the old Egyptian mining district (p. 554), the term *Nuba* as an ethnical designation is nevertheless of great antiquity. The Nubai were already known to Strabo, who mentions them (Book 17) amongst the Ethiopians dwelling to the south beyond Syene, and in another passage describes them as "a great nation" to the west of the Nile.[1] That these Nubai are the Nobatæ of Dioclesian there can be no reasonable doubt, and that they came originally from Kordofan, whence they migrated to the Nile Valley over 2000 years ago, is evident from their language, which still differs little from that of the Nubas of that region.[2] But the term *Nuba* is now rejected by the Nilotic branch, because it has become synonymous with "slave," owing to the large number of pagan Kordofan *Nubas* that have been long supplied to the Sudanese slave-markets. Hence the Nile Nubas (Nubians) now call themselves *Barabra*, plural of

[1] ἐξ ἀριστερῶν δὲ ῥύσεως τοῦ Νείλου Νοῦβαι κατοικοῦσιν ἐν τῇ Λιβύῃ, μέγα ἔθνος (17, p. 1117, Oxford ed. 1807).

[2] The question is fully discussed in *Ethnology of Egyptian Sudan*, by A. H. Keane (Stanford, 1884).

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Berberi,[1] from the town of Berber, which, although not now held by them, was the capital of a powerful Moslem Nubian State after the overthrow of the Christian Nubian State in the fourteenth century.

During their long residence in the Nile Valley, the type, originally pure Negro,[2] has become greatly modified by contact especially with the Retu and Beja Hamites. It is still, however, plainly Negroid, marked by very dark mahogany or bronze colour, tumid lips, large black eyes, dolichocephalic head, woolly or strongly frizzled hair, scant beard worn under the chin, like that of the Wawa sculptured on the Egyptian temples. But, as with all mixed peoples, the type varies considerably, and the features are sometimes almost regular, while many of both sexes recall the Retu physiognomy, due to the long occupation of the Nubian Nile by the ancient Egyptians.

Although the late Mahdi was a native of Dongola, the Nubians are, as a rule, by no means fanatical Mohammedans. They are a peaceful, industrious peasantry, living exclusively by agriculture, but owing to the narrow limits of their over-peopled territory along the Nile Valley, compelled to emigrate in considerable numbers. Some find employment all over Egypt in

[1] This name, however, has also been doubtfully identified with the *Barabara*, one of the 113 tribes recorded on a monument of Thothmes III., by whom they were reduced about 1600 B.C. Another of these tribes are the Kens, a name still retained by the *Kenus* (plural of *Kensi*) branch of the Nile Nubians. Brugsch also connects with Barabara the *Beraberata* occurring in an inscription of Ramses II. at Karnak, as one of the southern peoples conquered by him. If these identifications are correct, the migrations of the Nubas to the Nile Valley must have taken place at least 3500 years ago. It is noteworthy that the Beni Kenz (Arabised Nubians?) driven by the Howara Arabs beyond the first cataract in 815 A.H. (1412) were called *Barabra*.

[2] The Kordofan Nubas are described by Rüppel as of pronounced Negro type, with woolly hair, pouting thick lips, short flat nose, and quite black complexion (*Reisen in Nubien*).

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various menial capacities; some have founded settlements in Kordofan, cradle of the race, while others have been largely engaged as mercenaries by the Arab traders and slavers, and it is these who have given the Nubians such a bad name throughout Eastern Sudan. But, in any case, all the Nilotic Nubians are morally a degraded nation, and Sir C. W. Wilson agrees with Burckhardt's estimate of them as "a people of frolic, folly, and levity; avaricious, treacherous, and malicious; ignorant and base; and full of wickedness and lechery."[1]

The Bejas

It seems probable that the Bejas (formerly *Bega*) are the same people as the *Bugaïtæ* of the Axumite, and the *Buka* of the Egyptian, inscriptions, who are the Blemmyes of later Greek and Roman writers. In any case it cannot be doubted that they represent the indigenous Hamitic element between the Nile and the Red Sea, north of Abyssinia, where at present they form several distinct groups, such as the Hadendowa, Amarrar, Bisharîn, and Ababdeh—mostly broken into endless tribal divisons. Of these the Ababdeh, Pliny's Gebadei, who dwell about the Egypto-Nubian frontier, have been largely Arabised in Egypt, while some in Nubia have adopted the Kensi Nubian dialect. Even many of the Bisharîn, Amarrars and others claim Arab descent, and some of their chiefs can, no doubt, trace their genealogies back to Arabia. But the bulk of the tribes still speak the To-Bedawiyeh Hamitic language, while the type greatly resembles that of their Danâkil kindred farther south. Hence there was no justification for the ignorance prevailing in the British Foreign Office regarding the

[1] "Tribes of the Nile Valley," in *Jour. Anthrop. Institute*, Feb. 1887.

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true nationality of the unfortunate Hadendowa and Bisharîn tribes during the scarcely yet concluded wars with Osman Digna in the Sawakin district. These tribes were, and presumably still are, regarded as "Arabs,"[1] whereas, had the true relations been studied, most of the useless slaughter that ensued might have been avoided by the employment of one or two competent agents familar with To-Bedawiyeh.

Most observers describe the Bejas as a handsome race of European type, with regular features, bronze or light chocolate complexion, and long crisp hair, the dressing of which occupies a good part of their existence. "Amongst the dark people of Sawakin hair-dressing plays such a part that a whole street of shops is devoted to this business. I saw some twelve shops that dealt exclusively in the egg-shaped balls of mutton-fat, the favourite hair ointment. Close by were perhaps as many stores trading in the various mineral powders in all colours of the rainbow, which are dusted over the greasy substructure and regarded as most effective. Here are also half a dozen tents of native hairdressers, where the mysteries of the toilet receive the finishing touch. The style in favour amongst the Hadendowas of Sawakin differs as a rule but little from that of the other Beja tribes, or even of the Abyssinians. The black, kinky, and wavy hair, essentially different from the fine woolly hair of the Negro, is drawn out so as completely to cover the ear, and is then disposed in two main divisions by a horizontal parting. The upper mass is raised to a top-knot, while the rest is plaited in small tresses with their ends

[1] "Tell them we are not at war with the *Arabs*, but must disperse force threatening Suakin" (Official Telegram to General Graham, February 27, 1884). There were no "Arabs" anywhere within 200 miles of Sawakin.

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unravelled. But the whole is first saturated with mutton-fat, which causes it to retain the shape given to it by the deft hand of the artist."[1]

But, despite this foppery, the Bejas are a brave people, distinguished by their love of freedom. All have long been zealous Mohammedans, occupied chiefly with stock-breeding and as caravan leaders, and governed, like the Arab nomads, by hereditary sheikhs.

The Fellahîn and Copts

If the Retu features perpetuated on the old monuments still occasionally crop out in Nubia, they may be said to be ever present amongst the Egyptian Fellahîn.[2] But on those monuments are figured two well-marked Retu types, one refined, noble, and regular in the European sense, the other of somewhat coarser texture, with tumid lips, small nose, and large eyes, suggesting a slight Negro strain from remote times.[3] Whether this be due to a primeval black element in the Egyptian Nile Valley, or to the millions of Ethiopian slaves filtering in throughout the whole course of Egyptian history, it is no longer possible to decide, and, in fact, both causes may have been at work. In any case it is the more vulgar type that reappears in the present Fellahîn classes, whom, nevertheless, many thousand years of almost uninterrupted "exploitation" have failed to debase. The women especially are noted for their dignified presence, round comely features, erect, well-balanced figures and

[1] Von Maltzan, quoted by Junker, i. p. 55.

[2] That is, "toilers," "tillers," from Arabic *falaha*, to toil, to till, hence *fellah* (plural *fellahîn*) = peasant.

[3] In 1892 Mr. Flinders Petrie exhibited before the British Association some skulls from tombs of the third or fourth dynasty, showing distinct Negroid characteristics; they were dolichocephalic with index No. 75.

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proud carriage. But the men also, the true *Aulad-Masr*, "Children of Egypt," are often distinguished by noble forms, usually about the average height (5 feet 6 inches), with fine oval head, straight nose, large soft eye, stout limbs, and pliant frame. Yet his dwelling is a wretched mud hovel, usually of square form; his dress a blue blouse, drawers, and felt cap, and his diet frugal enough for the strictest vegetarian—the *kisar*, or durrah cake,

FELLAH PLOUGHING.

lentils, onions, beans, and dates; his drink the sweet Nile water. Although in recent years, and especially since the British occupation, his social position has greatly improved, his whole existence is still entirely devoted to the drudgery of field operations, so that no time is left for the cultivation of the many industrial arts for which his Retu forefathers were famous. The Fellahîn are a kindly, hospitable, peace-loving race, who hate war to the extent of practising personal mutilation to avoid military service, but who can fight well when well led, as proved by Mehemet Ali's Sudanese and

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Asiatic campaigns, and even quite recently since the reorganisation of the Egyptian army under British officers. All have been Mohammedans for many centuries, and all have been of Arab speech for about 400 years, the Coptic or new Egyptian language, still generally current in the tenth, having apparently quite died out by the close of the fifteenth century.

Coptic, however, is still studied for church purposes by the Copts,[1] that is, the Christian section of the community who claim to be the only true descendants of the old Egyptian race, and also to represent the oldest monastic foundations in Christendom. Four of the oldest, if not the oldest, monasteries in the world, still survive in the Natron Valley, and Christian asceticism may be said to have its origin in the cult of Serapis with its fully developed conventual system. In fact, Christianity itself, "the religion of the poor and oppressed, found a congenial soil amongst the Egyptians whose old religious system had lost its efficacy under the influence of the Greek spirit. The belief in an after life, and in a doomsday to weigh the deeds of the departed, the conception of life as a pilgrimage to death, the doctrine of eternal gods who begat themselves, who are their 'own Father,' their 'own Son,' the very Trinity of a Father, Mother, and Son, reappeared in the new religion under new forms, so that the transition to Christianity was merely an advance along the old lines of thought."[2]

[1] The origin of this name has been much discussed, some referring it to the town of *Guft* or *Coptos* in Upper Egypt where the Copts have always been numerous, while others give it a more venerable antiquity, connecting it with the old name of Memphis, *Hâ-ka-Ptah*, transformed by the Greeks to *Aigyptos*. But Coptos itself is supposed to contain the root of Ai-gypt-os, so that either way the names *Copt* and *Egyptian* would appear to be, not merely synonymous, but strictly identical.

[2] Junker, i. p. 37.

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The Copts still adhere to the monophysite teachings of Eutyches (448 A.D.), which found their mainstay in Egypt, and thence spread to Abyssinia. Despite their small numbers, scarcely 600,000 altogether, their education, and especially their great aptitude for figures and book-keeping, inherited from their Retu ancestry, enable them to play an important part in the administration of the country, where they are largely employed as scribes and official notaries. Unfortunately their religious zeal has not hitherto prevented them from taking advantage of their position to co-operate with the Government officials in plundering their Fellahîn fellow-countrymen. "These Coptic scribes are found in every town, and at some places, such as Girgey, a large portion of the population is Coptic. The black turban and kaftan would always distinguish them; but a glance at their face is generally enough. It is difficult to say exactly in what they differ in appearance from Mohammedans, but one is seldom wrong in identifying them. They constitute the lower official class, and are decidedly more corrupt and voracious than the Turkish governors themselves. There is an exceedingly good understanding established between the two orders of thieves, so far resembling that which exists between a local justice of the peace and the clerk of the justices, that it is really the clerk who knows and administers the law, while the great man takes the credit for it. So long as our friend Girges or Hanna holds the clerkly inkstand and portfolio there will be no justice in the land."[1]

But this grievance also is engaging the attention of the present British controllers of the administration. Of the Coptic language there are two well-marked dialects, the Memphitic and the Sahidic or Theban, that is those

[1] Stanley Lane-Poole, *Social Life in Egypt*, p. 63.

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of Lower and Upper Egypt, both lineal descendants of the old Retu speech affected by Greek and later by Arabic elements. It is written in a modified Greek alphabet, with six letters added from the Egyptian to express sounds unknown to Greek. It was by working on the assumption that Coptic was merely a later form of Egyptian that Young and Champollion succeeded in deciphering the hieroglyphic writings with the clue supplied by the bilingual Rosetta stone discovered by the French in 1799, and now deposited in the British Museum. The science of Egyptology having thus been laid on a solid foundation, the superstructure has been completed in all essentials by a host of antiquaries, linguists, and other able workers in this most promising field of research, such as Sir Gardner Wilkinson, Lepsius, Rosellini, Renouf, Miss Edwards, Mariette, Lenormant, Stanley Lane-Poole, Flinders Petrie, Naville, Maspero, De Rougé, Ebers, Brugsch, Sayce, Birch, and others. Their investigations, which have revealed an extensive literature embracing a great variety of subjects partly inscribed by lapidaries on the face of the monuments, partly written by scribes on papyrus rolls and stowed away with the dead, have also firmly established two conclusions of primary importance: (1) That Egyptian is a member of the Hamitic group of languages; (2) that Hamitic is itself remotely connected with Semitic, both descending in widely divergent lines from a common Semito-Hamitic prototype. From this it may safely be inferred that the Semites and Hamites are themselves sprung of one stock, which may have had its primeval home anywhere between the Euphrates and the Nile basins, but scarcely beyond those limits. This inference, confirmed as it is by a comparative study of the physical types, may perhaps be regarded as more probable than any of the

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current theories respecting the cradle of the still more remotely allied Aryan-speaking race.

Even the Egyptian writing system in its earliest pictorial (hieroglyphic) form is now supposed by Dr. Fritz Hommel to have had a common origin with the cuneiform, both originating in Babylonia, ultimate source of Egyptian culture.[1] In Egypt the *hieroglyphic*, at first no doubt purely *ideographic*, merged gradually through the more conventional *hieratic* of the temple scribes in the *demotic* or "popular," a largely phonetic system foreshadowing the fully developed Phœnician alphabet, source of most current scripts.

The Egyptian Arabs

Of the tribal groups that took part in the invasion of Egypt in the seventh century, scarcely any can now be traced with certainty. Nearly all of these first arrivals have in fact long been settled, chiefly on the right side of the Nile Valley or in the Delta, and have thus become merged in the general population. To these interminglings, rather than to the actual conquest, is due the gradual spread of the Arabic language amongst all the peasant classes. Even some of the later arrivals, while still preserving the tribal organisation, have partly settled down, dividing their attention between tillage and pasturage. Of those on the east side of the Nile, by far the most powerful are the Maâzeh, who, according to Maspero, are not Arabs at all, but the old *Maziu* Libyans (Hamites) assimilated to the Arabs in comparatively recent times. *Maziu* undoubtedly contains the root *maz*, *max*, which enters in diverse forms into the oldest and most general name of the Hamite aborigines of North

[1] *Der babylonische Ursprung der ägyptischen Kultur*, Munich 1892.

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Africa, so that, if the identification could be sustained, members of this race still bearing the old national name might be traced with little interruption right across the continent from the Arabian steppe to the shores of the Atlantic Ocean (p. 75). But the present *Maâzeh* are the "Goatherds," though this may possibly be merely a popular etymology.

West of the Nile the chief group are the Aulad-Ali, who have sent out branches westwards to Cyrenaica, and who have at times felt themselves strong enough to defy the Turkish and Egyptian authorities. But a master-stroke of Mehemet Ali's policy was the reduction of all these turbulent nomads, partly by force, partly by conciliatory measures, and since his time the Aulad-Ali have never raised a spear in revolt. Instead of levying blackmail on the caravans between Lower Egypt and Tripolitana, they are now the privileged conductors of the convoys, their head sheikh residing in the Delta being responsible for their good behaviour. Some have even taken to husbandry, although thereby losing caste; for all the peasantry, whether Egyptians or Arabs, are despised by the dwellers in tents. "In the eyes of his fellow-tribesmen the humblest nomad would be degraded by marriage with the daughter of the wealthiest bourgeois. But necessity knows no law, hunger pinches, and so these proud and stubborn nomads were fain, after their strength was broken by the troops of Said Pasha, to renounce the free lawless life of the solitude, and at least partly turn to agriculture for several months in the year" (Junker).

The Aulad-Ali, with their symmetrical sinewy figures, bold flashing eye, large and slightly arched nose, pointed chin, and thick lips, are regarded by Rohlfs as typical Arabs, as unchanged in type and temperament as if they had but yesterday migrated from the Nejd.

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Topography—Sawakin, Kosseir, Suez, Port Said

In the Nubo-Egyptian regions nearly all the urban populations are necessarily concentrated along the Nile Valley, in the Delta, and on the seaboard. Even on the shelterless and almost harbourless Red Sea Coast the only noteworthy places, for a distance of over 1000 miles in a straight line, are *Sawakin* (Suakin), *Kosseir*, and *Suez*. The great importance of Sawakin, as shown by recent events, is due to its position midway down the coast at a point nearest to the great easterly bend of the Nile, and on the direct routes from the Sudan through Berber and Kassala to Jidda for Mecca. Hence it is the natural outlet, not only for the seaward trade, but also for the religious zeal of some 40 millions of Moslem fanatics. Consequently, after the first successes of the Mahdi, it became at once evident that its occupation by a strong European Power was necessary to prevent the contagion from spreading over the whole of the Mohammedan world. Since 1883 Sawakin has been held by the English at the cost of much blood and treasure, which, though largely due to a vacillating and blundering policy, cannot be regarded as entirely thrown away. A railway to Berber, over a route already surveyed by Gordon Pasha, was begun in 1884, and although the works were soon suspended, the line is so greatly needed, both for commercial and strategical reasons, that its construction will doubtless again be taken in hand after the pacification of Sudan. The distance is only 260 miles over ground which, though rough, presents no serious engineering difficulties.

The harbour of Sawakin, which claims to be the best in the Red Sea, is approached by a deep winding channel,

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3 miles long, which pierces the fringing coral reefs, and terminates in a land-locked oval basin over a mile long, accessible to large vessels. The coral-built town, which has a population of 11,000 (1892), stands on one of the two islands in this perfectly sheltered basin, and is connected by a bridge, and since 1884 by a railway viaduct with the native suburb of *el-Gef* on the mainland. When the trade routes are open, as many as 20,000 camels, laden with gums and other Sudanese produce, arrive every year from Berber; many thousand pilgrims also pass through to Mecca, and a considerable traffic is carried on by the Khor Baraka route with Kassala. Before the revolt the exports often exceeded £250,000, and even in 1891 a partial revival of trade raised them to £37,000, while the imports fell little short of £175,000. With the return of peace and the construction of the Suakin-Nile railway, these figures will be multiplied tenfold. In the hands of the English this "Key of the Sudan" has become a formidable stronghold, safe from attack by sea, and protected inland by a chain of detached forts and redoubts with strong outposts at *Tokar* and other commanding points in the district.

Kosseir, on the Egyptian, holds a somewhat analogous position to Sawakin on the Nubian seaboard. It also lies at the nearest point to an eastern bend of the Nile, about due east of Coptos, and close to the site either of the *Philoteras Portus*, or more probably the *Albus Portus* of the Ancients. The harbour, formed by a bank of coral reefs, was formerly frequented by Arab dhows of light draft, which here shipped Egyptian wheat in exchange for rice, coffee, spices, gums; but the trade was ruined by the opening of the Suez Canal and of the Nile Valley Railway, and the population has fallen from 7000 (1870) to 1200 (1890).

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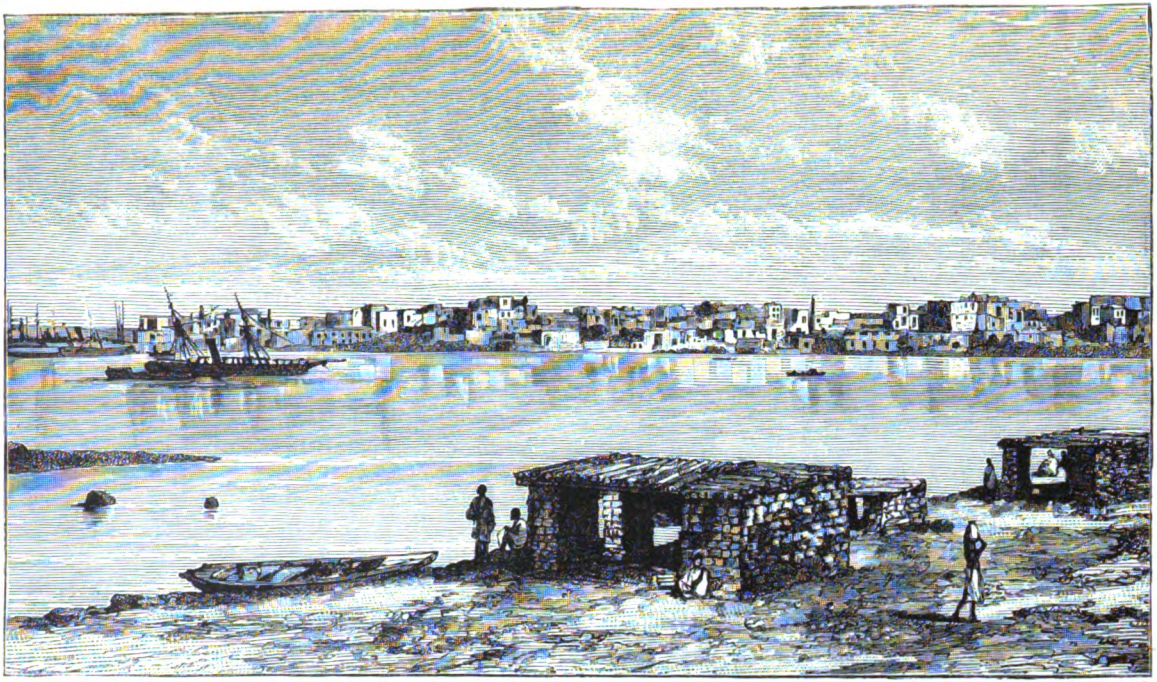

SAWAKIN.

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Suez, from which the gulf, isthmus, and canal take their name, stands near the southern entrance of the canal, 76 miles from Cairo, and at the terminus of the railway system ramifying throughout the Delta. This vital position between two continents and two oceans has always been occupied by an important station; but the gulf, which formerly penetrated inland to the Bitter Lakes (p. 569), has receded from the old seaports of *Clysma* and *Arsinoe* (later *Cleopatris*), and the sea has shoaled to such a distance that the canal had to be continued nearly 2 miles beyond Suez itself, where a new harbour, the port of *Tewfik*, has been formed in deep water by two diverging piers 2900 yards long. The piers are lined with the warehouses and wharfs of the Canal Company, and at the extremity of one stands the statue of Waghorn, who first planned an overland route to India. The aqueducts which supplied Arsinoe are now replaced by the Company's Fresh-water Canal; but since the completion of the works which gave a great impulse to the local traffic, the trade of Suez has again fallen off, and the place derives but little direct benefit from the almost exclusively transit trade of the great artery. The chief ship stores and depôts have been established at *Port Said* at the Mediterranean entrance, which owes its existence entirely to the canal. Suez remains a wretched Arab town, but little improved by its proximity to one of the greatest engineering works of ancient or modern times.

Alexandria—Tantah—Damanhur—Zagazig

West of Port Said follow *Damietta* and *Rosetta* near the mouths of the unnavigable branches of the Nile named from them, both decayed seaports, although

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Damietta, the *Tamiathis* of the Greeks, is still the third place in Egypt for population (34,000). From Rosetta the shore-line sweeps round in a graceful curve to the village of *Abukir* (*Canope*), thus enclosing the bay of that name, memorable for Nelson's great victory of 1798. At Abukir the narrow strip of rocky and sandy coastlands trends south-west between the sea and Lake Mareotis to the village of *Mariut*, which is named from the lake, and which lies on the verge of the Libyan desert. Nearly midway between the two points the Macedonian conqueror founded the city of *Alexandria*, which, despite the apparently unfavourable site on an open beach between the Mediterranean and a shallow lagoon, was destined to become for nearly a thousand years (300 B.C.–640 A.D.) the chief centre of trade and culture in the eastern world. Even still Alexandria, after innumerable disasters — fires, sieges, massacres, religious persecutions, riots, famines, and epidemics — ranks for population (215,000) as the second city in Africa, being surpassed in this respect by Cairo alone. Nothing remains of the Serapeum, the Pharos, one of the "seven wonders" of the old world, of the great library, and of its many other Ptolemaic, Roman, and Byzantine splendours. But such is the vitality of the place, that it remains the chief European colony in the Levant, and continues to attract a considerable local and general trade, although deprived, by the opening of the Suez Canal, of its profits on the overland movement between West and East, which it had enjoyed since the days of the Ptolemies.

Alexandria lies partly on the mainland, partly on the broad promontory nearly a mile long and 1350 yards broad, which is of artificial origin. It represents the old *Heptastadium* ("seven stadia causeway") constructed by Ptolemy Soter (305–286 B.C.) between the shore and

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the Island of Pharos, which was thereby transformed to a peninsular headland. The channels originally left open between the two ports thus created have long been filled in, and the causeway itself greatly enlarged by marine siltings and the crumbling ruins of ages. Space was thus created for the development of a large quarter projecting between the harbours, which is now chiefly occupied by warehouses, barracks, depôts, and other public buildings, none possessing any features of originality; round about, the several railways radiate north-east to Abukir for Rosetta, south-east to *Meks* and Mariut, and through the lagoon for the Delta and Cairo. The seaward communications have been greatly improved by extensive harbour works, such as docks, wharfs, quays; and a projected channel 30 feet deep and 300 feet wide will enable large vessels to enter the port at all times. Most of the foreign trade of Egypt proper passes through Alexandria, whose yearly imports and exports now average about £20,000,000, the share of Great Britain in this movement being about 60 per cent of the whole. Alexandria possesses several important scientific establishments, such as the Egyptian Institute, an Athenæum with courses of lectures, a Public Library, and an Archæological Museum, this last founded in 1893 for the custody of antiquities found in the district, especially those representing the Greek and Roman periods of Egyptian history.

On the Rosetta channel, east of Alexandria, some ruins lately explored by Flinders Petrie have been identified as those of *Naucratis*, the first Greek settlement in Lower Egypt, founded about 550 B.C. This place was long a flourishing emporium, and centre of Hellenic culture; but its fame, eclipsed by the rise of Alexandria, lay dormant till revived by the recent discovery of large

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quantities of potteries, figures in limestone, alabaster, and terra-cotta, and other artistic objects extending over three centuries, and showing instructive transitions between archaic and later Greek art.

In the Delta there are numerous towns with populations ranging from 10,000 to over 30,000, but presenting little interest except as centres of trade and agriculture, or as converging points of railways and other lines of traffic. Such are *Tantah* (33,000), which occupies a central position between the Rosetta and Damietta branches at the junction of railways from all quarters, and famous amongst pious Mohammedans for the shrine of Said el-Radawi, Egypt's greatest "saint"; *Mensurah* (30,000), on the Damietta branch, midway between Tantah and its mouth, a flourishing commercial mart founded in the thirteenth century to commemorate the defeat of the French crusaders and the capture of their leader, Louis IX.; *Damanhur* (20,000), the chief place in the Beherah district west of the Rosetta branch, where the line from Cairo bifurcates for Alexandria and Rosetta, a strong strategical position capable of offering a stout resistance to an invading force advancing on the capital from Alexandria, but turned in 1882 by the British, who took the Suez Canal and Wady Tumilât route for Cairo; *Zagazig* (19,000), a little west of Tel-el-Kebir at the head of this wady, the chief place in the eastern parts of the Delta, in the midst of cotton plantations, and at the junction of several railways; hence the occupation of Zagazig immediately after the battle of Tel-el-Kebir placed the whole of the Delta and Cairo itself at the mercy of General Wolseley's forces.

The whole of this region east of the Damietta branch was thickly inhabited from the earliest period of Egyptian history, and is still strewn with magnificent ruins, con-

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GENERAL VIEW OF CAIRO.

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spicuous amongst which are those of the royal city of *San* (*Tanis*), near the shores of Lake Menzaleh; *Bubastes* (*Pa-Bast*), close to Zagazig, also a royal capital nearly 3000 years ago; and *Heliopolis*, the "City of the Sun" (*Pè-Ra* or *On*), at the village of *Matarieh*, a little north by east of Cairo. Here is the very oldest obelisk in Egypt, erected by Osortasen I. (2430 B.C.), still standing on its original site, but some 30 feet below its original level.

Cairo

With *Cairo* are associated the memories of past and present, perhaps more intimately than with any other place in the world. It is still by far the largest city in Africa (370,000), just as was the neighbouring Memphis 7000 years ago. Its southern extremity stands on the very site of a *Fort Babylon* captured in 640 A.D. by Calif Omar's lieutenant, Amru, who here founded *el-Fostât*, "The Tent," to commemorate the triumph of his "tented" warriors over the "infidel." Three centuries later (969) el-Fostât became "Old Cairo" when the new city was founded nearer to the Nile a little farther north, and named *el-Kahira*, "The Victorious," in honour of the conquest of Egypt by the western Fatemites, who here fixed their residence (973). Since then Cairo has always been the capital of the country, and in the eyes of the people almost the country itself, who know it only as *Masr*, that is "Egypt," or more fully, *Masr Om ul-'Ālam*, "Egypt, Mother of the World."

But old and new are now merged in one, and the "Pearl of the Nile" covers the whole space between the right bank of the river and the western scarp of the Jebel Mokattam (p. 550). A projecting spur of this range is crowned by the citadel, which towers high above

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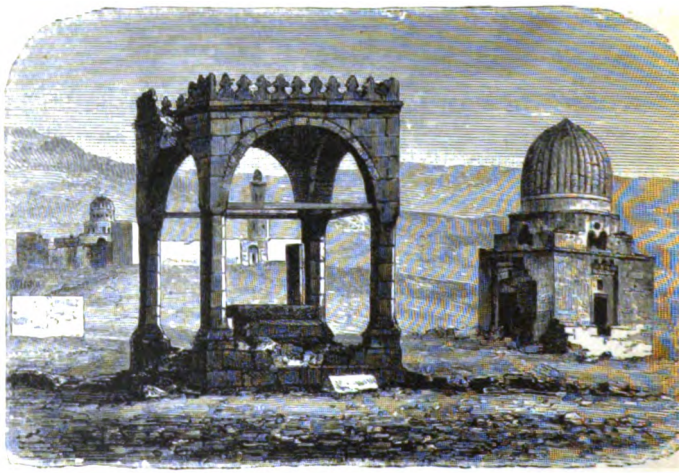
the city, commanding a wide prospect of the surrounding district on both sides of the Nile. In the north-west is the suburb of *Bulak*, named from the adjacent island, and familiar to all visitors, thanks to its priceless collection of antiquities, which have lately been transferred to the suburb of *Gizeh* in the south-west, but on the opposite side of the river. Gizeh gives its name to



TOMBS OF THE CALIFS.

the group of the three great pyramids (p. 528), which are seen about six miles to the west, with the head of the mysterious sphinx rising above the sands in the foreground, aptest figure of eternity ever executed by the hand of man. Some ten miles to the south stand the pyramids and tombs of *Abusir*, and of *Sakkarah* with the intervening "Plain of the Mummies," just west of *Memphis*, now a humble railway station on the line winding up the left bank of the Nile Valley from Alex-

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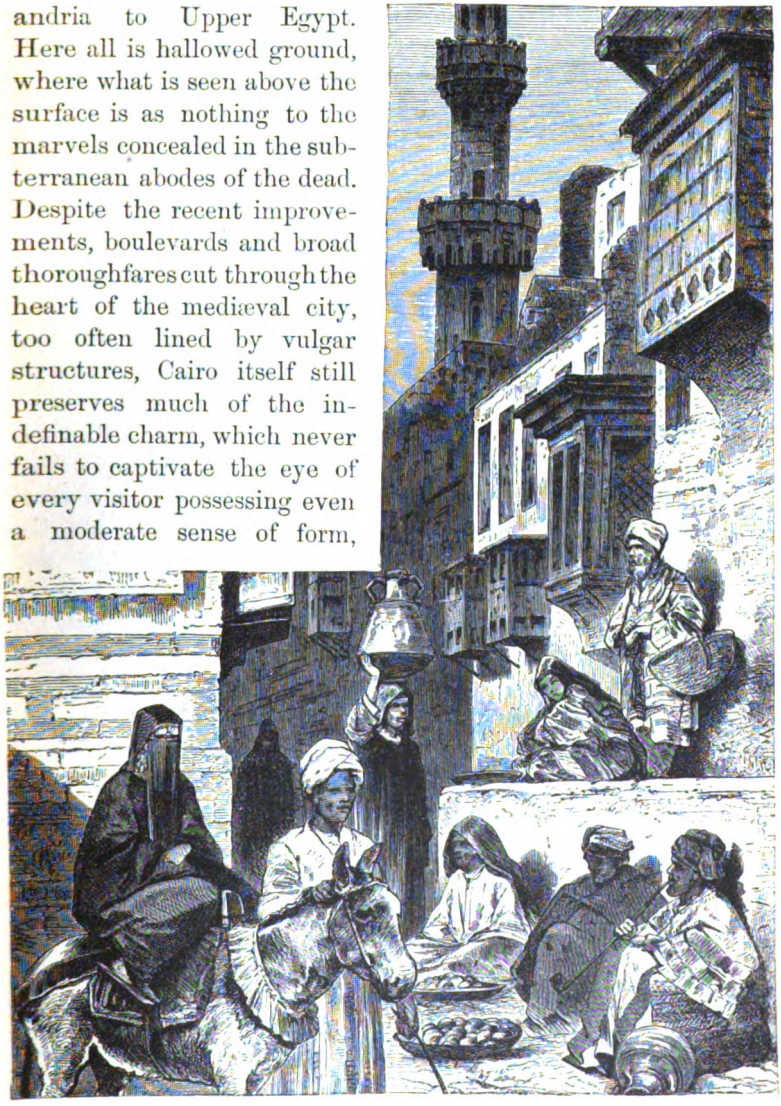
andria to Upper Egypt. Here all is hallowed ground, where what is seen above the surface is as nothing to the marvels concealed in the subterranean abodes of the dead. Despite the recent improvements, boulevards and broad thoroughfares cut through the heart of the mediæval city, too often lined by vulgar structures, Cairo itself still preserves much of the indefinable charm, which never fails to captivate the eye of every visitor possessing even a moderate sense of form,



STREET IN CAIRO.

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colour, and light effects. Here also are famous abodes of the dead, the Tombs of the Califs; some of the "four hundred" mosques, notably those of the Kait-bey, and of Sultan Hassan, are really noble buildings conspicuous in the panoramic view by their massive domes and graceful slender minarets; several also of the strangely neglected Coptic churches, especially the Mu'allaka, or "hanging church," present features of great interest to the student of ecclesiastical archæology. But perhaps the greatest attraction for at least passing visitors will always be the streets themselves, narrow, tortuous lanes winding through the old quarters, veritable *al fresco* museums of Saracenic art and architecture, with no two houses alike, but all alike exceeding quaint and picturesque, with their endless variety of corbels, gables, and tiers of projecting latticed casements. These highly characteristic *musharabiehs* ("pitcher coolers"), as they are called, are the great feature at once of Cairine street architecture and domestic life. "The delicately turned knobs and balls by which the patterns of the lattice-work are formed, are sufficiently near together to conceal enough space between them to allow free access of air. The musharabieh is indeed a cooling place for human beings as well as water-jars, and at once a convent grating and a spying-place for the women of the harem, who can watch their enemies of the opposite sex through the meshes of the windows without being seen in return."[1]

To the endless diversity of the street architecture corresponds an almost equal diversity of shops and stores, divans (coffee-rooms), open kitchens, and open workrooms where shoemakers, tailors, saddlers, pipe-makers, and others ply their crafts; fruit-stalls with their piles of bananas, figs, dates, and oranges; booths stocked with

[1] *Social Life in Egypt*, p. 9.

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drugs, essences, and perfumery, or else with prayer rugs, burnouses, fez caps, costly silks, shawls, and turbans; tempting displays of oriental jewellery, damascened scimitars, yatagans, richly ornamented matchlocks, and pistols of quaint traditional forms.

The streets are thronged and often blocked with a motley and noisy crowd of the indispensable water-carriers, fellahîn bringing their produce to market in baskets poised on their heads, importunate mendicants and equally importunate donkey-boys seeking "fares," veiled native women, itinerant fruit-sellers, cavaliers in picturesque dress, mounted on noble steeds with gay trappings, Turks, Arabs, Jews, Copts, Nubians, Negroes, Franks, all in their different national costumes, and all moving about with ceaseless din and chaotic confusion.

Although the Egyptian Institute, the chief scientific institution in the country, is located in Alexandria, Cairo still remains the principal centre of Eastern and Western learning, as well as of the arts and letters. Here is the university of El-Azhar, one of the great religious schools of Islam, besides hundreds of schools connected with the mosques, synagogues, and various Christian churches. Here are also schools of medicine and pharmacy, an observatory, a geographical society, a public library, and the incomparable museum of antiquities now badly housed at Gizeh.[1]

Medinet el-Fayyum—Minieh—Siut—Girgeh—Abydos

In the section of the Nile Valley between Cairo and the Nubian frontier, the modern towns resemble those of

[1] The building to which the collection was removed from Bulak "for better custody" is an old palace of Ismail Pasha, a flimsy structure built of inflammable materials, and quite unsafe (*Athenæum*, 30th December 1893).

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the Delta in their main features, but are so far more interesting that they are, as a rule, more intimately associated with the remains of the past. Above Cairo, the left bank is still lined with monuments chiefly of the pyramid type, all the way to the neighbourhood of the Fayyum, where the series is closed by the terraced pyramid of *Meidum*, beyond the *Dashur* group, one of which is 330 feet high, being overtopped only by the two highest of the Gizeh group. In the Fayyum the only centre of population is *Medinet el-Fayyum*, capital of the province, and the general market for the agricultural produce of the surrounding districts. In the vicinity are the extensive ruins of *Pa-Sebak*, "Crocodile City," which became the *Arsinoe* of the Ptolemies, and which has yielded papyrus documents of great interest in Egyptian, Greek, Hebrew, and other languages. Here may yet be discovered some of the lost literary treasures of classical times, for the Fayyum was occupied by numerous Greek settlers down to the Arab irruption of the seventh century.

Above the Fayyum, the thriving little market towns and provincial capitals, *Beni-Suef* and *Minieh* (*Miniet*), are followed by *Siut* (*Assiut*), present administrative capital of Upper Egypt. This place preserves its old Egyptian name, *Saut*, although under the Ptolemies known as *Lycopolis*, "Wolf-town," because of its tutelar god Anubis. It produces a curious black, white, and red earthenware, and on the opposite (right) side of the river, but some miles lower down, is the ancient burial-place of *Tell el-Amarna*, where so many valuable records have lately been discovered (p. 532). Some distance farther north on the same side, near the site of Hadrian's city of *Antinoe* (*Sheikh-Abadeh*), are the no less interesting tombs of *Beni Hassan*, as they are called from the neighbouring

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village. The paintings and sculptures of these sepulchral chambers "introduce us to the very life of the people, its struggles, its pursuits of all kinds, its family circles, its sports and games, such as pitch and toss, tennis, hot cockles, and even cricket. Here are revealed all the secrets of their crafts, and the very tricks of their jugglers and mountebanks." [1]

Beyond Siut follow *Tahta* on the left, *Akhmin* (*Chemnis*) on the right, and again on the left the provincial capital *Girgeh* (*Girga*), near which stood the venerable city of *Thinis* (*This*), birth-place of Menes, founder of the Egyptian monarchy. A little farther south the village of *Harabât el-Madfuneh* stands on the site of *Abydos*, where tombs of all ages are crowded together in prodigious numbers, and where stands the *Memnonium*, erected by Seti I., which has yielded the imperfect list of kings ("table of Abydos") now in the British Museum, and the more complete list of all the seventy-six rulers from Menes to Seti, afterwards brought to light by Mariette. But no trace has yet been found of the famed shrine of Osiris, most sacred spot in all Egypt, which must have stood in the district somewhere between Girgeh and Abydos.

Denderah—Thebes—Edfu—Assuan—Philæ

From the Delta to Abydos the Nile Valley is disposed mainly north and south with a general westerly curve; but at Abydos it develops a short bend in the opposite direction, sweeping round by *Keneh* (*Cœnopolis*) and *Koft* (*Coptos*) on its right bank to *Thebes* on both banks, where the normal southerly trend is resumed. Within this easterly bend are concentrated the most

[1] Reclus, x. p. 396.

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sumptuous monuments of antiquity, rivalled in size and splendour only by those of Memphis itself at the northern extremity of the Nile Valley. First comes *Denderah* (*Tentyris*) on the left side opposite Keneh, with its renowned shrine of the goddess Hathor, which, although of recent origin (Cleopatra and the Cæsars), stands on foundations dating from the early dynasties. Here are temples within temples, porticoes and columns nearly 50 feet high and over 20 feet round, chambers, walls, and recesses profusely carved and inscribed with calendars, zodiacs, lists of provinces and cities, religious texts and ceremonial programmes, a very "Talmud in stone" (Mariette).

Then, as the prow of the dahabiyeh veers slowly round from the hamlet of *Medamot* southwards, all the surviving glories of mighty *Thebes* burst suddenly into view. In every direction the traveller's gaze lights upon eloquent witnesses of past greatness, strewn over a vast space between the eastern and western cliffs rising above both banks of the Nile, still a majestic stream at this distance of 500 miles from the sea. *Pa-Amen*, "Abode of Ammon," or simply *No*, the "City" in a pre-eminent sense, was most favoured as a royal residence by the kings of the 11th, 12th, 17th, and 18th dynasties; but great works were carried on here at intervals for some 3000 years down to the time of the Ptolemies. In the days of its splendour the city of the living stood mainly on the right bank, and here the villages of *Karnak* and *Luxor*, names more illustrious than those of many great cities, mark the sites of the prodigious temples named from them, and connected together by long avenues of sphinxes, the whole covering a space of some five square miles. Here is also the marvellous *Upostyle*, or Chamber of Colonnades, erected by Seti I., even in Egypt a wonder

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of wonders, with 134 monolithic pillars, several over 30 feet in girth, supporting a ceiling 76 feet high; and round about stand huge propylons, or gateways, walls and other enclosures covered with paintings, intaglios, bas-reliefs, long lists of conquered peoples and other imperishable historic records. In the light of these stupendous monuments, the Homeric reference to the metropolis of the Middle Empire seems no mere poetic fancy, but only the sober reality.

When their mighty deeds were done, these heroic generations crossed the Nile in the boats of the dead to their eternal sleep in the Libyan Hills, where they had prepared themselves resting-places almost more wonderful, certainly more durable, than the imperial residences skirting the right bank of the river. The Wady Bibân el-Moluk, "Gates of the Kings," winds its way between cliffs everywhere honeycombed by countless royal tombs, while the *Medinet-Abu* eminence at the foot of the escarpments is crowned with temples commemorating the triumphs of Ramses III. over Hittites, Libyans, Sards, Teucri, Danaans, Ethiopians, Arabs, and all the then known nations of the world. A little north of this group stands the *Ramesseum*, shrine of Ramses II., with the now prostrate and broken pink granite statue of that monarch, a monolithic block 56 feet high, weighing over 1000 tons. Between this shrine and Medinet-Abu stand the two world-famed Statues of Memnon, now known to be colossal effigies of Amenhotep II., 64 feet high with pedestals, one of which is the "Musical Memnon," silent since the bungling attempt made by Septimius Severus to repair the damage done when it was overthrown by Cambyses 700 years before.

Between Thebes and the Nubian frontier follow *Esneh* (*Latopolis*), capital of a province, and *Edfu* (*Tebu*,

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NILE NEAR ASSUAN.

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Apollinopolis Magna), both on the left bank, and *Kum Ombo* (*Ombos*) on the right bank just above the *Silsileh* narrows. The temple of Horus at Edfu, with its two colossal propylons, is the best preserved, and one of the most beautiful in Egypt, although dating only from the Ptolemaic period. It is also one of the richest in historical and especially geographical records, and its mural inscriptions have been of great service in restoring the old topography of Egypt and Nubia.

The frontier town *Assuan*, that is, *As-Suân*, preserves unchanged for thousands of years its old Egyptian name, *Suân*, modified by the Greeks to *Syene*. It stands on the right bank opposite *Elephantine Island*, at the foot of the first cataract, and consequently at the head of the free navigation from Alexandria, from which it is distant, according to Eratosthenes' measurement for a first meridian (276-194 B.C.), 810,000 metres, but actually 787,760. By this measurement the famous Alexandrian mathematician had for the first time determined the curvature (circumference) of the globe, with a considerable approach to accuracy. At the head of the cataract, about 10 miles above Assuan, lies the lovely little island of *Philæ* (*Ilak*), with the charming ruins of a temple dating from the time of Tiberius.

Towns and Stations of Lower and Upper Nubia

The Egyptian and Ethiopian monuments, stretching from the frontier nearly to Khartum, have already been referred to (p. 582). In this Nubian section of the Nile Valley the chief modern groups of population, mostly mere caravan stations and villages, are: *Kalabshi*, on the Tropic of Cancer, where Eratosthenes wrongly supposed Syene to stand; *Derr* and *Korosko*, about midway between

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Assuan and *Wady Halfa*, the present political frontier (p. 519). Korosko gives an alternative name to the Nubian Desert, because it is the starting-point of the caravan route crossing the steppe to *Abu-Hammed*, midway between the fourth and fifth cataracts. Although arduous, this route avoids the immense detour round by the Nile Valley, where are situated *Hannek*, at the third cataract; *New Dongola* (*El-Ordeh*), above *Argo Island* (p. 531), at the head of the caravan route for Dar Fur; *Old Dongola*, long the capital of the Christian kingdom founded by Silco; *Abû-Gossi*, *Dabbeh*, and *Abdum* (*Abû-Dûm*), all well-known trading stations, and starting-points for the caravan routes running through or near the Wady Mokattam valley, across the Bahiuda steppe for *Shendy* below the sixth cataract, and for Khartum at the confluence of both Niles. About midway between Abu-Hammed and Shendy lies the important town of *Berber*, at the head of the shortest trade route from the Nubian Nile to the Red Sea at Sawakin (p. 599).

In Upper Nubia the great centre of trade and population is *Kasala*, capital of the rich province of Taka, on the Khor el-Gash (Mareb), founded in 1840 by Ahmed Pasha, close to the steep granite mass of the Jebel Kasala el-Luz. This picturesque many-peaked eminence, with its jagged teeth, horns, domes, and towers, forms a most striking landmark in the midst of the plains stretching from the Abyssinian slopes to the Nile. Kasala soon attracted numerous settlers, and before the Mahdist revolt had become a flourishing emporium held by a strong Egyptian garrison, and connected by telegraph with Sawakin and Massowa. It held out against the dervishes long after the fall of Khartum, "but its prosperity is now departed; the telegraph poles lie rotting on the ground, the wires have been broken and stolen. How much

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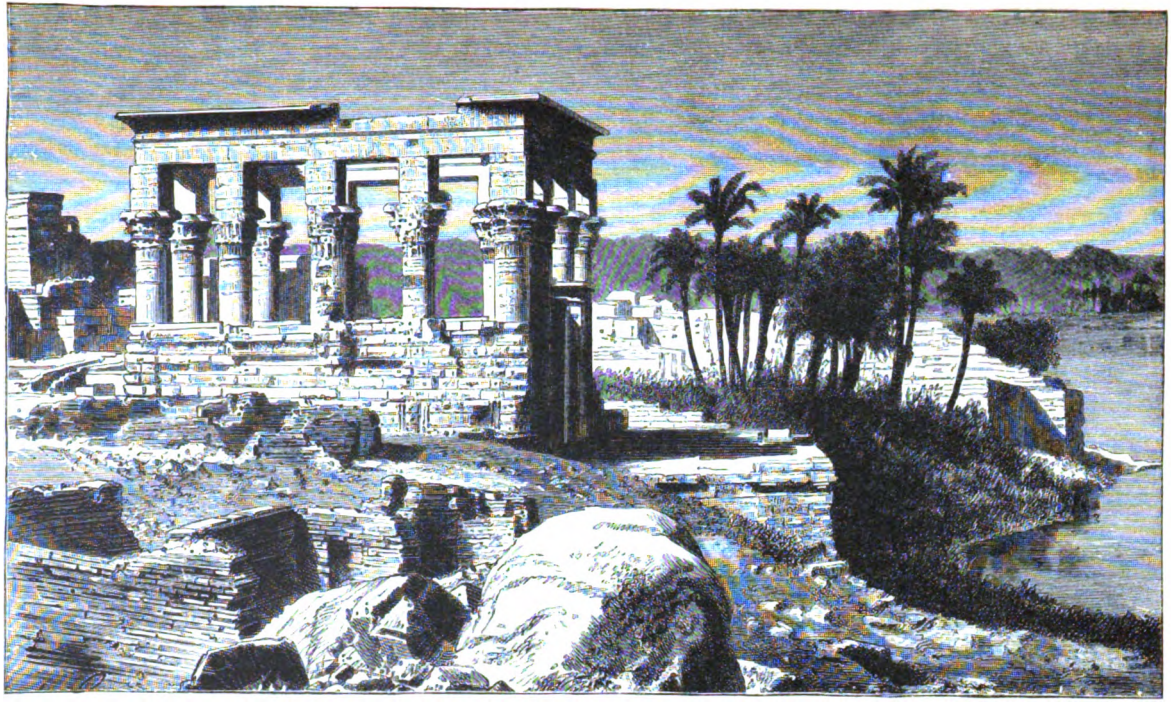

TEMPLE AT PHILÆ.

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lavish work, how many sacrifices of lives and money, how many centuries of military and civilising efforts have been wasted with the loss of Sudan?"[1]

A similar fate overtook all the other former Egyptian provincial capitals and stations in Upper Nubia: *Senaar*, on the Blue Nile above the Dinder confluence; *Roseires*, higher up the same valley; *Fazokl*, at the Tumat confluence on the Abyssinian frontier; *Famaka*, a little east of Fazokl; *Beni-Shonghul* and *Bimbashi*, in the Tumat basin; *Fadasi*, in the Upper Jabus valley.

But the tide has already turned, and in July 1894 the Italians followed up a crushing defeat of the dervishes by the capture of Kasala, which they now hold. By the Anglo-Italian Agreement of 1891 it was stipulated that Italy might, as a military measure, occupy Kasala, restoring it to the Egyptians whenever they were in a position to take it. Since the defeat of the dervishes the Halenga and the Hadendowa tribes of the Atbara have also tendered their submission. This brings the Italians within measurable distance of the Nile at Berber below Khartum.

Administration—Material Progress

Under the old empire and throughout the Ptolemaic period two great divisions alone were recognised—*Lower Egypt*, comprising the Delta and its dependencies, and *Upper Egypt*, comprising the whole of the Nile Valley, thence to the Ethiopian frontier. Later a third division was introduced between these two, so that under the Roman and Byzantine rule there were three administrative divisions: *Ægyptus Inferior*, mainly the Delta; *Heptanomis*, afterwards called *Arcadia*, mainly the

[1] Junker, i. p. 104.

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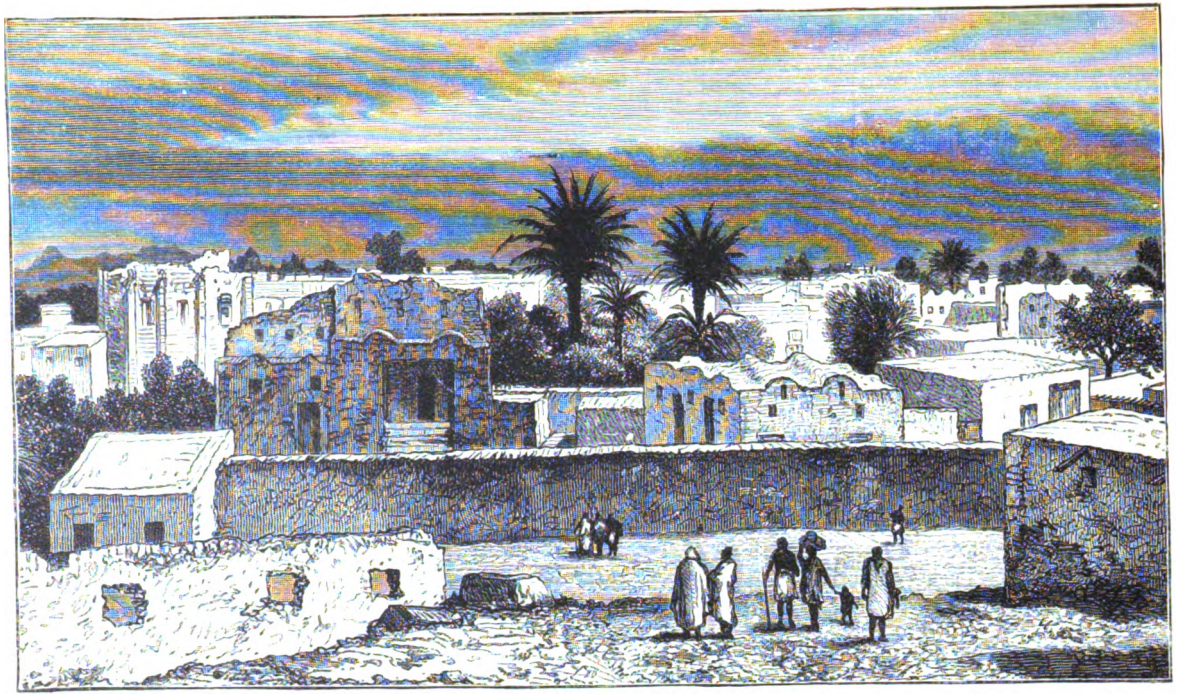

KASALA.

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Fayyum with Memphis, south to the Antinoe district (Middle Egypt); *Ægyptus Superior* or *Thebais*, thence to Ethiopia. This arrangement was maintained under the Arab and Turkish rule; but lately a return has been made to the two original, which correspond to the two natural, divisions of the land, and at present the official divisions are *Masr el-Baheïrieh*, that is, "Maritime Egypt" (the Delta), and *Es-Saïd*, all the rest.

The Khedive (p. 541) may be regarded as a constitutional ruler, whose power is limited, partly by popular representation, partly by a Cabinet of six Ministers (President - Interior, Finance, Justice, War, Public Works and Instruction, Foreign Affairs), and (since 1883) partly by an English financial adviser, who supersedes the two Controllers-General appointed by England and France in 1879, and whose concurrence is required to give effect to all financial measures.

Although based on universal sufferage, the popular representation (created in 1883) is of a limited character. It comprises a legislative council, consulted on all general laws by the Government, which, however, is not bound to act on its advice; a general assembly summoned every two years, whose consent is required for all new direct personal or land taxes; and various provincial boards with local functions.

For administrative purposes Lower Egypt is divided into six, and Upper Egypt into eight *mudiriehs*, or provinces, besides which there are five governorships for the large towns (Cairo, Alexandria, Rosetta, Damietta, and Suez with the canal), two governorships for the Red Sea littoral (Kosseir and Sawakin), and one (el-Arish) for the frontier towards Asiatic Turkey. All the mudirs and governors are invested with very extensive powers, which in distant provinces have often been abused.

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Reference has already been made (p. 543) to the general improvement that has taken place in every branch of the public service since the British occupation. This improvement is conspicuous especially in the department of finance, which has been rescued from imminent bankruptcy, and placed on a perfectly sound footing. The budget for 1894 provides a revenue of £E10,075,000 to meet an expenditure of £E9,545,000, leaving a surplus of £E530,000, or £E70,000 more than that of 1893. Provision is at the same time made for a reduction of £E103,000 of land and other taxes, the total reduction effected during the five years ending 1894 being about £E1,000,000. The reduction would be much greater but for the fact that the hands of the Government are fettered by various international financial arrangements made on behalf of the foreign bond-holders, at a time when their interests were threatened by Khedival extravagance, arrangements now maintained and enforced for political purposes.

Education, the grant for which was increased in 1894 from £E90,000 to £E104,000, is not compulsory, and amongst Mohammedans is mainly confined to reading and writing Arabic, the chief text-book being the Koran. But the higher standard is taught in 15 Government colleges, and in over 20 national schools in the larger towns. Government also enables over 100 advanced students to complete their education abroad. But general instruction is still backward, and in 1890 there were scarcely 7000 elementary schools in the whole country.

On the other hand, agriculture, trade, and the general industries continue to make steady progress, and the total foreign trade advanced from £E19,000,000 in 1887 to over £E23,000,000 in 1891 (imports, £E9,201,000;

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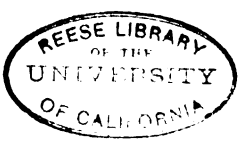
exports, £E13,879,000). In the latter year 2158 vessels of 1,766,000 tons cleared at Alexandria and the other seaports, 633 vessels of 840,000 tons being British. By the opening of the line from Port Said to Ismailia in November 1893, the Egyptian railway system may be regarded as complete, or at least adequate for present requirements. It has a total development of 1200 miles, ramifying throughout the whole of the Delta, and running up the left bank of the Nile to the present political frontier towards Nubia. Its financial condition also is healthy, the receipts in 1891 (£E1,632,000) showing an excess of £E926,000 over the expenditure (£E706,000). The Government telegraph system has a total mileage 3200 with 5430 miles of wire, supplemented by telephonic communication between Cairo and Alexandria. But all this material progress is absolutely dependent on one factor, the stability of the political status, which, humanly speaking, can be maintained only by a permanent British occupation of the Nile Valley.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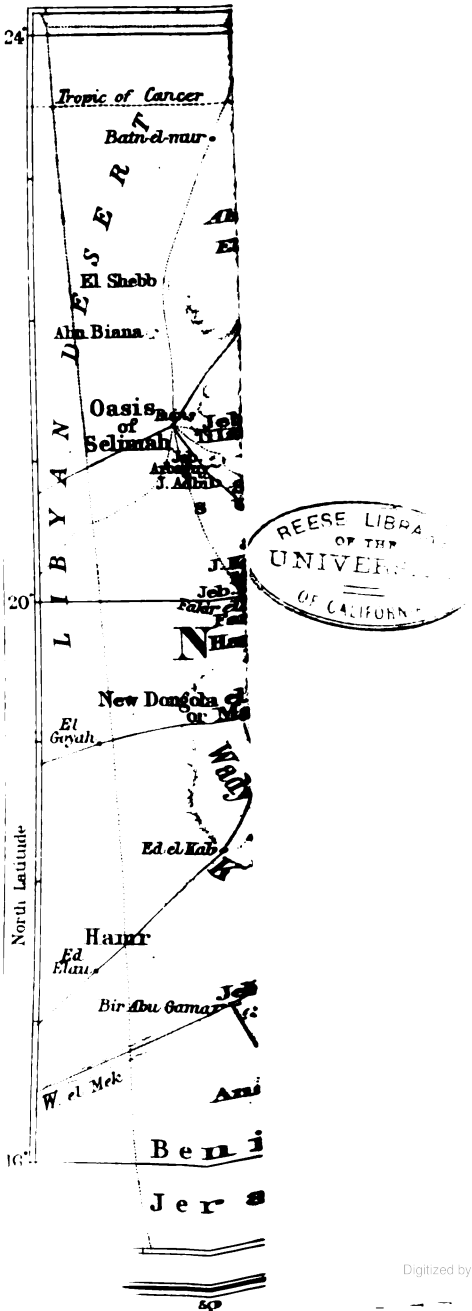

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