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Ph.D. 1931

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ABSTRACT OF THE THESIS, ENTITLED
"THE INFLUENCE OF PHYSICAL ENVIRONMENT
UPON ARABIAN LIFE AND INSTITUTIONS."

The term 'physical Environment,' in relation to the Arabs, covers the climatic and other physico-geographic features of their homeland in respect of their directive and formative influences upon their life. Such features include the position of Arabia in relation to other lands; its relief and landscape; the nature of its soil; its climate (temperature, rainfall, etc.); its hydrography (system of drainage); its vegetation, etc. etc.

These conditions of climate and physical environment form the chief basic factors in the evolution of the Arabs. They have influenced more or less their economic activity, their social and political organization; their physical and mental development and the general character and status of their material civilization. The problem of environmental influence thus resolves itself into a number of special problems.

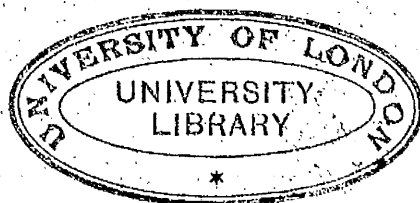
The varied economic activity of the pastoral nomads and settled agriculturists has a definite corresponding physico-geographic basis. Their economic development has in each case been further affected by the control of climatic conditions over the distribution of the animal and vegetable life, which they exploit.

Environmental influences are also manifest in the primary elements of their material culture, viz. in the matter of their food, clothing, dwelling and general equipment, since man, especially in a low grade of civilization, satisfies his needs with what he finds around him.

The physique of the Arabs and their general state of health have also been influenced by the geographical conditions, through the character and amount of food available for consumption and the salubrity or otherwise of their land.

The social and political conditions of Arabia have been affected through the effect of its natural characteristics upon the measure of the stability of its inhabitants and of their cooperation and cohesion. The main features of the political life of the Arabs become fully intelligible only when studied in relation to the physical conditions of their land.

In the thesis now presented, the principles of human geography have been, for the first time, consistently applied to several aspects of Arabian life, and new light is in consequence shed upon the causes and inter-relations of a large number of facts, most of which, though already known, have not hitherto been studied from the viewpoint of environmental influence.



THE INFLUENCE OF PHYSICAL ENVIRONMENT
UPON ARABIAN LIFE AND INSTITUTIONS.

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Ph. D

Arabic

1931

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INTRODUCTION.

The influence of climate and other geographical factors upon man and his social organization has been recognized, if not fully studied and systematically worked out, from early times. Aristotle spoke of the influence of climate and geographic position upon the location of cities and the character of their inhabitants. (1) The celebrated Arab historian and statesman, Ibn Khaldun, who produced a philosophy of history in the fourteenth century, based his survey of human civilization on a careful geographic analysis. That he devotes a lengthy chapter in the early part of his Prolegomena to the descriptive geography of the inhabited part of the globe, shows that he was fully alive to the value of an understanding of physical environment in the study of history. He discusses in several subsequent sections, with his characteristic acumen and with a wealth of illustrative detail mainly derived from his own personal observation, the influence of different climes upon the colour and character of man and the effect of the scarcity and abundance of food upon the physical and mental constitution of human beings. This is followed by what is probably the finest study of nomad life in the Mediaeval Arabic literature, in the course of which he time and again tries to explain facts of the

(1)

Aristotle, Politics (English Translation, Everyman's Library) pp. 211-12.

economic and political life of the desert by causes of a physico-geographic nature.

It is to be regretted that the work of Ibn Khaldun was not carried on by the writers who came after him in the East. For his successors in this field of inquiry, as in several others, we shall have to turn our attention to the West, where Bodin and Montesquieu began in the 17th and 18th centuries to consider in considerably detail the effects of climate and surface contour upon human customs and institutions. (1) Buckle (2) and Ratzel in the last century and several other geographers in the present, have refined the methods and processes of measuring the action of physico-geographic factors.

Despite the many casual references to the land and people of Arabia that are to be met with in the works of modern writers on human geography, that land owing to a variety of reasons has not, so far as I know, been made the subject of a special, systematic and comprehensive study from the viewpoint of human geography and of environmental influence. There is, however, one topic connected with the climate of the country that has received a great deal of attention in recent times, owing to its possible historical bearings. The question whether the climate of Arabia has undergone any change in historical and pre-historic

(1) Febvre, L. A geographical Introduction to History, pp.2-4.
London, 1925.

(2) Buckle: History of Civilization in England, Vol.I in particular

3

times, has been much discussed by scholars, who were ^{first} led to this question by another problem, viz. the problem of the original home of the Semites. Hugo Winckler not only maintained, along with Sprenger, Schrader and others, that Arabia should be looked upon as the original home of the Semitic peoples, but also held, by way of explanation, that their repeated dispersal was due to a gradual change in the climate of that country. The theory of the progressive desiccation of Arabia was later on taken up and elaborated by Prince Caetani with an imposing array of geological and other evidence and also used by him to explain the Islamic movement of the seventh century. (1) Although accepted by several competent scholars, this hypothesis has been controverted with great ability by Prof. Alois Musil, (2) and also by Père Henri Lammens, who has made a valuable contribution to the subject of the controversy by bringing together in his *Berceau de l'islam*, (Roma, 1914) a large amount of concrete data, extracted from Arabic literary sources, depicting conditions of climate and of physical environment, as they are shown by those

(1)

Caetani, E. *Annali dell'Islam*. Vol. II and *Studi di Storia Orientale*, Vol. I, Chap. II.

(2)

Musil, A. *Die Hypothese von der Austrocknung Arabiens*. (1914) Its English version may be read in the same author's *Northern Negd*. (New York, 1928). Appen. X, (pp. 304-319): *The Alleged Desiccation of Arabia and the Islamic Movement*.

4

sources to have existed in Western Arabia about the time of the rise of Islam. He cannot see any worsening of the Arabian climate in historical times; but fresh evidence, of a botanical and zoological character, in support of the theory of desiccation has been collected in more recent times by B. Moritz. (1)

When I said above that no comprehensive and systematic study of Arabian life and history from the point of view of climatic and other physico-geographical influences exists, I did not mean to suggest that the present small work is intended to adequately supply the want. Mine is only a modest contribution to that vast subject, which I have approached from some new avenues. For the purpose of my study, I have taken into consideration the Arabs of modern times, in the first instance, and for the data concerning their material and moral life I have relied upon such trustworthy guides as Burckhardt, Doughty and Musil, to mention only three out of a host of modern travellers of Arabia whose works I have consulted in the course of my inquiry. Occasionally I have tried to take a retrospective view and compare present-day conditions with those obtaining in earlier times, and my task in this connection has been facilitated by reference to the

(1)

Moritz, B. Arabien: Studien zur physikalischen und historischen Geographie des Landes. Hannover, 1923. Fortschreiten der Wüstenbildung, pp. 35-48.

works of Jacob and Lammens on the pre-Islamic Bedouins. (1)

Reference has also been made in many instances to a number of passages in the Koran, which are highly significant of climatic control over Arabian life and ideas. I have kept out of my survey the two holy cities of Mecca and Medina, which owing to their manifold connections with the outer world and their cosmopolitan character, show little direct dependence upon their immediate environment and thus stand, so to say, in a class by themselves and should, therefore, be studied separately.

Similarly, little account has been taken of Yemen, (2) because in the study of the sedentary population, I have chosen the settled oasis communities of Central Arabia for special treatment.

An endeavour has been made, in the following pages, to explain a number of more or less well-known facts of the economic, social and political life of the inhabitants of Arabia in the light of climatic and other environmental conditions.

(1)

Jacob, G. Altarabisches Beduinen-leben. Berlin, 1897.

Lammens, H. Le Berceau de l'Islam.

Vol. I, Le Climat - Les Bedouins. Rome, 1914.

(2)

Ample material, however, exists on Yemen in the accounts of several modern travellers, as well as in the excellent digest of the same by Prof. Grohmann: Südarabien als Wirtschaftsgebiet. (Wien, 1922), and another slightly older work:

Dr. W. Schmidt: Das südwestliche Arabien. Frankfurt a.M., 1911.

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We shall take the Arabs in their geographical setting; examine the relationships which exist between them and the land on which they live and thus understand better the mode of life, the methods of exploitation of the soil, and also the social and political organization with which they are associated. We shall see how man and physical nature have acted and reacted one upon the other in the peculiar milieu of Arabia. In short, it is an attempt at the geographical interpretation of certain aspects of Arabian life and history. It is hoped that this interpretation will give due share to the influences of physical environment, which constitute one of the basic and chief modifying factors in the evolution of the Arabs, and which must be taken into account if the peculiar development of Arabian society is to be seen in its true colours. From our present-day point of view, the forms and general structure of that society are in the main at once the function and resultant of that process of adjustment and adaptation which has enabled it to survive in its particular surroundings. We cannot expect to fully understand individual behaviour and collective activity in their manifold expressions without paying adequate regard to the environmental forces and conditions which stimulate and direct that activity.

CHAPTER I.

THE LOCATION OF ARABIA, THE VARIOUS ASPECTS OF THAT LOCATION, AND THE GENERAL EFFECTS OF THE SAME IN ARABIA'S HISTORY.

The location of a country or people is a geographical fact of permanent and constant operation and consequently of supreme importance in its history. Perhaps it outweighs every other single geographic force.

1. The Insular (isolating) Aspect.

Arabia is bordered on three sides by sea and on the fourth is scantily linked by a desert to Egypt, Syria and Mesopotamia, with the result that it is segregated from the life of the mainland of Asia almost as completely as if it were an island, and it is as such that it is looked upon by its inhabitants, who call it Jazirat al-Arab, i.e. the Isle of the Arabs. Held to the continent by bonds that often fail to bind, it is isolated enough to keep its historical processes for long periods at a time, to a great extent detached from those of the surrounding lands. In point of comparative isolation and individualization, it forms a geographical unit and in relation to the rest of the Continent, of which it forms a part, it shows in many respects an aloofness and self-sufficiency that has resulted in an

unmistakable historical divergence. Its peculiar physico-geographical and climatic conditions, viz. its soil, climate, rainfall, system of drainage, and fauna and flora, have produced a peculiar economic, social and historical development of the people, who do not betray any great signs of similarity or community of interest with the rest of the Continent. In their mode of life, their social and economic organization and their general outlook on life, they are as different from the Indians and Chinese as from the Western Europeans. The segregated region of Arabia has not merely afforded the people a comparative isolation, but the restriction imposed by natural obstructive boundaries has forced the people to the more complete adaptation to natural environment, with the result that in the course of time they have developed a distinct historical individuality of their own.

The well-defined natural location of Arabia, in which the sea and deserts act as effective barriers and guarantee a marked degree of isolation, has tended to hold the people, as it were, in an embrace, guarded them against excessive outside interference and infusion of foreign blood and thus enabled them to develop the racial type and national character in such direction as the local geographical conditions permitted. Being a comparatively secluded region, it appears as a quiet nook, wherein a part of humanity has been caught and held till it has crystallized into a distinct racial stock. It is pre-eminently

an area of race characterization and "the Arabs, by reason of their geographical situation and the monotonous uniformity of desert life, have in some respects preserved the Semitic character more purely and exhibited it more distinctly than any people of the same family."(1) Although there has been an infiltration and considerable admixture of African negro blood through the age-long slave traffic, (2) the general population is, perhaps, the more unified and probably the most homogeneous in Asia

The same factor, viz. the insular character of Arabia, has

(1) Prof. Nicholson, A Lit. History of the Arabs, p.XVI.

(2) On the African element in present-day Arabia, see Doughty, Ar. Deserta, I, p.553, and also by index s.v. Negroes and Slaves; also Snouck Hurgronje, Mekka, II p.12-18 (Hague, 1888). Hamitic type has also been detected in certain Southern Arabian tribes, recently visited by Mr. Bertram Thomas. Prof. Seligman, commenting on the anthropological aspects of the photographs, brought back by Mr. Thomas, and on the skull-measurements he had made in Arabia, is reported to have said that the types were broadly two in number, the Arabic and the non-Arabic. One was the Aromahan, or partly Semitic type, and the other the Hamitic type, which had some likeness to the type found in Abyssinia. (The Times, May 19, 1931).

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preserved the Arabic language from a too rapid change or complete disintegration and has saved it from the fate of other Semitic languages. If "it is generally allowed to be nearer akin than any of them to the original archetype, the 'Ursemitisch', from which they are all derived,"⁽¹⁾ we are once again referred to the play of the same geographical fact.

2. The Inter-continental Aspect of the location of Arabia.

According to a larger conception of environment, the influences of a land upon its people spring not only from the physical features of the land itself, but also from its situation in relation to other lands. If we look at a map of the Old World, we see that Arabia occupies a central position in the midst of the three continents of Asia, Africa and Europe. This inter-continental location of Arabia is a fact of great importance in its history. In so far as it projects from the land-mass of Asia, it is an area of isolation, but in respect of its central position within a wide circle of lands, it becomes an intermediary between them as well as a focus, from which influences, if there be any, can radiate to great distances. The isolating aspect of its location has, however, preceded the intermediary and inter-continental character. In course of historical development, the

(1)

R.A. Nicholson, A Lit. History of the Arabs, p.XVI.

Peninsula has first isolated its people, until its secluded environment has cast them as if in a mould and favoured their maturity and independent growth; then, as that people outgrew the limits and resources of its habitat, the Peninsula became a favourable base for ethnic, political and commercial expansion both on the land and the sea.

The intermediate position of Arabia, between India and the East on the one hand, and Egypt and Europe on the other, threw the ancient international trade between the East and the West into the hands of the Arabs. Thanks to the situation of S.W. Arabia on the sea route, leading from the Indian Ocean to the Mediterranean, the merchants of the Yemen and Hadramawt coastal lands, like the Oman Arabs to the East, for long acted as middlemen and enjoyed the profits of that lucrative trade which they monopolized. "Sea-traffic between the ports of East Arabia and India was very early established, and Indian products, especially spices and rare animals, were conveyed to the coast of Uman. Thence, apparently even in the tenth century B.C., they went over-land to the Arabian Gulf, where they were shipped to Egypt for the use of Pharaohs and grandees... The difficulty of navigating the Red Sea caused the land route to be preferred for the traffic between Yemen and Syria. From Shabwat in Hadramawt the caravan road went to Ma'rif, the Sabaean capital, then northward by way of Petra to Gaza on the Mediterranean." (1)

(1)

A. Müller, quoted by R.A. Nicholson, in his *Lit. History of the Arabs*, pp. 4-5.

The maritime activity of the Arabs continued in the Indian Ocean throughout the Middle Ages, when the Arabian and other Asiatic influences passed through them to the East African coastal lands. They retained their paramount position in the Indian waters till the advent of the Portugese and other European maritime nations in the sixteenth century.

If the inter-continental location of Arabia has, on the one hand, thrust upon it for a long period the role of a commercial intermediary, it has, on the other hand, made the land a sort of focal point and favoured the movements and influences emanating from it, so as to have an unusually wide range of operation. The wide spread of Islam is an instance in point. This religion has been singularly fortunate in the land of its birth. Leaving aside the appeal of its simple and rationalistic doctrines to the religious consciousness of mankind and other causes that may have favoured its propagation, the central position of its birthplace has been a powerful geographical factor in its wide dissemination to the remotest corners of the world, the importance of which factor has rarely been recognized, much less emphasized, by investigators. If Islam had taken rise in any country on the periphery of the inhabited world, it is most probable that, other things being equal, the range of its dissemination and the sphere of its influence would never have been as wide and extensive as it actually is to-day.

CHAPTER II.

THE GENERAL ECONOMY OF ARABIAN
LIFE IN RELATION TO LAND.

From time immemorial, the inhabitants of Arabia have been known to be divided into two groups or orders of society; nomadic folk and settled folk. All the Babylonian, Egyptian, Assyrian, classical, Syrian and Arabic records recognize and refer to this division of the Arabian population into nomads and settlers. (1) They are, respectively, the Ahl al-Badw and Ahl al-Hadar of the Arabic authors. The nomads - or Bedouins, as the pastoral nomads of Arabia are generally called - are those who live by the herds of domesticated animals, principally the camel; whereas the settled folk are engaged in agriculture and trade. This division does not represent any racial distinction or classification, but only two different types of livelihood, (2) for we know that whereas, on the one hand, there are nomadic tribes like the Sherarat, Hubain and Sulubba, which are not reckoned among the Bedouins as true Arab stock; on the other hand there are tribes, like the Dawasir of the present day, some

(1) Musil, A. Northern Negd, p.316.

(2) Actually, there are some minor intermediate types between the two groups, of which we shall have occasion to speak later on. The division between the nomads and settlers, however, though broad and rough, holds good in general.

members of which have settled down in towns and villages, while the others still lead a nomadic life. (1)

If we trace the geographical distribution of the two groups over the various regions of Arabia, we find that they are in close conformity with the climatic and hydrographic conditions of those regions and that they are fundamentally of an economic order, employing two different methods of obtaining subsistence. Where there is a fairly sufficient amount of rain, as in the Yemen, (2) or stream-water is available as in some parts of Hasa and Oman, or where subterranean water collects from wide surrounding areas in quantities sufficient for irrigational purposes, there people have settled down to the tillage of the soil. Hoisting water from wells of various depths by animal labour, or obtaining it from streams and springs by means of channels and aqueducts, or simply relying on the rainy showers to water their ploughed fields, they are engaged in tending date-groves or cultivating such crops as barley, maize, millet, wheat, cotton, indigo and sundry fruits and vegetables. This settled agriculture has given rise not only to the urban and village communities of Asir, Yemen, Hadramaut and

(1) Handbook of Arabia, p.604.

(2) The farmer in the Yemen highlands does his watering from cisterns of cemented masonry, built in every cleft or ravine where rain water can be intercepted, Handbook of Arabia, p.155.

Oman, but also to the settled districts of Central Arabia, where groups of oases support urban settlements, several of which have over 5,000 inhabitants apiece. (1)

But owing to the extreme scarcity of water - the prime condition of human existence, as well as the necessary requisite for agriculture - agriculture is made impossible in three-quarters of the total area of Arabia. Water is only occasionally found in deep wells or rain-pools, which are few and far between. In the hot season they are often dry, and when they contain any water at all, the supply is generally so small that the watering of a few scores of thirsty camels would soon exhaust them, and some time must elapse before the precious liquid trickles from the surrounding area to cover the bottom again. What little supply of water is obtained by rain is not allowed to form itself into rivulets or streams, but - thanks to the limestone and sandy character of the soil - is soon absorbed and lost, to reappear in the distant east in the springs

(1)

It must not, however, be understood that the above-mentioned provinces and districts are wholly settled and exclude nomads. Every district contains a greater or smaller number of nomads, who are never far from urban centres and often surround them.

(1) of Hasa and Qatif, or actually under the sea surface near Bahrein. Besides, in areas of very considerable extent, the forbidding nature of the lava plains (حرة) or the excessive salinity of salty tracts (سبخة) presents an additional difficulty in the way of cultivation.

Such being the conditions, agriculture is out of the question for a greater part of the land. Where the country is not a barren desert, it is at the best a more or less poor steppe-land. Here the winter showers from the Mediterranean or the monsoons from the South make possible the growth of coarse grass or stunted plants, and it is by grazing his domestic animals on this meagre and evanescent plant life that the Arab nomad contrives to support himself in this inhospitable land. It will thus be seen that outside the oases and cultivable territories, which are more or less abundantly supplied with water, man can live only as a stock-raiser or hunter. Other possibilities of existence do not seem to present themselves, -- at least in the present stage of development of Arab intelligence and ingenuity. Again, since wild animal life is restricted in Arabia for the same reasons that make human existence so difficult, it is obvious that a

(1) Hogarth, Penetration of Arabia, p.3. It will, furthermore, be observed that in limestone areas an attempt to store water by means of large-scale dams and tanks would be rendered exceedingly difficult, if not utterly futile, by the calcareous and absorbent nature of the soil.

large population could not live exclusively the life of hunters. Actually, only the comparatively small Sulubba, an interesting non-Bedouin nomad people, manage by their superior skill to supplement, by the fruits of the chase, the livelihood they make as craftsmen.

We thus come to the conclusion that whereas a large part of Arabia is suitable only for pastoral life, the existing 'ways or types of life' of the pastoral nomadic and settled agriculturist communities of Arabia, as well as their distribution in space, are in conformity with the physical conditions of their land. Their activities become fully intelligible only in relation to the various geographic conditions which have stimulated and directed them in different channels in different parts of the land.

Ibn Khaldun has a clear conception of the difference and distinction between the pastoral nomads, the sedentary agriculturists and the commercial townsfolk, which distinction he shows to be economic, that is, due to their different occupations.⁽¹⁾ We have gone one step further in our inquiry and have tried to show that their varied economic activity is based on, and corresponds to, different physico-geographical conditions.

(1)

Prolegomena, texte arabe, p.254 et seqq.

2. Comparison and Contrast between the Nomads and Settlers.

The division and grouping of the Arabian population into the pastoral and settled folk, which, as we have tried to show above, is fundamentally of an economic order and has a definite ultimate physico-geographic basis, is probably the central fact in Arabian life and history. The divorce of the nomad economy from the settled agricultural economy represents the parting of the ways; henceforth, they develop on two distinctly separate lines. In each case the economic organization gives rise to a peculiar social and political organization, so that in course of time they come to differ not only in their general mode of life but also in their manners and customs, their character and temperament, their ideas and aptitudes, and their interests. Habits of thought and action, acquired in different surroundings and ways of life, have in course of time acquired sufficient consistency as well as persistency and fixity, to fashion two distinct forms of cultural life which cannot be mistaken one for the other.

Below, we shall attempt to compare and contrast the salient features of nomadic and settled life in Arabia.

Nomads.

Settlers.

- 1. are perforce nomadic, if they are to live in the desert at all.
- 2. live in portable tents.
- 3. live by the produce of their flocks and herds.
- 4. Milk is their proper and chief article of diet, supplemented by corn, dates and flesh.
- 5. Wealth (مال)⁽¹⁾ consists in their herds.
- 6. Domestic animals essential and indispensable to their economy.
- 7. Industries are restricted; trade rudimentary.
- 8. look down upon settled agriculture as ignoble drudgery; prefer free and untrammelled desert life.

- 1. are sedentary by their occupation.
- 2. have a fixed abode.
- 3. live by, and trade in, the produce of their land.
- 4. Corn and dates principal articles of diet.
- 5. Wealth consists in field and household property.
- 6. Domestic animals not essential, only useful auxiliaries to save human labour.
- 7. cultivate arts of peace; contain skilful artisans and craftsmen; trade flourishing.
- 8. find the wandering life of the nomad inconvenient, nay unendurable.

(1)

It is worthy of remark that the same word, مال (property), has a different significance with different orders of society. To the pastoral nomad it means 'flocks and herds'; to the cultivator, his 'agricultural land'; to the trader his 'merchandise'; and to the tax-collector it is tax-money! See Dozy, Supplement, under مال (مول). It illustrates that different people have different ideas of property.

Nomads

Settlers.

9. Being mobile and inaccessible in the desert wastes, are extremely difficult to bring under control or discipline.

9. Being settled, are much more amenable to external control.

10. Scattered widely in small economico-social groups, develop strong separatist tendencies, which hinder political union and development, which stops at a loose tribal system.

10. Conditions of settled life much more favourable to ordered political development and formation of centralized government and unified states.

11. Kinship in blood is the ground of community in social and political functions.

11. are identified with the place they are settled in; and the principle of local contiguity establishes itself as the basis of common political action.

What is the exact relation of the pastoral nomads and settled agriculturists to the land, which is the field of their activity and the different physical conditions of which have given particular direction to that activity. The relation of the settlers to the land which they directly exploit is clear, and their dependence on it obvious. But in the case of the nomads also who live primarily on their domestic animals, the dependence on the land, on which they roam about, is not less real. Land provides the vegetable substratum on which their animals subsist, and thus it remains the ultimate basis of nomadic as well as sedentary society, although the bond with the soil in the case of the former is intermittent and comparatively loose.

Although the wealth of the nomads primarily consists in their flocks and herds, they have a clear conception of their ownership of the tribal land, which they hold and use in common. As it is not held by permanent occupation or cultivation, the boundaries are naturally ill-defined and subject to change. Here they wander about from place to place in search of fresh pasture and water, the pastoral use of the land necessitating a move every now and then. The whole territory is thus necessary for the support of the tribe. Owing to the prevailing aridity, its springs and wells possess great value for them; they are things to be jealously guarded and fought for. Any encroachment on their territory calls for the united action of the tribe. Its food supply is regarded as a monopoly and the task of common defence devolves upon the whole tribe as a distinct duty. The conception of the ownership of

the land also underlies the practice of levying a toll on travellers and wayfarers for the right of crossing the tribal district. This toll, which goes to the shaikh or the head of the tribe, should not be regarded as a mere blackmail, for after all, in return for it the wayfarer is not only given protection, but he uses up some of their scanty supply of fodder and water. (1)

We also know that in time of drought the tribes buy from each other for a period the right of pasturage in territories other than their own.

With the settled folk, the occupation of the land is permanent. This gives them a stability which ensures them a distinct advance upon the nomads in civilization and the arts of peace. As compared with the nomads, the relations of the settlers with the land are more numerous and stronger - with permanent habitation, with increase density of population and with a discriminating and thorough use of the soil, as shown in their wells gardens and fields. The land is held not in common, like the nomads, but as private individual property.

Intermediate Types.

Whereas the majority of the inhabitants of Arabia are either purely nomadic or absolutely sedentary, there are several cases of intermediate types, which represent a greater or less mixture of

(1) Handbook of Arabia, I, 22.

cultivation and animal-raising. These cases further illustrate the land-basis of Arabian society and the adaptation of its activity to the physical conditions of its habitat. The underlying fact is that there are regions which are too poor to admit of an absolutely settled life and which demand from their inhabitants the raising of cattle as well as the tillage of soil. Thus, there are tribes that are primarily pastoral and nomadic, giving more of their time to herding, agriculture remaining subsidiary to the yield of the pastures. Thirty miles from Agaba, Doughty came upon green cornfields, nourished only by the rain, which, he was surprised to learn, belonged to a section of the Huweitat Bedouins (*Arabia Deserta*, I, 45). Similarly, he found the best valleys on both sides the Harra, near at-Hijr, sown every year by some of the Moahih Arabs. There in a few undressed plots, cleared amidst waste of harra stones and watered by channels from natural springs, these Bedouins contrived to raise barley and wheat, pumpkins, melons and a little tobacco. Their harvest finished, they would strike their tents and go forth to wander like other nomads (*Ar. Deserta*; I, 234; II, 440).

On the other hand, we meet with settled communities which combine agricultural with pastoral activity. The settled tribes of Asir, whose mainstay is agriculture, carried on by irrigation in wadis, also keep animals, which they pasture on the hills (*Handbook of Arabia*, I, 131). J. Shammar presents a remarkable mixture of nomadic and sedentary conditions. Bedouins do things there that no other desert tribe would do; while at certain

seasons the villagers themselves lead a partially nomadic life. Bedouins possess palm-groves, and the cultivators own and graze horses, camels and sheep. (Handbook, I, 377). This state of affairs shows that physical conditions in this region admit both of agricultural and pastoral pursuits, and the people finding neither of these sufficient by itself to support them, occupy themselves with both. Similarly, the semi-nomads (رَعَوَاةٌ) of the Syrian border lead a double life. After sowing their crops in the autumn, they leave their permanent dwellings in the rainy season and, with their flocks of goats and sheep, make their way into the steppe, where they dwell in movable tents. In April or May, when the harvest time is near, they return to their villages (Masil, Manners, p.44).

Within nomadism itself there are distinct degrees or types, related to the animals bred by the nomads. Whereas the majority of the Arab nomads, the true Bedouins, breed camels, exclusively or in the main, there are also tribes that live exclusively by goats and sheep, and are known as shwaya or Shuwwan (شَوَّان). (1) In the section on domestic animals we shall try to show the varying degree of suitability of different animals to the desert environment. (2) Thanks to its frugality, its capacity to bear thirst for several days on end and its great power of endurance, the camel can penetrate and manage to live in barren inhospitable regions which are quite inaccessible to goats and sheep, which

(1) Ibn Khaldun: Shawiya (شَاوِيَّة).

(2) Infra, p. 30 seq.

require frequent watering and are, besides, incapable of making long marches. The climatico-botanical regions of the camel and the sheep are therefore quite different. This fact has given rise to two quite distinct types of nomadism in Arabia: that of the camel-herds and of the shepherds. There is a great difference in their manner of life, which is much more conspicuous in their respective political conditions. The camel-herds, or the Bedouins par excellence, who form the majority, are by far the more important of the two, constituting as they do the aristocracy of the nomad population of Arabia. Their importance and superior power does not, however, proceed from their larger numbers; it comes mainly from their greater mobility and the wider range of their movements and migrations. Aided by a strong animal of transport like the camel, which at the same time provides them with necessary nourishment, they are in a position to make long journeys and, in case of need, to retire and take refuge in the interior desert and there enjoy a comparative security and independence. The sheep-breeders, on the other hand, are confined to the edge of the desert, because their flocks do not permit them to go into the interior; they encamp on the territory, where there is abundance of water and grass. Not only are they unable to undertake extensive raids, but they have to acknowledge the supremacy of the more powerful (camel-breeding) Bedouin tribes, to whom they pay a protection-tax. Sometimes they are also subject to the exactions of the local rulers of the neighbouring

settled territories. This explains why a certain degree of humiliation and disgrace has always been attached to the breeding of the smaller domestic stock.

So far as we know, the cow is not associated extensively with pastoral nomadism within the limits of Arabia proper. Its limited distribution, both as a dairy and draft animal, among the settled communities in Central Arabia and elsewhere is mentioned in the special section devoted to domestic animals. Mr. Bertram Thomas, ⁽¹⁾ however, has recently reported the existence of rich herds of cows in the forested parts of the Qara mountains, which are sprinkled by a three months drizzling rain from the Indian south-west monsoon. The people are not agriculturists and live on their camels and cows, but it is not known to what extent they are migratory and nomadic in their habits.

That the breeding of cattle is closely connected with climatic conditions is also well illustrated by the distribution of the cattle-rearing Arab or Arabicised nomad or semi-nomad tribes of Eastern Sudan (Kordofan, etc.), known as the baggara (i.e. bakkara, cow-herds). ⁽²⁾ Here cattle-breeding locates itself between the northern fringe of the equatorial forest and the steppe-lands bordering the Libyan desert. Various baggara tribes have northern relatives of the same name, who rear camels exclusively. It seems

(1) The Times, May 11, 1931.

(2) C.H. Becker in the Encycl. of Islam, s.v. Baggara.

quite plain that the Arabs took up cattle-breeding in their advance towards the south as the climatic conditions became favourable for such activity.

Priority of the Nomadic Bedouins.

It was customary at a time with historians and political theorists to maintain that all peoples had passed through three successive phases, viz. hunting and fishing, cattle-rearing and agriculture. The insufficiency of this theory, involving strict and clear-cut categories, has now been felt and it is recognised that there is no compulsory passage of the different peoples from one phase or state to another. For want of domesticable animals, a community of hunters, like the Red Indians, may never pass to pastoral life. Similarly, unrelieved aridity of a region may for ever condemn a pastoral people to an unstable wandering nomadic existence. In the case of Arabia, however, the old theory, though discredited in its universal application, seems to hold good and there is reason to believe that the nomadic life there is prior to sedentary life and that the first inhabitants of settlements were originally nomads. We cannot decide this question with simple appeal to history, because in the very beginning of historical times, when things and events begin to emerge in the light of history, the division of the people into nomads and settlers is already an accomplished fact. As has been

said above, on the authority of Musil, ⁽¹⁾ the records of the neighbouring civilized peoples refer to these two groups. The subjects of the oldest known kingdoms of S.W. Arabia were mainly settled agriculturists and traders, and their towns and villages were at a later period seen and attached by the Romans under Aelius Gallus. Whereas in Pliny we find only a few names of Central Arabian towns and villages, Ptolemy enumerates 114 towns or villages in Arabia Felix alone. ⁽²⁾ If we may justifiably argue from the happenings of comparatively recent times, we may presume that all the towns and villages were originally started by nomads in places that were found favourable for cultivation and settled life. The view of Ibn Khaldun on the subject is well known. He unhesitatingly derives the settlers from the nomads. ⁽³⁾ Modern observers, like Doughty, are also strongly inclined to think that all the villages and towns of nomad Arabia were at first colonies of Bedouins, whose inhabitants yet remember their nomad tribes. ⁽⁴⁾ The settled folk in Najd are almost all of original Bedouin stock - B. Tamim and B. Khalid in Qasim, Southern Anaza, Tamim and Dawasir in Central Najd and Dawasir and Qahtan in the south-west. If other tribes come in, it is to settle. ⁽⁵⁾

(1) *Supra*, p. 13.

(2) Hogarth, *The Penetration of Arabia*, p.17.

(3) *Prolegomena*, *texte arabe*, I, p.224 et seqq.

(4) *Ar. Deserta*, I, 234.

(5) *Handbook of Arabia*, I, p.351.

The history of B. Tamim is very instructive in this respect. About the rise of Islam they were essentially nomads and had no towns in the proper sense of the word, though they visited them occasionally and sometimes even held them to ransom. (1) They are now an entirely settled tribe and form an important element of the fixed population in Najd and J. Shammar. (2) Boraida is said to have been founded by them about four hundred years ago. (3)

(1) Encyclopaedia of Islam, s.v. Tamim.

(2) Handbook of Arabia, I, 610-11.

(3) Encycl. of Islam, s.v. Bereida.

CHAPTER III.

THE DOMESTIC ANIMALS OF ARABIA:
THEIR RELATION WITH THE LAND, AND
THEIR PLACE IN THE ECONOMIC LIFE
OF THE PEOPLE.

While studying the economic organization of the Arabs, we are naturally led to a consideration of their domestic animals, which stand in a definite relation with the land, on the one hand, and the economic life of the people on the other. The domestic animals may be discussed from various points of view, but here we need only see them in their geographical setting, and consider their suitability or otherwise to the physical conditions of Arabia, and also determine with what methods of exploitation of the soil and with what forms of economic organization they are generally associated there.

It will be readily seen that geographical conditions influence not only human life, but also animal life in general. Geography of a land determines what kinds of animals shall, or shall not thrive in it, and thus it exercises a sort of selective control on the animals available for domestication there. The domestic animals of the Arabs thus form a link between the land, on the one hand, to which they are adapted, and the economic life of the people on the other, with which they are so intimately and indissolubly bound up.

Although what the Bedouin exploits at first hand are his domestic animals, his dependence on the vegetation of the land is as great as that of the agriculturist, who exploits the land directly. The Bedouin's flocks and herds must have grass and water, without which they could not live, much less support their keepers. Vegetation thus forms the ultimate basis of human life in the desert as in cultivated territories. The nomads will not burn the good pasture bushes even in their enemies' country. It is the food of their animals. Doughty sometimes unwittingly offended them by plucking such bushes and giving them to the flames of the tent-fire. Tribesmen, who could not make allowance for his ignorance in the matter, called it a heathenish act. Thus, their animals form a link, - though a very necessary one in their case - in the chain that binds the people to their land. The importance of the vegetable substratum for the nomads is also brought home to us when we consider that the nomad population does not simply increase with the multiplicity of their herds. Their herds cannot multiply indefinitely, because there is a limit imposed on their increase by the available existent vegetable resources of the land.

1. The Camel.

We have already mentioned the camel ⁽¹⁾ in connection with the Bedouin economy. This animal appears to have been domesticated by, and associated with the Arabs from the earliest known times. When the curtain is lifted from the drama of history, the Arab and his camel are found to be already friends of long standing. It figures prominently in the oldest known civilization of Southern Arabia, where it was bred for its milk as well as for transport. It is as camel-riders that the Arabs of the north impress themselves on their neighbours; in the wonderfully life-like reliefs of the Assyrian King, Assurbenipal, the Arab warriors are represented as camel-riders. Joseph was sold to the 'Ishmaelites', who came with their loaded camels bound for Egypt (Genesis, 37: 25-28). And when the Queen of Sheba came to prove Solomon with hard questions at Jerusalem, there was with her a train of camels that carried spices (II Chronicles, 9: 1).

That the camel has been a characteristic of, and has been associated with the Arabs in general and the Bedouin nomads in particular, is not a fortuitous circumstance. Neither the horse,

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On the general characteristics of the camel and its relation to the patriarchal nomadic life, comp. Ritter, *Erkünde*, 13 Teil, p.609, et seq. The picture he draws of the camel in its desert environment is in some places too highly coloured and yet very interesting, being a strange mixture of 'dichtung und wahrheit'. His descriptive account is something of a rhapsody.

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nor the cow, nor any other animal that is known to be associated with the life of other pastoral peoples, could take its place in the arid steppes and deserts of Arabia. That the life of the Bedouins has been associated with the camel, in particular, is due to the fact that this animal alone is adapted, by virtue of its peculiar qualities, to the geographical conditions of Arabia. We know that Arabia, considered climatically, suffers upon the whole chiefly from extreme dryness and excessive heat, and is very poor in water and pasture-land. Now, the camel overcomes these disadvantages in a most remarkable way; as a matter of fact, the scarcity of water and good pasture appears to be no disadvantage to it; for no animal puts its owner to less expense and trouble for its keep.⁽¹⁾ It picks up its food where it can, living on the roughest grass, and browsing on thorny acacias and tamarisk (التملح), and finding a considerable part of its sustenance in the 'rimth' plant, a saline bush which, as the Bedouins say, 'is to the camel what flesh-meat is to man.'⁽²⁾ The thorns of the desert, dry grass, cactuses, euphorbias -

(1) Palgrave, Narrative, p.

(2) Doughty, V.II, p.651. For the favourite plants and bushes of the camel, see Jammens, Berceau, pp. 54-55; also Ibn Sidah: K.al-Mukhassas, 7th part, pp. 87-89 (علف الإبل).

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nothing comes amiss to the catholic and unexacting taste of a camel. (1) As regards water, it can go without for days and weeks together. Even in the hot season it can hold out for three or four days, whereas in winter it can pass a full week waterless without discomfort. In the spring season, the moisture in the fresh juicy plants suffices for its needs and it will not touch water for as long as a month (Musil, Manners, p.338). In short, its wonderful patience, power of endurance and physical strength render it eminently suitable for the hard life

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It is only in the oases and cultivated territories of Central Arabia, where camels are employed for working wells, that they are fed on corn and dates which, however, only the well-to-do can afford. The oases produce nothing but date-palms and garden produce, and have generally no camel pasture in their neighbourhood (Blunt, Pilgrimage to Nejd, p.4). The Bedouins need not, and could not afford such luxuries, since they (have to) buy corn for their own consumption, when they can. The camels employed in the Hajj caravans have no time to browse and are, therefore, fed as in Syria, on balls of boiled pulse. The Uqail camel-dealers are also said to carry millet and coarse flour as fodder for their camels. On the 'Oman coast, where agriculture is supplemented or replaced by fishing, livestock including camels, are largely fed on fish heads boiled up with date stones etc. (Handbook of Arabia, 241).

of the desert and it is probably with reference to these qualities, and to the physical constitution, which lies at the basis thereof, that the Koran invites our attention to this animal, bringing it forward as a marvel of creative nature. (1)

It is no exaggeration to say that a large part of Arabia would have remained unexploited and uninhabited by man, but for the domestication and utilization of the camel. The Arab nomadic life cannot be conceived without the camel, whom Lammens has so appropriately called the 'alter ego' of the Bedouin (Bercean, p. 48). Even in cultivated territories it does yeoman's service by raising water from wells, without which agriculture would be impossible. The value of the camel for the Arabs in general and the nomads in particular, cannot be over-estimated; and it is far from easy to enumerate and exhaust all the possible ways in which it is made use of, dead or alive. The she-camel gives them milk all the year round; this forms the principal and, in many families, the only food for months. Fresh, sour or dried, the milk is used in many forms. (2) The camel also serves them as a general agent of communication and transport, which is a fact of very great importance for the migratory nomads. The camel not only carries his owner, but also his family, and his household effects, including his tent. It is the alimentary need of the camel itself that forces the Bedouin

(1) Koran, 88: 17. أَفَلَا يَنْظُرُونَ إِلَى الْإِبِلِ كَيْفَ خُلِقَتْ

(2) For details, see the section on food, *infra* pp. 64-65.

to be migratory, and it is therefore a blessing for him that his animals should be able to transport him, as well as his belongings. As a matter of fact, the deserts, on account of their prohibitive character, would be impassable for the Arabs but for the camel. When slaughtered it provides them with flesh food. The hair is made into clothing, tent-cloth, sack-cloth and ropes. Hide is tanned and made into buckets, water-troughs, bags and various other vessels. The dung is used as fuel. In summer, in the absence of water, camel-urine is used for washing hair, chiefly by women. It is even said to possess medicinal properties.⁽¹⁾ When hard pressed for water, the Bedouins are reported to slaughter the camels and drink the water from their paunches.⁽²⁾ Although the existence of the practice has been denied and discredited by Burckhardt (Notes, pp. 259-60), G. Jacob (Altarab. Beduinenleben, p.96) and Leonard (The Camel, pp. 38-39), Musil learnt that the

(1) For the place of camel urine in Bedouin toilet, see Doughty, Vol.I, p.237, 240; Musil, Manners, pp.117-118; Harrison, the Arab at Home, p.25. See also the graphic description of Musil in his Northern Negd, p.88. When the Bedouin poet exhausts the resources of his copious language in praising the black, long and flowing hair of his beloved, the effect would be greatly lost, it is feared, on the reader and his aesthetic enjoyment spoilt, if he were to be reminded that the much-applauded locks might have been washed in camel urine!

(2) Referred to, for instance, in Tabari, Vol.I, p.2123, where horses are reported to have been watered by such means.

practice was not uncommon among the Rwala at least, and he goes even so far as to assert that there is hardly an adult Rwali who has not tasted such water at least once in his life (Manners, pp. 94-95, 368).

The camel proves an economic asset for its owner in other ways as well. The bedouins hire it out for money to settlers and townspeople, when the latter have to make a long journey through the desert from one town to another. The use of hired camels in the Hajj caravans is well known. The surplus stock is sold to the agriculturists, who use the camels in ploughing, for raising water and for carrying their products to the markets; while the camel-traders export them in large numbers to the neighbouring countries for meat (as in Egypt and Iraq), or chiefly to be used in civil and military transport. The camel trade is an important trade of Arabia and it is estimated that about 45,000 camels are exported every year. It should be noted as important, from our climatic point of view, that the camel trade is regulated by the succession of seasons. The camels are sold only in summer, when there is difficulty in pasturing them and when the Bedouins need money to provide themselves with clothes and provisions for autumn and winter. There is a complete cessation of trade during the winter, when the Arabs have laid in their stock of provisions and the first winter rains make it easy for them to pasture their camels, which they prefer to preserve for milk and for breeding.

The pre-eminent position of the camel in the practical life of the Arabs accounts for the large place it occupies in their language and literature. It is said that there are in the Arabic language four thousand names for the camel alone, and one who has seen sixty pages of Ibn Sidah's Mukhassas filled with the various attributive and qualitative names of the camel will not feel inclined to disagree. Almost every poet of the desert has sung the praises of the camel, (2) while it figures so largely in their poetic similes, proverbs and every-day expressions that one feels at times as if the Arab thinks and talks in terms of the camel.

It should also be noted that whereas the camel is a sine qua non of Bedouin economy - the very pivot on which pastoral nomadic life rests - it plays a comparatively minor part in the economic organization of agricultural territories, where the people live on the yield of their palm-groves and cornfields, and where it is used, along with oxen and asses, in working wells, thus simply saving human labour. It is true, however, that here again its employment is necessitated and is much to be preferred to that of oxen, whose strength cannot profitably draw wells of above three

(1) Ibn Sidah, Mukhassas, 7th pt. 99. 17-76 (نُعُوتُ الْإِبِلِ وَمَسَائِرُهَا)

(2) While the effusions of the older Arab poets may be read in any anthology of ancient Arabic poetry, reference may here be made to Musil, Manners, pp. 338-68, for such songs as relate particularly to the camel and are current among the present-day Rweḷa Bedouins.

or four fathoms, and if God had not created the camel, Nejd, they (the Arabs) say, would have been without an inhabitant (Doughty, I, 292).

2. The Horse.

Although in a description of the animals of Arabia, Palgrave assigns the first place to the horse⁽¹⁾, it has no economic value as compared with the camel. However much the breed may have improved in certain respects in Arabia, and however just and deserved may be the popularity and esteem enjoyed by the Arabian horse in the outer world, the fact remains that, owing to the lack of abundant water and good pasture, the horse has always been rare in Arabia and it could not thrive there without the care of man. Almost all the modern travellers and explorers of Arabia have observed the fact and are agreed on this point. In his visits to the Aneyza encampments, Burekhardt could seldom reckon more than one mare for six or seven tents; while among the Harb in the Hijaz, he saw a few only in the possession of their principal persons (Notes, 40, 238). Doughty tells us that the Fukara are considered a tribe of horsemen and yet their mares did not amount to a score (Vol.I, 274). Lady Blunt, whose observations on all matters connected with the horse are entitled to our highest

(1) In his article on Arabia, in the Encyclopaedia Britannica, 9th Ed.

respect, tells the same tale. Even in Nejd, which is celebrated for its horses and is regarded as the best breeding ground for them, they are exceedingly rare. 'One may travel vast distances in the Peninsula,' she writes (Pilgrimage to Nejd, p.13), 'without meeting a single horse or mare or even crossing a horse track.'

The conditions in this respect were about the same thirteen hundred years ago, when the horse, as shown by Hammens (Bercean, 137) was, as now, an animal of luxury afforded only by a few. That the chief difficulty in the way of successful breeding of the horse lay then, as now, in the scarcity of suitable food (for it), is evident from a story related in Tabari (I, 2756-7) about Abdullah b. Abi Rabi'a, who was allowed by 'Omar to keep horses in Medina, only on condition that he would obtain the requisite fodder for them from outside the Medina district. ¹⁾

¹⁾ note:-

Everyone has remarked the comparative smallness and spare build of the Arabian horse. This is most probably due to scanty and unvaried food; for Mr. Devenport states (as mentioned in Semple; Influence of Geographic environment) that the pure blood Arabian horses raised on his New Jersey stock-farm are in the third generation a hand higher than their grandsires imported from Arabia, and of more angular build.

The reasons for this scarcity are not far to seek. The existence of the horse presupposes plenty of water and good pasturage, two conditions not to be easily fulfilled in Arabia. Lady Blunt writes about the northern part of the favoured Hejd, "the oases, in which the towns stand, produce nothing but date-palms and garden produce, nor is there a blade of grass or even a tuft of camel pasture in the neighbourhood. The townspeople keep no animals, except a few camels, Horses are a luxury reserved only for the princes." (Pilgrimage, 4-5). According to Doughty, a horse will drink one-third more than a camel, and since it soon suffers from thirst, the carriage of water for it on a long journey becomes a serious impediment. The question of food is hardly less troublesome, for it cannot stomach the coarse grazing which contents the camel. 'There is a foster camel to every nomad mare, since they taste no corn, and the harsh desert stalks could not else sustain her: the horse, not ruminating and losing much moisture by the skin, is a creature very impatient of hunger and thirst. His mare is therefore not a little chargeable to a sheykh in the desert, who must often burden another camel with her provision of water. . . . Who has wife or horse, after the ancient proverb, may rue; he shall never be in rest, for such brittle possessions are likely to be always ailing.' (Vol. I, 261).

In short, the horse has no place in Arabia, especially in the drier regions, and would perish if the Arab did not take better care of it than of his own children. He milks first

for his mare and would pour out the last drop from the water-bag for the pampered mare, while the children are crying for water. While a camel will exist even without the care of man, a runaway horse could not live long in the desert.

Despite its scarcity, the horse has, however, possessed a commercial value for a few individuals at least. There are indications of a horse-trade even in olden times. In Tabari (I, 2190) there is a casual mention of horse-dealers of the Christian tribes of Nemir and Taghlib. We are naturally better informed about the horse-trade of recent times, which seems to have acquired considerable proportions, apparently owing to the increased facilities of transport to foreign countries, among which India has always provided a ready market for them. Ibn Rashid in the last century had a stud at Hail; the horses were preferably grazed in the Nefud and exported chiefly to India through Kuwait. Individual enterprise also has not been lacking in this respect. Although there is no breeding of horses at Boreyda or Ancyza, or any other town in Nejd, the traders there buy up young stallions from the Bedouins (Doughty, II, 389), who exclusively ride the mares and do not care for male colts. (1)

The value of the horse for an average Bedouin, however, lies

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Musil states (Manners, 374) that the Rwala actually destroy the newly-born male colt, so that the mother may not be needlessly weakened.

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in quite another direction. He is prepared to take endless trouble on its account, because it serves him as a weapon of war. It is much easier to make or repel an attack on horseback than when mounted on a camel. The power and prestige a tribe enjoys is proportionate to the number of horses it can bring into the field. From the almost exclusive use which the Arabs made of the horse as a war animal, one is strongly inclined to believe that the introduction of this animal in the Peninsula has been, on the whole, of very dubious utility, for its employment has clearly tended to make the warfare of an already too bellicose people all the more fierce and deadly. The gusto and pride with which the Arab warrior-poet describes the fine points of his valued mare and the martial exploits performed on its back, are well known to all readers of Arabian poetry. It need only be remarked here that the Koran has not lagged behind in its appreciation of the horse as a war animal; and the picture it draws (in sura: 100) of a cavalry in charge in a morning foray is as spirited as any in the Arabic literature. Suddenly do they emerge before our eyes, running and panting; striking fire with their hoofs in their mad charge at break of dawn; raising clouds of dust in their gallop and finally rushing down upon, and cleaving, the enemy host. (2)

(1) For the introduction of the horse in Arabia and the probable date thereof, see Moritz, Arabien, pp. 43-45.

(2) Koran, sura 100, v. 1-5.
 والعادياتِ ضباً ۝ فالمؤيناتِ قدماً ۝ فالغيراتِ ضباً ۝
 فائرنَ به نكاحاً ۝ فوسطنَ به جباً ۝

3. Sheep and Goats.

Next to the camel in economic value for the Arab nomads are their sheep and goats. As compared with the camel, their distribution, however, is limited, since they are incapable of bearing thirst or making long and swift journeys like the camel, in search of pasture and water. Although many Bedouin tribes possess a greater or less number of goats and sheep, in addition to their camels, they are more abundant on the Syrian borderland and in such other regions of Arabia as are better watered. The tribes who exclusively breed sheep are called shwaya (شوايا).

The sheep has evidently undergone a marked transformation in the desert milieu and is approximating to the goat. (1) Its thick wool has changed into smooth, long hair and the animal has grown thinner, so that Palgrave (Narrative, II, 127) speaks of sheep-like goats or goat-like sheep. Lady Blunt (Pilgrimage, I, 201) also at first took the sheep for goats, since they were as unlike sheep as was possible to conceive.

4. The Ass.

By virtue of its hardness and power of endurance, the ass is hardly less suitable for Arabia than the camel (Doughty, I, 428); while for transport purposes, it is decidedly more important than

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Moritz, Arabien, p.47.

the horse, because it is patient of thirst and need only be watered every second day. The Sulubba, who do not possess any beasts except the ass, cross waterless regions as well as do the camel-riding Bedouins, (Doughty, I, 281, 428). In the harra country the ass has even an advantage over the camel, in that its hard hoofs stand the sharp stones better than the camel, whose soft feet are liable to be corroded and wounded in those tracts. The donkeys are numerous in villages and towns, where they are used not only for riding but also for raising water from irrigation-wells.

5. The Cow.

The kine are, probably, the least important of the domestic animals of the Arabs. They require plenty of fodder and water, and consequently do not thrive on the poor Arabian soil. Although they are found to a limited extent in many villages and settled habitations, they are, as a general rule, in a degenerated condition. Doughty saw them in the oases of the Hijaz (al-'Ola, Khaibar and Taif) and also in Qasim. Philby (The Heart of Arabia, II, 33) found them in S.E. Nejd (al-Kharj), but of a uniformly miserable and stunted growth, due no doubt to the poorness of the grazing in the vicinity of settlements, where they are expected not only to supply milk, but also to take their part with camels and asses in the ordinary draught work of the

villagers. They are also found in the Yemen, but the worth and quality of the breed can be estimated from Doughty's statement (II, 184) that the small Yemen kine could be had in Medina for the price of a good sheep. Mr. Bertram Thomas has recently reported the presence of rich herds of cows in the forested parts of the Qara mountains (Central South Arabia) but the published photographs show them to be of stunted growth, like their kind in other parts of Arabia, hardly measuring three feet in height.

(The Times, May 11, 1931).

CHAPTER IV.

THE OASIS COMMUNITY OF CENTRAL ARABIA
IN RELATION TO LAND.

The provinces of Hijaz, Asir, Yemen and Hadramut in the W. and S.W. of the Arabian Peninsula and Oman and Hasa in the east, all contain, along with nomadic or semi-nomadic tribes, urban and village communities that are rooted to the soil and are engaged in agriculture and to a less extent in trade. Besides, there are three large groups of oases in the centre of the Peninsula, which support several considerable towns and numerous large and small agricultural villages. Whereas all these settled communities dispersed over different parts of the land are based on agriculture, which in its turn presupposes sufficient water-supply in one form or another for irrigation purposes, they all show slight differences of cultural development owing to the difference in natural conditions and ought to be therefore studied separately with reference to their respective physical environments. It is to the last-named, i.e. the oasis communities of Central Arabia that we propose to confine our attention for the present and study their main features in relation to the land, on which they have their being.

1. The Hydrographical Basis.

The distribution of settlements in Central Arabia is directly connected with the hydrography of the land.⁽¹⁾ It is the presence of subterranean water in quantities sufficient to ensure cultivation that has enabled people to settle down in villages and towns of greater or less extent. There are no rivers in C. Arabia or in any other part of the land; but there are many valleys or water-courses, for which the common local name is wadi in the singular. Although they are generally dry for most part of the year and flow only rarely after rainstorms, they carry water throughout the year beneath their beds; and where that underground drainage rises sufficiently near the surface to be tapped by means of wells, there oases have sprung up to give harbour to man and beast. The district of Qasim, with its chief towns of 'Onaiza and Beraida and many other smaller settlements, owes its agricultural prosperity to Wadi Rumma, the longest of all the wadis in Arabia, whose course from the neighbourhood of Medinah to the Shatt al-Arab is about 1,000 miles. Similarly, the south-eastern Nejd (Arid), the seat of the political power of the region owes its settled population to Wadi Haisiyah-Hanifa, which, originating to the east of Jabal Towaiq and giving

(1) On the hydrography of Arabia in general, see Moritz, Arabien, p.21 sqq.

fertility to 'Arid, ultimately disappears in Yomama. (1) Whereas the various districts differ in altitude and the character of the soil, they have one common feature in that almost all settlements, or at least their gardens, are situated in valley-depressions, where the water is sufficiently near the surface to be reached by means of wells. This fact clearly shows their direct dependence upon the sub-soil water, and also accounts for their location. Riyadh, for instance, lies in a depression about 100 ft. below the general level of the plain and is not visible till at short range.

Since the level of the ground-water varies in different parts of the same wadi-basin, fertile tracts are not continuous. Settlements are therefore found in the form of a string or cluster of isolated oases, which are separated from each other by desert or steppe-land of greater or less extent.

To sum up, the settled communities of Central Arabia live by the direct exploitation of the soil through agriculture, which has been made possible for them by the presence and utilization of sub-soil water in or near wadi-beds.

It may be asked whether the area of cultivation could be increased. Our knowledge of the physical conditions of present-day Arabia enables us to answer this question in the affirmative.

(1) In a similar way, the long depression of W. Sirhan in the north has created the important settlement of Jauf and its adjoining oases.

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Whereas it is true that the supply of underground drainage is after all limited and that it can be profitably tapped only in certain places, it is equally true that whatever the supply, it has not been fully utilized. Agriculture presupposes two primary physical conditions, cultivable soil and sufficient water. There is plenty of land, we are informed, suitable for agriculture near the existing oases or far from them, ⁽¹⁾ which could be utilized if new wells were sunk to obtain the requisite water-supply. As is well known, it is an important part of the programme of the Ikhwan movement to create new settlements of the Ikhwan members throughout the length and breadth of the land, and the success which the effort in this direction has already achieved shows great possibilities of increased settled life based on agriculture. Since the inception of the movement, sixty-five new settlements have been started, some of which are of considerable size. ⁽²⁾ Artawiya alone, for instance, the fountain-head of the movement has about 10,000 inhabitants, as reported by Philby, ⁽³⁾ who also noticed that whereas the wells of Artawiya lay in a ravine (sha'ib) of that name, there were countless clean and unclean wells in the parallel valley of Butaira, which were apparently used only as watering places for camels and sheep, but which could easily give rise to a new settlement.

(1) Harrison, *The Arab at Home*, p. 51.

(2) Harrison, *The Arab at Home*, p. 39.

(3) Philby, *The Arabia of the Wahhabis*, pp. 352-53.

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But the nomad mode of thought and habit of life present a great difficulty in the way of increased settled life. Even though the Bedouin knows of such places where he could settle down, he is loath to give up his free desert life for the labour of cultivation, which he considers as hard and disagreeable, and which he looks down upon as unworthy of free men. The habits of thought acquired in one particular manner of life prevent him from adopting another. So long as his animals supply him with a little milk, he is content with himself and his life, finding diversion from his monotonous existence in his favourite game of the raid (ghazwa). He must starve before stooping to settled cultivation of the soil.

Not only is the Bedouin himself averse to settle down, but his predatory habits also make the open desert unsafe for other people, who would take to the tillage of the soil far from existing settlements. A case of this kind, which came to the knowledge of Doughty, may be taken as illustrative of the conditions obtaining in the desert. Near the site of al-Hijr, he noticed a number of ruined habitations and garden-walls. He was informed that they had been formerly built by certain settlers from Taima, who had carried on agriculture there for some time, until they made enough capital to be able to buy land in their own town, whither they eventually returned because of the danger to which their life and property were constantly exposed in the desert.

(1) Doughty, I, 136.

2. Wells and Gardens.

As regards the source of water-supply, the oases of Arabia may be divided into two types. An oasis of the first type is that whose land is watered by running springs. Such is al-Ola, whose date-groves are irrigated by springs, rising in the midst of the oasis. Similarly, on the eastern coast in Hasa, practically all the gardens are watered by springs. The water, on which the life of the oases depends, is, however, not everywhere obtained so easily. It has to be laboriously drawn from depths of 30-90 feet. This is the second type of oasis, and nearly all the oases of Nejd are of this kind. For the purpose of reaching the sub-soil water, wells have been sunk, which differ in their dimensions and depths. Water is hoisted in a large leather bucket, which is attached to a rope drawn

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Philby (Arabia of the Wahhabis, 341) noted at the small settlement of Nukhail al-Abd, near Zilfi in Nejd, that the sub-soil water was so close at hand that the palms, tapping the moisture with the roots, needed no irrigation. This is, however, a very rare example of a palm-plantation in Arabia, in the case of which all artificial irrigation is dispensed with.

over a pulley and away from the wells (1). Camels, donkeys and kine, but especially the first-named, are employed to do the draught-work. The path on which the animal moves away from the well is made on a slight incline, so that the animal is going slightly down as the bucket is being raised and the effort involved is thus reduced. The wells are generally worked for the greater part of the day and night, because it is necessary to draw water without ceasing in order to irrigate a thirsty soil. In summer, when water is in great demand, the wells are worked throughout day and night.

The labour and expense of raising water by the means at present employed by the Arabs, being very considerable, the depth of the well, which varies from oasis to oasis (30-80 ft.), directly affects the economic value of the land irrigated from it. In the case of very deep wells, e.g. those of Riyadh, the labour involved is so great that it practically eats up the profits of gardening. Husbandry is, therefore, more profitable in places where subsoil water is near the ground surface and wells are

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On the construction of the various kinds of wells in ancient Arabia, together with their accessories and the ways in which they were made, see Bräunlich, *The Well in Ancient Arabia*, which work admirably fulfils the philological and lexicographical demands of the subject.

comparatively less deep.

The water raised from the well is conducted to a reservoir and from there to palms and fields through channels, which are sometimes, as Philby noticed, near 'Onaiza, made of stone-work or cement-lined as in Hasa. It is, however, common to see water wasted in passing through long sandy waterways and the practice of paving channels with some hard material does not seem to be general (Doughty), but might be adopted with great advantage everywhere, so as to guard against infiltration of water, obtained with so much labour. Some care in the use of water, however, is shown by the fact that it is lifted high enough to give it a good pitch as it flows through the channels, and the flow to the field is rapid.

The principal tree of an Arabian oasis is, of course, the date-palm. The trees are planted in rows and at a regular distance from each other. The intervening space is utilized, where possible, by growing other fruit trees and vegetables. The cultivated soil is too valuable to be given exclusively to these trees, the fruits of which are not necessities but are looked upon as luxuries. The fruit trees that will generally grow in Central Arabia are not few. Philby enjoyed peaches and figs in Qasim, together with pumpkins and melons. Doughty saw plums at al-'Ola and Taima. J. Shammur and Taima have a wider range, including apricot, apple, pomegranate and lemon. Vine is also grown but to a very limited extent. These fruits,

however, are not a source of income for the cultivators, since they are not sold (except in the Hijaz to the pilgrims) but are reserved for home consumption and the entertainment of friends, guests and wayfarers.

The gardens are generally enclosed by mud walls, which serve a double purpose. Firstly, they prevent the sands of surrounding deserts from encroaching upon cultivated land, and secondly, they ensure a measure of security against spoliation and attack. The first consideration is clearly geographical.

Of grains, wheat, barley and millet are grown in fields, ploughed by camels or kine and are irrigated from wells. Lucerne is extensively grown for fodder.

The cotton plant is also cultivated but to a very limited extent, owing to the want of adequate water supply and cultivable land. Under more favourable conditions its extensive cultivation might prove of great economic value to the people.

3. The Date-palm.

The object of the oasis-dwellers' chief care is, however, the date-palm. It is the main source of their wealth; the riches of a garden owner being proportionate to the number of date-trees he owns. As Dr. Harrison has remarked, evidently more human life can be supported per acre by date culture than by any other crop that can be raised in Arabia. (1) It is a tree

(1) Harrison, The Arab at Home, p.47.

of hot deserts, ⁽¹⁾ and saline soil, which is otherwise unfavourable for agriculture, is no disadvantage to it. Philby was amazed to find palms deriving nourishment from water so salt that its brine formed a thick crust along the banks of the stream. ⁽²⁾ For want of water, however, it does not grow wild in Arabia and in order to thrive there it has to depend upon constant irrigation by man. There are innumerable varieties of the date, Medina alone being credited with about 140.

By virtue of its manifold utility, the date-palm occupies the same position in the practical life and general economy of the oasis dwellers, as does the camel in that of the pastoral nomads. Its fruit is the staple article of food among the settlers, and forms a substantial part of all their meals, breakfast, midday meal and supper, in the case of both rich and poor. It has been praised by the Prophet, who has dubbed the date-palm as the aunt of the Arabs and commended it to their respect. ⁽³⁾ He has also laid down precepts for people who eat dates in company, and has declared it meritorious to break the ritual fast by eating dates. Philby found it customary at 'Onaiza to begin every meal with a couple of dates by way of grace. A great advantage of the date as

(1) The date-palm has been transplanted to the Mediterranean shores of Europe, but its fruit does not ripen there for want of enough heat. The south-east coast of Spain is the only part of Europe where the climate permits the date-palm to flourish.

(2) Philby, The Arabia of the Wahhabis, p.136.

(3) اكرموا عنتكم الخلة ; honour your aunt, the date-palm.

food lies in the fact that it is a ready-made food, no preparation being required before eating. Moreover, whereas it naturally tastes best when eaten fresh, it will keep, when dried, for a long time without losing its nutritive value. The spare produce of the oases is sold to the Bedouins and also exported to foreign countries for a handsome return.

All parts of the date-palm yield valuable economical products. Its trunk, though poor timber, is used in house building. Beds and furniture are also made from its wood. Its leaves supply thatch and are also woven into mats and baskets. Its foot-stalks are used as fuel and also yield a fibre, from which cordage is made.

As was to be expected, considering the great importance of the date and the date-palm for the Arabs, the Arabic language has a large vocabulary connected with it. There are about five hundred names for the date alone. There is, for example, a different name for each stage in its development; it is taun (تاون) in the initial unripe stage, bisr (بيسر) in the half-and-half stage and ratab (رطاب) when it is ripe and fresh.

The date-palm is a graceful tree, 60-80 feet high, with a stem marked with leaf-scars and ending in a crown of shining pinnate leaves. 'An oasis is a beautiful thing, standing out green and fresh in the midst of the parched and desolate desert,' and giving a distinctive look to the whole landscape. The date-palm has not only been mentioned in the Koran as one of the blessings conferred

upon the people in this life, ⁽¹⁾ but it also figures in the koranic descriptions of the janna; ⁽²⁾ and it is probable that these descriptions were inspired, not by Christian ministries and mosaics, as Garra de Vaux supposes (Encycl. of Islam, s.v. Djanna), but by the oasis-gardens of Arabia. The Koranic Paradise is, mutatis mutandis, a glorified garden. Although the Prophet himself belonged to a commercial town, (Mecca), which did no agriculture, he must have seen during his journeys the oasis settlements of North Hjaz and of Taif, nearer home.

4. Houses and Settlements.

The oasis-dwellers need not migrate from place to place like the Bedouins; on the contrary, their palm-gardens and fields, which require constant care, root them to the soil. For purposes of shelter, therefore, they build permanent homes and dwellings.

It is quite natural for man, especially in a low grade of civilization, to build his shelter out of the material he finds near at hand. Thus, the conditions of soil and climate in a given region determine whether the use of wood, earth or stone shall predominate in the structures built there. Again, the material used accounts for the form, size and resistance of the structure built of it. This is how physical environment influences

(1) Koran, 23, 19: فانشاءنا لكم به جنات من تحتها اعناب

(2) Koran, 55, 10: فيها فاكهة والنخل ذات الاكمام
do. 55, 68: فيها فاكهة وظل وشرابان

human habitation and we may say that of all the primary needs of man, the house is the most geographical.

The most important and essential building material in Central Arabian towns and settlements is the clayey-soil or loam. All buildings are made of sun-dried bricks, sometimes mixed with stone. The clay requires little preparation before use; it can be easily worked with a little water and moulded into the required shape. It is thus easy and economical to build with clay. A structure made of sun-dried bricks could not stand long in a rainy climate, but since the country is arid and practically rainless — there being only a few inches of rainfall in the whole year, when it is not a year of drought — it is not found necessary to fire the bricks before use. In this region where the hot air dries up everything, the clay structure hardens quickly and becomes sufficiently resistant to withstand the weather. The bricks are nothing more than clods, rolled and left to harden in the sun. Two or three courses of rude stones are laid as foundation, on which are built clod-like bricks, mortared with puddled earth. The walls thin upwards, so that the upper part does not weigh down too heavily upon the lower structure.

The only other important material that enters in the building of the C. Arabian house is the wood of the date-palm and tamarisk. The climate of arid Arabia is not favourable to wood. Practically all the trees are stunted and dwarfed.

They only yield more or less twisted posts, which are not at all strong enough to bear the weight of a large structure. (1) The only trees whose wood is of any use for purposes of building are the date-palm and the tamarisk (التمر). The date-palm is made use of when it has ceased to be useful as a fruit tree; while the tamarisk is purposely grown in oases for the sake of its timber. But the wood of both these trees is more or less porous. The Arabs, however, make the best use they can of these, because they have nothing better at their disposal. As a matter of fact they make a manifold use of all their parts as building material. Their trunks are used to serve as rafters for the roof of the house. These rafters are covered with a network of palm-fronds or tamarisk-branches, upon which earth is stamped to make the floor. Two-storeyed houses are exceptional in Nejd, but many houses in the Hijaz oases have an upper storey (*deh*), which is preferred for living. The lower storey (ground-floor) in these oases is comparatively damp and is generally used as a coffee-room (قهوة), storehouse for agricultural implements and produce, or

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The want of suitable timber was felt in ancient Arabia as it is felt to-day. This is well illustrated by what Ibn Hisham reports about the condition in which the Kaba lay about the end of the 6th century. The walls were about a man's height and without a roof. Fortunately for the Kaba, a ship belonging to a Greek merchant was wrecked on the coast near Jidda, and its timber was brought by the Quraish to Mecca to be used in the reconstruction of their sanctuary. Ibn Hisham, *Sira*, p.122, ed. *Wiistenfeld*.

as shelter for their few sheep or goats. As Doughty has observed, upper storeys in the Hijaz are made also for the sake of fresh and freer air. Just as in cold latitudes the chief problem is how to keep the house comfortably warm, so in hot countries it becomes how to keep it cool. We cannot say that it has been satisfactorily solved in Arabia, but an attempt in this direction is discernible in the Hijaz oases, where large windows open the upper story to the floor and loopholes are made high upon the walls for better ventilation. For the same reason, hand-fans made of palm-leaves and porous earthen water-jars to cool water are useful articles of furniture in every household.

The staircase is generally made of stone and clay; but sometimes in poorer habitations a palm-trunk is hacked into steps, and laid aslant to serve the purpose. Palm-trunks are also used as columns in the construction of large halls. Doors are also made of palm boards.

The climatic conditions, which in other countries require a slanting roof, are non-existent in O. Arabia. There is no snow and practically no rain. A flat roof is therefore the general rule. It proves very useful in another way. In the hot weather, which is by far the longest season in Arabia, the people sleep at night on the roofs of their houses. This is especially the case in larger towns, which are compact and comparatively congested.

In most oasis settlements, the gardens and farms lie apart and at a distance from villages and towns, which have to be kept at a safe distance from the actual wadi-beds or water-courses for fear of sudden floods. In Qasim, for instance, no settlements lie in the Rumrah depression itself, for fear of its storm-floods; though there is cultivation in it, especially on the left-bank slope.⁽¹⁾ Such settlements present a noteworthy fact with regard to the dwelling. Almost all palm gardens, and often even isolated corn-fields, have a more or less pretentious dwelling attached to them, usually called a *qasr* (قصر), pl. *qusūr*. While the village or town houses are grouped close together, the *qusur* or farmhouses are scattered in the gardens and fields. They are built, however, in the same way as the houses in villages and towns, and have often a second storey.

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Handbook of Arabia, I, 370.

CHAPTER V.

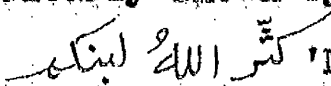
MATERIAL CULTURE IN RELATION
TO PHYSICAL ENVIRONMENT.

(1) Food.

Our nourishment is derived, directly or indirectly, from plant life and animal life, and since climate determines what plants and animals shall or shall not thrive in a particular region, the diet of a people stands in close relationship with the climate and physical features of the land which they inhabit. Moreover, different climates require different diet regimens. Although the food of a people is subject to modification through the influence of commerce, the economic poverty of the Arabs is such that they possess very little purchasing power and cannot buy from foreign countries all what they want in the matter of food and have, consequently, to depend, in the main, upon the yield of their own land. The Arabs have thus developed with the resources of their environment, a diet which has become typical of them and has grown distinctive through habitual use.

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(a) Milk.

The Arab nomads being a pastoral people, the milk of the camel takes the first place in their dietary. The sheep and the goat, when they are possessed in addition to the camels by the Bedouins, also come to take their proper share in the milk-supply of the desert. The all-importance of milk to the Arabs is clearly shown by such expressions as 'Kathir Ullah lebanakom,'  'May Allah multiply your milk,' which a grateful guest addresses to his host as thanksgiving and blessing (Doughty, I, p.400). Accordingly to Musil, milk is the chief nutriment of the Rwala Bedouins and many families live exclusively on it for months at a time. They suffer hunger when there is no abundant pasture and the camels accordingly have little to eat (Musil, Manners, p.90). Whilst the spring-milk is available, the Nomads nourish themselves on little else. In poorer households it is their only nourishment for those two months (Doughty, II, p.325).

Camel's milk is either drunk soon after it has been obtained, or is poured into a leather bag and allowed to become sour, in which form it appears to suit the Bedouins' stomach better in their hot climate. The leben, as the sour milk is generally called by the Bedouins, corresponds thus to the favourite drink of the Central Asian Turkomans, the koumiss. Camel's milk is poor in fat and is therefore not churned for the sake of butter (Burckhardt, Notes, p.136; Musil, Manners, p.89), although the

Rwala sometimes make cheese-like curds by boiling it (Musil, Manners, p.89). The freshly obtained milk has a salty taste, because the camels are fond of grazing on salt herbs. In consequence of this, it has an aperient effect, especially on the foreigner, who after a short time, however, becomes accustomed to it and suffers no ill effects (Musil, Manners, p.89; Burton, Pilgrimage, I, p.390). Since the plants on which the camels feed obtain their salt contents from the saline earth, this particular quality of camels' milk is ultimately traceable to the soil.

It is the milk of sheep and goats, of which butter is made by shaking it in skins, until butter is separated from the sour butter-milk (leben), which forms the chief beverage of the Bedouins and is also much used in their dishes.

The milk-supply of the Bedouins is not constant or regular throughout the year; it varies with the seasons. It is most copious during the spring months, when the animals can graze in abundant green pastures, and decreases thereafter, until toward the end of summer it has reached its lowest point.

To use the striking expression of Sprenger, the Bedouin is the parasite of the camel, and this parasitism unhappily sometimes takes more than ordinary cruel forms. In some poor households the newly-born calf is slaughtered as soon as it is born, since they must drink themselves all their camel milk (Doughty, I, 325). Often, they kill five and even seven young camels, and to all the

she-camels they bring the same calf to suck (Musil, Manners, p.87). Clearly, it is the inhospitable nature of their land that forces them to resort to such extreme practices.

(b) Flesh Food.

Another article of diet, with which the domestic animals of the Bedouins provide their masters, is their flesh. Meat is, however, not a usual food with the Bedouins, but a luxury (Musil, p.96).⁽¹⁾ They cannot afford to kill their animals simply for the sake of their flesh - the animals that are, so to say, their very stock-in-trade, the source of their daily diet (milk), and their only means of transport across the deserts. Seldom do the nomads eat any other flesh than that of their sacrifices (Doughty, I, p.452). Burckhardt found that the Aneza tribes in the Nejd seldom or never tasted meat, but lived almost wholly on dates and milk. (Notes, p.34). Or it may be that there is some beast that does not thrive, or is likely to die on

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It is significant in this connection that the Quran mentions flesh as one of the two choice foods with which the Believers will be regaled in Paradise: "And we will recruit them with fruit and flesh such as they desire." (Chap. LII, 22). The flesh of birds in particular is mentioned in a similar connection (LVI, 21)

وَأَزْوَاجًا مِمَّا يَشْتَهُونَ (LII, 22)
وَلَحْمِ طَيْرٍ مِمَّا يَشْتَهُونَ (LVI, 21)

their hands. In such cases, the beast renders them a last service by providing them with its flesh. Festive occasions, such as the marriage of a shaikh or of his son, are particularly welcome to the tribesmen, in that they give them a rare opportunity of partaking of a public feast, at which meat is perhaps the most attractive item in the menu. Occasionally, a shaikh kills a sheep or a goat to entertain an important and honoured guest. How often he may kill an animal for the consumption of his own household or for the entertainment of his guests, depends on the strength of his flocks. Only in late summer, however, when milk becomes exceedingly scarce, is the Bedouin forced to sacrifice a part of his animal stock for the sake of indispensable food.

The milk-dieted Bedouins are, therefore, glad to take any mouthful of small game (Doughty, I, 326) and the list of wild animals and birds, which they are not too disdainful to consume, when they happen to catch or kill them, is fairly long. The place of honour in that list is perhaps taken by the dabb (*ذئب*) a kind of lizard, often weighing as much as five kilograms (Musil, N. Negd, p.15). It is hunted by the Bedouins out of its hole, roasted in hot sand or on coals, and eaten as a delicacy (Doughty, I, p.326), for which enjoyment they are held to ridicule by their more fortunately-placed compatriots, the townspeople. The list is made up by the jerboa (*جرثومة*) or

field rat; the hedgehog (*قنفذ*); the weasel (*فبر*); the fox, the wolf and the hyena (Doughty, I, 326-27); and when Doughty, who knew too much for the Bedouins, once taunted them - in self-defence, of course - with eating crows and kites, owls and vultures, they could not deny it (I, 534). It would seem that there is nothing too vile for the poor and famished sons of the desert to eat.

The land of Arabia has better game to offer in the shape of the gazelle (*غزال*) and the mountain antelope (*بن*), but they are too fugitive for the pastoral Bedouins and very rarely fall at their poor shooting. Thanks to their superior skill in hunting, the Sulubba, a non-Bedouin nomad people, have better luck with them.

For the poorer Bedouins, locusts are an important article of diet (Musil, Manners, 93), and when they have no crops to lose, the people are thankful for a fall of locusts (Burton, Pilgrimage, II, 117). They are toasted on fire, or boiled in salt water and then dried in the sun. They are then either ground down to powder, from which bread is made as from wheat, or stowed away whole in bags. They are stored in quantities large enough to last the whole year and are consumed particularly on journeys. (Musil, N. Nejd, 85). The insect is not peculiar to Arabia - though that land is more exposed to the visits of its destructive swarms than most other countries - and the poorer inhabitants of

the Peninsula are forced to replenish thereby their otherwise meagre stock of provisions through sheer necessity. Locusts, or the meal prepared from their flour, are not considered fit to be placed before a guest and the poor nomads, more often women, confessed to Doughty (I, 203-4) that they ate that wretchedness only to beguile hunger.

(c) Grains.

Wheat and some other grains, when available, form an important supplementary article of food with the Bedouins. Owing to an insufficient supply of water for purposes of irrigation, Arabia, on the whole, is not fit for an extensive cultivation of grains. Only a small fraction of the total requirement of the inhabitants is yielded by the country in the shape of wheat, millet and barley which are to a more or less extent grown in the Yemen and other cultivated territories in the rest of the Peninsula, especially the Nejd.⁽¹⁾ For the sake of provisions,

(1) Bury mentions bearded wheat as one of the principal crops of the Yemen (The Land of Uz, p.310). Other references to the production of wheat in the Yemen are given by Gröhmman, Südarabien, p.209. According to Doughty (II, 355), light-eared wheat is harvested from year to year at Aneyza (N.W.Nejd). He also found wheat, barley and millet, grown in the oasis of Teyma, where the villagers raised corn enough to sell to their nomad neighbours, (I, p.294).

therefore, the Bedouins from all over the Peninsula visit the frontier villages of Syria and Mesopotamia and the importing towns like Jidda and Mecca, where they sell their animals and the products thereof (clarified butter, wool and hides) and take in exchange wheat and barley, along with their two other chief necessities of life, viz. clothes and weapons. (1) The Bedouins are, therefore, not quite independent of their neighbouring cultivated lands, with which they are obliged to keep up an intercourse for the sake of the aforesaid articles of necessity. Bedouins economic want has thus a political consequence, since those who rule the cultivated territories or control the ports, can always bring a pressure to bear upon the desert men, however inaccessible they may otherwise be. This fact was well recognized by Ibn Khaldun, who shows in a special section in his Prolegomena (Ar. Text, Paris, I, p.276) how the nomadic tribes are dependent on towns for some of the primary necessities of life, like grain and for necessary artisans, such as carpenters, blacksmiths and the like, and how this economic dependence leads to their political subordination to the town-dwellers.

(1)

Burckhardt, Notes, p.136; Handbook of Arabia, I, p.

In the case of Rwala, as we learn from Musil (Manners, p.90), the allowance of grain per person is one camel-load, which is equal to about 150 kilograms, besides an additional load for guests.


But the Bedouins, it is interesting to note, view the matter from a different angle. They are convinced that the cultivators (fellahin) must supply them with food. Musil (Manners, p. 90) heard everywhere the remark: "The fellah must provide food for the Bedouins" (Al-Baḍw 'aishat-hom ala-l-fellah). If the fellah does not give of his own free will, they have the right to take away everything they find (Khudh min al-fellah ma lah).

Wheat is generally eaten in the form of a porridge, commonly called 'aish. Wheat is freshly crushed in a wooden mortar with pestle or grounded in a stone-mill, and then boiled in water or sour butter-milk into a thick paste. (1)

Bread is rarely baked. In spring, the season of abundance, when the land is flowing with milk, the Bedouins do not bake bread at all and at other times seldom, and usually only for guests (Musil, Manners, 92). It is a luxury afforded only by the rich and they have an expression of praise: This is the tent of bread; so and so is very rich; he has bread (هو راعي الخبز) (Musil,). The material conditions in this respect do not appear to have ameliorated since many centuries past, since we hear an old Arab poet describing and boasting of his tribal chief as the eater of bread (مينا آكل الخبز).

(1) For the names and descriptions of other dishes, in which flour or dates enter as principal ingredients, see Burckhardt, Notes, p.32-34; Musil, Manners, p.94.

All Bedouins, however, cannot afford to purchase wheat. The poorer people buy millet which costs half as much and can be used in exactly the same way as wheat (Musil, Manners, 93).

Another grain that deserves mention here, since it is a native product, is the seed of the semh () plant, which grows wild with its sub-varieties in the sun-baked gravel plains of the Hamad in a year of abundant rain. The seed, from which food can be prepared in the same way as from wheat and millet, serves as an article of food in a poor season. (Musil, Manners, pp. 15-16, 93)

In recent times, Indian rice, probably first introduced by Indian pilgrims, appears to have become very popular among rich shaikhs and other well-to-do people throughout the desert. Served with meat, it is considered an excellent dish and guests are usually entertained with it. Already in the time of Burckhardt, it was the usual dish with the Arabs of Hijaz, who ate it mixed with lentils and found it cheaper than corn. It was, however, not preferred to dates, when dates were available. (Burckhardt, Notes, p.137). Niebuhr also mentions rice as in common use among the distinguished shaikhs of the desert. (Description de l'Arabie, p.47)

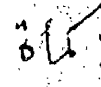
(d) The Date.

A typical and characteristic article of the Arab diet is the date, the fruit of the date-palm, for the growth of which the saline soil of Arabia, wherever water for irrigation is available,

75

appears to be particularly suitable. Since it grows not everywhere in the desert, but only in oases and cultivated territories, the Bedouins of the desert have to procure them by purchase. From a few oases in the Hijaz and Nejd, where they possess proprietary rights, they also obtain them as tribute from the settled cultivators. The importance of the date in the diet of the settlers has been mentioned above (p.56).

(e) Truffles.

Among the numerous plants and spontaneous vegetable growths, of which special account should be taken as native products of the land, the truffles () are a favourite dish of the Arabs. They grow in great abundance in the Hamed desert and are dug out with sticks. While the truffles last, the Bedouins live exclusively on them, without tasting any corn food. They are boiled in water or milk, till they form a paste; sometimes they are roasted. If they are abundant, they are carried in camel-loads to the neighbouring towns of Syria for sale; and they are also dried and stored for future use. (Burckhardt, Notes, 35; Lammens, Le Berceau, 49. For other wild plants and tuberous growths eaten by the Arabs, see Musil, Manners, p.95).

(f) Butter.

Physiologists tell us that heat-producing foods, like fat, oil and sugar must enter more largely into the diet of peoples

living in cold countries; whereas the diet of the inhabitants of the tropics consists essentially of vegetable products and such articles as do not increase the caloric. This general dietum of theirs appears to be seriously challenged by the dietetic habits of the Arabs, who, while living in a hot climate, are yet exceedingly fond of butter, which they use to excess (Burekhardt, Notes, 137; Burton, Pilgrimage, II, 11-12). Whoever can afford such luxury, swallows every morning a cupful of butter; all their food swims in butter (Burekhardt, Notes, 137). This anomaly is, however, explained by the fact that the diet of the Bedouins in general is inadequate and deficient in other respects, and they have consequently developed a craving for butter and foods rich in butter, because of their unquestionable sustaining qualities (Comp. Doughty, I, 276).

(g) Coffee.

While speaking of the food of the Arabs, special mention is due to coffee for reasons more than one. Coffee is not only a characteristic native Arabian product, ^{indigenous} peculiar to the Yemen highlands, constituting an economic asset of great value for that province, but being a favourite drink both with the Bedouin nomads and sedentary townsfolk of Arabia, it plays an important

part in the social life of the Arabs throughout the Peninsula.

The cultivation of the coffee plant in the Yemen and the habit of taking a decoction of its berry as a beverage are of comparatively recent origin. The classical writers do not mention it among the native products of old Arabia, nor among the numerous articles of merchandise, which formed the bulk of that international trade between Indian and the Mediterranean lands, which passed through Arabia in ancient times. The native Arab authors say nothing about it down to the beginning of the 15th century, about which time it was most probably introduced from the highlands of the neighbouring country of Abyssinia, where it grows in profusion in a wild state, although exact historical data as to the date of introduction and the agent responsible for it are wanting. In any case, the plant has for several centuries past been thoroughly acclimatized in the highlands of Yemen, and it was from here that the cultivation of the coffee plant, as well as the use of coffee as a beverage gradually spread through the lands of the East and the West.

(1)

On coffee see Encycl. of Islam, art. Kahwa and the references given there; also Ritter's interesting chapter in his *Erdkunde*, XIII Teil, on the geographic distribution of coffee and its introduction among the civilized societies of the East and the West.

Besides stimulating an extensive trade, the cultivation of coffee has given rise to characteristic habits of life and interesting social conditions among the present-day Arabs of all shades and classes. In the social life of the Arabs no ceremony or feast is considered complete without coffee, and it is the first thing offered to a visitor. An invitation to coffee in Mecca means an invitation to a meal. Coffee-houses are quite an institution in cosmopolitan towns like Mecca and Medina, where they serve as centres of social intercourse. Their place is taken in a nomad tribe by the tent of the coffee-shaikh. Coffee is generally taken without milk or sugar, the addition of which is, however, welcome when possible. ⁽¹⁾ The Arab ideal of a cheering coffee-cup is characteristically summed up in such sayings as this: Coffee should be black as night, hot as hell and sweet as love. Both men and women are very fond of coffee and there is no household, however humble, that does not possess a mortar for pounding coffee-beans and a few small drinking cups. It should, however, be mentioned that the amount of coffee consumed at one time is pitifully small, and in the Yemen itself, the home of coffee, it is a general custom to drink a decoction of the coffee-husk instead of the coffee-beans, which have a great commercial value for them, in that they fetch a high price

(1) On the mode of preparing coffee and many other interesting details connected with it, see Doughty, I, pp. 244-48 and Musil, Manners, pp. 100-102; Niebuhr, Description de l'Arabie, pp. 48-49.

in foreign markets. In other parts of Arabia also, cheaper coffee, e.g. Brazilian, is often used in place of the costly mocha.

It is interesting to see that the exhilarating cup of coffee has inspired the muse in modern times in the same way as did the appreciated but inebriating wine-cup in the pagan days of pre-Islamic Arabia. Musil (Manners, p. 105 et seq.) quotes three poems, composed in praise of coffee, as current among the Rwalla Bedouins; while whole Rasidas of this kind may be read in De Sacy's Chrestomathie Arabe.

(h) Preserved Foods.

In the case of the Bedouins, the preservation of foodstuffs is necessitated, firstly, by the extreme scarcity of provisions in certain parts of the year and, secondly, by the exigencies of constant travel. The two chief articles preserved are milk and flesh. Both are preserved by drying.

After butter has been extracted from milk, ⁽¹⁾ the remaining butter-milk is dried by boiling to hard shard, a little wheaten flour being added to thicken it. This dry milk will remain unaltered till the next season; it is good in the second year

(1) Butter is the poor Bedouin's market ware, with which he can buy something in the towns for his household necessities.

only growing harder. It is sometimes ground to powder, as they do in Basim, and is made use of by mixing and stirring in water. It is greatly prized in times of scarcity, when there is no milk, and is also found excellent and convenient to take on journeys. This dry milk is called in different provinces by different names, e.g. mereesy (مِرْسِي), thiran, muthir, etc., and is also much esteemed in oases, where they use it mixed with dates, which alone would otherwise prove too heating. (Doughty, I, p.262; Burton, I, p.117, n.2).

Harrison (The Arab at Home, p.26) mentions a sort of cottage cheese, made from camel's milk, kneaded into little cakes, baked in the sun to the consistency of bricks, which would keep indefinitely and form a welcome addition to diet in times of scarcity.

The other food that is preserved by drying is the flesh-meat. It is simply cut into strips or long pieces and the work of drying is left to the hot scorching sun of Arabia. Putrefaction is prevented by the fact that the desert air is not only hot but also dry. Such meat, called (مَدِيد), is the favourite food on the line of march (Burton, I, p.117); and on one occasion Doughty also was provided before starting on a journey by a grateful patient of his with scorched gobbets of fresh meat, that would last good a month (Doughty, I, 453).

General Considerations.

The diet of nomad Arabs is scant.⁽¹⁾ We have seen that for grain and dates they have to depend on the cultivated territories inside or outside Arabia; and the supply is naturally only proportionate to their purchasing power, which is generally not very considerable.⁽²⁾ The only sources of subsistence on which they can rely are the milk and flesh of their domestic animals; the latter, again, they can enjoy only at infrequent intervals, for fear of diminishing their live stock, which is their wealth and capital. The milk supply also varies from season to season, being lowest or almost non-existent in late summer. This state of affairs explains their efforts to supplement their meagre bill of fare by the addition thereto of locusts and all sorts of rodents and reptiles, when they can lay their hands on them. The result

(1)

When Ibn Khaldun (Prolegomena, Ar. Text, Paris Ed., pp.158) waxes eloquent on the physical and moral benefits derived by the nomads from their frugal diet, it must, however, be remembered at the same time that their much-applauded frugality and abstemiousness is not a matter of choice with them, but is imposed on them by their inhospitable land as a necessity.

(2)

Some nomadic tribes possess proprietary rights in a few oases of the Hijaz and W. Nejd, in lieu of which they get dates.

is that their basis of life, on the whole, is precarious and that with the exception of spring time, when they have plenty of milk to drink, they are always on short rations, in full sight of famine.

According to the report of Musil (Manners, pp.86-87) the Rwala eat twice a day. Their first meal is ghada, (غداء) just before noon; when they simply drink milk or eat a piece of bread or what is left of supper from the previous day. Their principal meal is supper, 'asha (عشاء). They are, however, all familiar with hunger. If a Rwali has a piece of dry bread and can soak it in water, he boasts of having eaten well. Breakfast is unknown to them. In order to break the fast, they eat a grain of salt, a morsel of bread, or gulp down some milk; and on long marches they can keep going with this breakfast until evening. On a line of march they have no forenoon meal (غداء) and eat only after sunset, and are grateful to Allah if He gives them a chance of eating their fill at least once a week. Sometimes they have only a cup of milk for supper (عَبُوق), and often even that is not available. This is the condition of the powerful Rwala tribe, who own thousands of camels, are comparatively well-to-do among the present-day Arab tribes and their territory being contiguous to Syria, they have easy access to the markets of the outside world.

That the diet of the Bedouins is so poor and scant is well illustrated by an anecdote related by Doughty (Ar. Deserta, I, 538). The Bedouins asked him what the Christians' fasting was, whether they abstained from all food till sunset. 'Not thus,' replied Doughty, 'but they abstain from flesh meat, and some of them from all that issues from the flesh, as milk and eggs, eating only the fruits of the ground, as bread, salads, oil of olive, and the like; in the time of abstinence they may eat when they will.' On hearing this, they cried out wondering and laughing. 'This you call fasting! Oh, that the Lord would give us thus every day to fast!'

The summer is the hardest and worst part of the year for the Bedouins. There are no rains to mitigate the heat or bring out new grass for their animals. The blazing, scorching sun that increases in its ferocious intensity from day to day, burns up the large vestiges of pasture, dries up the wells, with the result that they are brought face to face with famine. The milk, their first and last means of subsistence, is also drying up in the dugs of their famished animals. A handful of dates, of rice or dried milk is considered a boon at such hard times, for it is found sufficient to sustain a man's life for a day at least. Sacrifices of animals become more frequent in the camp, the famine-stricken Bedouins making a virtue of a necessity. Every now and then there is a sacrifice in some household, on one pretext or another, in pious memory of some dead ancestor,

on the birth of a child or simply for the health of the flock. The desert life is at its lowest ebb, until it is resuscitated by the welcome autumn rains. In the pages of Doughty, who shared their privations as one of them for two summers, may be read some of the most harrowing descriptions of human misery and wretchedness on earth. (1)

In the matter of food and nourishment, as in other things, the weaker sex is at a positive disadvantage in the Bedouin society. Women have to rest content with what is left by men of the dinner, and on the occasion of a feast they never taste any choice part of the slaughtered animal; the feet, head and liver generally falling to their lot (Burekhardt, Notes, p.36). The women of poorer households suffer most in times of scarcity. Doughty often heard them saying that they had not broken the fast, and the sun was already setting. From spring time to spring time, nine months in the year, most nomad women languish with hunger. They bear few children; of two at a birth, Doughty heard no mention among them (Ar. Deserta, I, 237). No wonder then that he did not find south of Hail any young woman with the colour of health in her cheeks; they were pale even at their freshest age (I, 339); while the ravages of age showed

(1)

On the indigent life of hunger in the desert, see his Arabia Deserta, I, pp.244, 441-3, 452-3, 458, 472-3; 561.

themselves only too soon in their withered skins. Scant nourishment for children also sometimes forces them to suckle their children longer than it would be necessary in easier circumstances. This practice also puts an additional strain on their constitutions.

Though large families are desirable in order to increase the military strength of the tribe, and though the Arabs multiplied exceedingly when they conquered and settled in rich lands outside Arabia under the banner of Islam, nevertheless the limited food supply of the desert and steppe-land and the general low level of pastoral economy, imposes a hard restriction on population. Patriarchal families are rare and according to Burckhardt three children constitute a large family among the Bedouins. Though polygamy is allowed by religion, few can afford to practise it. They have generally only one wife at a time, whom they however can and do change more or less frequently, according to their individual circumstances. The barbarous custom of burying female children alive prevailed in heathen Arabia, and there is no doubt that the primary motive for the practice was that which is assigned in the Koran, viz. poverty. (1) It is well known that the same cause has led

(1) Th. Nöldeke in his article on the (ancient) Arabs in the Encyclopaedia of Religion and Ethics, Vol. I, p. 669.

The Koran: VI, 152, And do not kill your children for (fear of) poverty; we provide for you and them,

(لا تقتلوا اولادكم من اطلاق و نحن نرزقكم و اياهم).
XVII, 33 (لا تقتلوا اولادكم خشية اطلاق و نحن نرزقهم و اياهم ان تمامه كان خطأ كبيرا)

to female infanticide in other countries. (1)

What has been said above regarding the indigent life of hunger in the desert, may help us to understand why the Koran particularly mentions hunger and insecurity (الجوع والخوف) as the two chief and dreaded curses of mankind. In the parable of a town, it is with these that the rebellious inhabitants are visited for their ingratitude to Allah's favours; (2) while security against starvation and danger are mentioned as two special favours conferred on the Quraish. (3) The peoples of more civilized countries, living in orderly and peaceful towns and cities and enjoying regular meals, cannot truly understand what these two things, viz. hunger and insecurity, mean in the inhospitable and lawless land of Arabia, until they have acquired, from the perusal of Doughty and Musil,

(1) As Prof. Nicholson has shown, this custom was also partly due to the comparatively helpless and defenceless position of the weaker sex in a land of violence like Arabia, where might was generally right. It was said proverbially, "The despatch of daughters is a kindness." A Literary History of the Arabs, 2nd Ed., pp. 90-91.

(2) The Koran, XVI, 113. وَضَرَبَ اللَّهُ مَثَلًا قَرْيَةً كَانَتْ آمِنَةً مُطْمَئِنَّةً يَأْتِيهَا رِزْقُهَا رَغَدًا مِنْ كُلِّ مَكَانٍ فَكَفَرَتْ بِأَنْعُمِ اللَّهِ فَأَذَاقَهَا اللَّهُ لِبَاسَ الْجُوعِ وَالْخَوْفِ بِمَا كَانُوا يَصْنَعُونَ ۝

(3) sura, 106. لِأَيُّفِ قُرَيْشٍ ۝ الْفِطْمِ رِحْلَةَ الشِّتَاءِ وَالصَّيْفِ ۝ فَلْيَعْبُدُوا رَبَّ هَذَا الْبَيْتِ ۝ الَّذِي أَطْعَمَهُمْ مِنْ جُوعٍ وَآمَنَهُمْ مِنْ خَوْفٍ ۝

some knowledge of the terrible conditions of life prevailing there.

Again, in another place in the Koran, in a passage that is remarkably significant of the peculiar climatic conditions of Arabia, Adam (when put in the garden of Paradise) is guaranteed, *inter alia*, security against hunger. (1)

(1) *انَّ لَكَ اَلَّا تَجُوعَ فِيهَا وَلَا تَعْرَىٰ ۗ وَاَنَّكَ لَا تَظْمَأُ فِيهَا وَلَا تَصْحَىٰ* : xx, 116-117

CHAPTER VI.

MATERIAL CULTURE IN RELATION TO
PHYSICAL ENVIRONMENT. (CONTD.)

(2) Clothing of the Arabs.

For the Arabs, as for other peoples of the earth, clothing serves a primary and vital need, protecting the human body from the effects of cold and heat. Although man's need for clothing is far less compelling than that for food — some primitive tribes go naked or almost naked in the hot and humid tropical regions of Africa and elsewhere — this need has great geographical significance in the fact that men clothes everywhere with some animal or plant product — wool, cotton, fur-skin, etc. — that is available in his surroundings, and thus in his clothing, as in many other things, he depends in a more or less degree on his environment.

Although a more or less striking difference may be seen in the dress of the Arabs in every province, almost in every tribe, it may be said as a result of a general survey that three articles of dress, viz. the shirt (ثوب), the mantle (عباءة)

and their peculiar head-gear (عقال) are common and universal throughout Arabia. (1)

The shirt, nowadays generally called thaub (ثوب), has long and wide arms and in length reaches down to the ankles. It is now invariably made of cotton. It does not, however, seem to have been always made of that material. Caliph 'Umar's shirt, for instance, on his memorable journey to Palestine, was woollen. We are told that after having accepted the present of a shirt of a finer material from the patriarch of Jerusalem, he put on his old shirt again, remarking that he preferred his own woollen garment, since it was a better absorbent of sweat.

Over their shirt most of the Arabs wear - when they can afford it - a mantle or 'aba, عباءة, (Burckhardt), now generally called bisht in Arabia (Musil; Philby). It has no sleeves and reaches a little below the knees. There are various sorts of

(1) For a detailed description of the Arab dress, see Burckhardt, Notes, p.26 et seq; p.131 et seq; Musil, Manners, p.118 et seq; Doughty, Arabia Deserta, by Index s.v. Clothing; and Philby, The Heart of Arabia, I, pp.39-40. For particular articles of dress, Dozy, Dictionnaire detaille des noms des Vetements chez les Arabes, Amsterdam, 1845, may also be consulted with profit; though it does not deal specifically with conditions in ancient or modern Arabia.

mantles, differing in quality and colour, but they all agree in that they are always made of camel's hair or sheep's wool. The use of the mantle is almost obligatory in public, since it is a sign of respectability and must be worn, according to etiquette, when visiting a town or village. In winter, the Bedouins wear over the shirt a ^{fur-}coat (*فروية*) made of sheep-skin, instead of the woollen mantle (Burckhardt, Notes, 28; Musil, Manners, 120).

Well-to-do people also wear a shift of linen next to the skin under their shirt (Philby) and a kind of coat, called zebun, over the shirt and underneath the mantle (Musil and Philby). These garments are, however, dispensed with by the common Bedouins of the poorer sort.

The Bedouins do not wear trousers, the nether parts of the body being covered with the long, flowing shirt, which reaches down to the ankles and is fastened round the waist with a leather or woollen belt. Trousers are, however, worn by both sexes in the Nejd, where they are called sirwal (*سروال*). Near Mecca and Taif and beyond those places southward in the direction of the Yemen, the place of trousers is taken, in the case of both men and women, by a kind of apron, which is wrapped round the loins and fastened by means of a leather girdle round the body. In the case of men at least, the upper garments are correspondingly abbreviated, for in the hot season they go about almost naked, covering themselves at

night and in winter with a mantle only (Burekhardt, Notes, p.151).

The head-dress of an average Arab, equipped for travelling or fighting, and the mode of wearing the same are highly significant of climatic control. The head is covered with a round woollen or cotton skull-cap, over which is worn a kerchief, called kaffie (corrupted form of kufiya), folded double like a triangle, the middle lappet of which is thrown back over the shoulder, while the outside lappets are arranged to an equal length. It is fastened with a woollen cord ('asaba or 'akal) wrapped double around the forehead and skull. The kerchief is pulled over the forehead, shading the eyes. The side lappets are crossed under the chin and pulled through under the fastening cord, so that they project above the forehead like two small horns. This kind of head-gear, technically called litham (لثام), is worn especially in case of travelling or fighting and the wearer is said to be mulaththam or mutalaththim, (مُلَثَّم - مُثَلَّثِم), which means muffled or litham-wearer. If he does not wish to be recognized, he simply pulls the side-lappets up above his chin over his mouth and nose, so that only the eyes remain uncovered. Quite apart from effecting a disguise, in the hot weather this mode of head-dress is found to keep the samum and dust, and the catarrh in the cold weather, from the lungs

(Burton, Pilgrimage, I, 234-235; and art. Litham in Encycl. of Islam).

In general, the litham has no place in the outfit of the town-dwellers.

It seems obvious that the climatic, and especially atmospheric conditions of the Arabian desert, characterized chiefly by excessive heat and dust, are responsible for the development of this peculiar mode of head-dress among the inhabitants. (1)

Women's clothes are made of the same materials as those of men, viz. wool and cotton. The veil, prescribed by Islam for women, is found irksome, nay impossible, in the free and active out-door life of the nomads and is therefrom absent

(1)

Similar climatic conditions, prevailing in N.W. Africa, most probably gave rise, quite independently, to the custom of wearing a similar head-dress among the Berber tribes, e.g. the Sanhaja, who are therefore described by the Arabs as litham-wearers or Mulaththinun, which appellation came later on to be especially applied to the Almoravids, who originated in one of their clans.

As is well known, the custom still prevails among the Tuaregs.

among the Bedouins. It is, however, taken more seriously in the towns and especially in the Nejd, owing to the renewed influence of Wahhabism.

The various garments constituting the Arab dress do not, as a rule, sit tight on the body of the wearer, but being of ample proportions are generally very loose. The climate of the country is, on the whole, hot, and since clothes are primarily required there as a protection against heat, ⁽¹⁾ loose garments, providing plenty of ventilation, seem to serve better the purpose for which they are designed. On the contrary, tight-fitting clothes are better suited to a cold climate, where the object of clothing is to preserve and retain the internal heat of the body.

(1)

Cf. the Koran, XVI, 83: "and He has given you garments that preserve you from heat" (وجعل لكم سبيل تفكيراً أحسن). The fact that only heat has been mentioned here to the exclusion of cold, has puzzled some commentators, e.g. Razi, who have been at pains to show that since what preserves from heat also preserves from cold, preservation from heat and cold alike is meant here. Their task would have been greatly facilitated, if they had only remembered that in the milieu of the Koran, i.e. the land in which it was originally conceived and promulgated, the people suffer more from heat than from cold, and the mention of the latter would have therefore been superfluous.

It is further to be noted that the material, of which the Bedouins' clothes are made, is mainly wool, obtained from their domestic animals. With the exception of the shirt and the keffiye; the mantle, the skull-cap, the 'akal and sometimes even the belt, are all made of camel's hair or sheep's wool. It may, therefore, be safely maintained that in so far as the native and locally procurable wool enters into the making of their clothes, the Bedouins are indebted to their own domestic animals and thus dependent upon their own land in the matter of clothing.⁽¹⁾ It is, therefore, not without significance that the Koran mentions the wool, fur and hair of animals among God's gifts to mankind (Cf., XVI, 82... and He has given you of animals wool, their fur and their hair, household stuff and equipment).

Besides wool, the only other important material that enters largely in their clothing is cotton. The dry climate of Arabia is, however, not favourable to any extensive cultivation of the cotton plant, which needs abundant rainfall throughout

(1)

On the other hand, the fauna of the Arabian wastes, especially the gazelles, yield to the skilful hunting of the despised Sulubba, a non-Bedouin nomadic people, a sufficient supply of skins to enable them to wear in winter robes entirely made of gazelle-skins. Sometimes, they can even spare some for sale to the aristocratic, but less skilful, Bedouins.

the period of its growth and maturing. It is, therefore, only to a more or less limited extent grown in Qasim, Asir, Yemen (Wadi Zebid), Aden (the Aulaqi country), Hadramaut and Oman, where it is one of the principal crops and where it has given rise in several places to a local cotton-weaving industry.⁽¹⁾ It is, however, cultivated in insufficient quantities to supply the needs of the local population, with the result that cotton-growing districts import cotton stuffs like the rest of the country. Thus, the Arabs are partly dependent on the outside world for cotton goods. With the increased facilities for commercial intercourse, cotton stuffs are enjoying an ever-increasing vogue among the Arabs, and they are becoming so common that, in the words of T.E. Lawrence, without them one can hardly imagine the Arab desert life.⁽²⁾

It would seem that the Arabs, inside and outside Arabia, have always looked upon cotton stuffs as a luxury as compared with woollen garments. Apart from the extreme refinement of texture to which the cotton fibre lends itself in the process of manufacture, this view of things is also explained by the fact that cotton goods, being partly of foreign import, have been comparatively scarce in the Peninsula. The idea of the

(1) Handbook of Arabia, pp. 136, 174, 183, 226, 233, 241; for the Yemen also see Schmidt, Das Südwestliche Arabien, p.47 and Grohmann, Südarabien als Wirtschaftsgebiet, p. 260-261.

(2) T.E. Lawrence in his Introduction to Doughty's Arabia Deserta, 1921, p.XXIV.

comparative luxuriousness of cotton is quite evident from an anecdote, quoted by Dozy in his Supplement (s.v. قطن), wherein a man, dressed in woollen garments, is addressed by another as يا صوفى, and in his return addresses his interlocutor as يا قطنى. It is now fairly certain that wool (suf) gave his name to the sufi, since 'woollen garments were frequently worn by men of ascetic life in the early times of Islam in order (as Ibn Khaldun says) that they might distinguish themselves from those who affected a more luxurious fashion of dress.' (1)

Silk, which is not an indigenous product of Arabia, (2) enters very little in the garments of the Arabs. Their head-kerchiefs are sometimes made of cotton and silk mixed. It is an article of luxury with them as with many other peoples; and it is as such that it is mentioned in the Koran in several places (22, 23; 35, 30; 76, 12), where the dress of the inmates of

(1) R.A. Nicholson, A Literary History of the Arabs, 2nd Ed., p.228.

(2) The silk-worm is not raised in Arabia, nor is it found there in a wild state, as it is in some other regions of the world. So far as we know, the mulberry tree, which is necessary for the nourishment of the silk-worm, does not grow in Arabia. For a map of the geographical distribution of the silk-worm, see Brunhes: Human Geography, London, 1920; p.298.

Paradise is said to be of silk. The other Koranic luxury-articles are *سندس* and *استبرق*, kinds of silk brocade. (1)

3. The Dwelling.

For the migrant Bedouins, who pass their whole lives roaming over their tribal territory, going from place to place in search of pasture and water, a fixed dwelling is out of the question. And since they cannot live without some sort of shelter against the blazing sun of their country and the inclemency of the wind and the weather, they make use of the portable tent, which is generally made of goat's hair. The tent has several advantages for the nomads. It can be easily set up and broken up, can be carried from place to place like other baggage, and is again light, - an important consideration for the Bedouins, who cannot afford to tolerate any heavy clog

(1) It is further to be noted, as an instance of the psychological influence of geographic environment, that the colour of the Koranic garments is always green (76, 21, *يلبسون ثياباً خضرًا من سندس واستبرق*; 18, 30 *عليهم ثياب سندس خضرًا واستبرق*). Green is a colour pleasant to most people; but it is particularly welcome and refreshing to the parched eyes of the sun-burnt Arabians, for whom it possesses a special appeal. Hence the dominant role it plays in the colour-scheme of the Koranic Paradise, where, besides clothes, the *رفرف* also is described as green (55, 76).

upon their movement.⁽¹⁾ Moreover, the material of which it is made, viz. the hair, is obtained from their own domestic animals and so they can depend in this matter entirely upon the resources of their own land. The result is a distinctive type of human dwelling, which gives a characteristic aspect to the Bedouin life⁽²⁾ as well as to the Arabian landscape.

The tent, called bait بيت, is made of thick, coarse cloth, woven from black goat's hair.⁽³⁾ The coarse thread, with which the separate pieces of cloth are sewn together to make the covering of the tent, and sometimes even the ropes (اطياب) that are used in pitching the tent, are made of goat's hair. A tent consists of one large covering held up by a

(1) of. the Koran, XVI, 82; And He has given you tents of the skins of animals, which you find light to carry on the day of your march, and on the day of your halting."

وَجَعَلَ لَكُم مِّنْ جُلُودِ الْاَنْعَامِ بَيْوتًا تَسْتَخِفُّونَهَا يَوْمَ ظَعْنِكُمْ وَيَوْمَ اِقَامَتِكُمْ

(2) From their habit of living in tents, the Bedouins have received one of their characteristic appellations, viz. ahl al-wabar اهل الوبر, the people of the hair (-tents), as opposed to ahl al-madar (اهل المدارة), the settled agriculturists.

(3) For a full description of the Bedouin tent, its structure and its furnishings, see Burckhardt, Notes, p.18 et seq., Doughty, Arabia Deserta, pp. 224-227 and Musil, Manners, p.61 et seq.

number of posts. To this covering are attached, by means of a rope and hooks, a back-wall (رُفَاق) of the same stuff, with its lower part, called sefle (سفلة), and two side-walls (رُفَفَه). An ordinary tent, which has always a rectangular shape, has one main pole (عَمُود), with a number of smaller posts. It is usual to have nine poles or posts, three in the middle and three on each side of the tent. The size of the tent is determined by the requirements of the owner. A large tent is made by the employment of additional posts lengthwise. The tent is, as a rule, divided into two parts; the men's apartment and the women's, the two being separated by a woollen cloth or carpet, hung upon the middle poles.

The tent-cloth is thick enough to keep off the heaviest rain, as Burckhardt tells us from his personal experience (Notes, p.21); and it is instructive to note that the structure of the tent is such that it admits of easy adjustment to the prevailing conditions of the weather. To begin with, it is always pitched according to the direction of the wind. The long side facing the wind is completely closed, when it becomes the back of the tent (رُفَاق). In winter, the back wall keeps out the wind, the lower part thereof (سفلة) being pegged down to the ground, so that the wind cannot lift it. The short sides are regularly closed. The wall cloths are detachable, being fixed to the tent covering by means of hooks,

all or any of which may be fixed or taken out at will to exclude or admit air. In summer the front is left open, while in the cold season a wall is suspended at the front also, so that the tent is completely closed in.

If the wind changes its direction and blows against the front side, the back wall is unfastened and put up at the front. If it is very hot, and there is no wind, the back wall is removed and poles are inserted beneath the front and back ropes, whereby the side walls are raised at each corner. Thus the tent is open on all sides and admits of a free circulation of air.

2(b). Furnishings of a Bedouin tent.

The furniture and other household effects of a Bedouin tent bear an unmistakable stamp of mobility. Constant movement reduces the impedimenta to a minimum. The only desirable and convenient form of capital is that which transports itself, viz. flocks and herds. The whole furniture of a tent consists of woollen mats and rugs, a few wooden or metal utensils (rarely earthenware ones), and a few skin bags. Such meagreness is imperative, since the baggage must be capable of being folded quickly and the goods to be carried must not be either very bulky or fragile.

Another noteworthy fact about their furniture is that it is, for the most part, made from the products of their domestic animals, viz. wool and hair, skins and hides. The following articles are made of goat's or camel's hair:

Carpets and coverlets;

Quilts and cushions, used as padding in camel-saddles and litters.

Sacks to contain wheat, dates and other victuals.

The following vessels are made of skins or hides:

Large bags (قربة), made of tanned camel-skin to keep water;

Goat-skins, in which they keep milk or make and store butter.

Leather-troughs (حوض), supported on a rickety wooden frame, in which camels are watered.

Leather bucket (دلو), to draw water from wells, furnished with a rope made of long leather-strips.

The following articles are made of wood; mortar and pestle for crushing grain; bowls and cups, dishes and plates. Besides, there are a few copper pans and pots, a solitary kettle and possibly a few plates of the same metal.

Earthenware, being so liable to breakage, has no place in a Bedouin household. In the words of Doughty, 'none here (in the desert) nowadays use these brittle wares, but only

wood and copper tinned vessels.' (Arabia Deserta, I, 113). It can, therefore, be easily understood why the art of the potter never developed among the Bedouin nomads. Perhaps the only pottery that can be found in a present-day Bedouin tent is in the shape of a few foreign-made cheap porcelain coffee-cups, wrapped in a more or less dirty woollen rag.

The mode of encamping is different in different tribes and in different circumstances. When the tents are few, they are generally pitched in a circle, or rather in the shape of an oval, the encampment being thus called dowar (دَوَّار). This is especially the case when the tribe is weak, or when it is camping in a strange district and the attack of a hostile tribe is feared. In his wanderings, Doughty came upon an encampment of this kind, which belonged to B. Aly. It consisted of sixteen tents, pitched ring-wise, their animals being encompassed within the hedge formed by the tents and the stretched tent-ropes, from where they could hardly be stolen without disturbing their owners (Arabia Deserta, II, 309).

If the number of tents be considerable, they are arranged in one straight line or several parallel lines. Such a large camp is called a manzil (مَنْزِل). In the case of some tribes, the observance of a regular order is completely dispensed with. The Rwala, for instance, as Musil tells us, do not pitch camps in the shape of an ellipse as some other tribes do. Each one

may pitch his tent where he likes, for his tribe is strong and can withstand any enemy (Musil, Manners, p.77).

The dwelling of the oasis-dwellers of Central Arabia has been considered above, p.58 et seq.

CHAPTER VII.

THE INFLUENCE OF PHYSICAL ENVIRONMENT
ON THE PHYSICAL CONSTITUTION AND GENERAL
HEALTH OF THE ARABS.

The environmental and climatic conditions of Arabia have also influenced, directly or indirectly, the physical constitution of the Arabs and their general state of health, since the salubrity of a locality is principally determined by its climatic and other physical conditions.

The physique of the Arab people has been to a great extent influenced through that mode of life, which they have found suited to their environment. The hardihood of the nomads, for instance, is the direct result of their hard life. Although the nomad has little need of steady industry and application, he must be strong in the endurance of heat, thirst and the fatigue of long journeys. It is only by developing the qualities of hardihood and endurance that the nomad could hope to combat with, and live in, an unfriendly environment and in the lines of his face can be read the story of the struggle he puts up for existence. Those who are, by reason of physique or temperament, unfit for such a life either perish or leave the nomadic life to go to the oases or to the cultivated territories on the borderland. Thus, by a process of natural selection and

adaptation, extending over long ages, nomads have become differentiated from the settlers. One type of character has become fixed in the desert and another in villages and towns.

As regards their general physique, it will be observed that the privations and hardships of desert life discourage obesity. Moderately tall, the nomad is almost always of slight build. 'A fat, lazy-looking Arab is an anomaly, to be found only in the cities, where unusual temptations to luxury have been encountered.'⁽¹⁾ The Bedouin's physical ideal of a man is spare and sinewy, 'lean-sided and thin like a spear-shaft,' as the Arab poet would express it. Their scant diet, at the root of which stands the economic poverty of their land, is also responsible for the spare build of the nomads. There is at least one point in their physiognomy, noted by Burton, which can be traced to the influence of climate. Inhabitants of the desert, Burton remarks, are to be recognised by the network of wrinkles traced in the skin round the orbits, the result of constantly half-closing their eye-lids; this is done to temper the intensity of the light.⁽²⁾

A frugal and simple diet, coupled with the pure unpolluted atmosphere in which the nomads generally live, has made their senses acute and their nerves very sensitive. According to

(1) Harrison, the Arab at home, p.1.

(2) Pilgrimage, I, p.144, note.

most travellers, their senses of smell, hearing and sight are very strong and fine. Living in an uncorrupted atmosphere, the nomads, in particular, are very sensitive to all odours. In entering towns, where they meet with diverse unpleasant odours, it is common to see them breathing with a sort of loathing, through a lap of their kerchiefs. (1)

The question of health and disease of a people obviously stands in direct relation to the climatic conditions of their land. In respect of salubrity, the open desert with its free, pure air, where the nomads wander about with their flocks and herds, compares very favourably with the towns and settlements. There, the air is not only free from impurities, but it is dry, and though hot for most part of the year, it is much more tolerable than the damp and close air of the oases or coastal districts. Moreover, the soil is, on the whole, dry and porous, which is decidedly much healthier than a moist impervious one. Another important reason for the comparative salubrity of the desert is that the nomad population is scanty, living a more or less scattered and isolated existence, holding rare communication with the rest of the world. Such conditions not only lessen the chances of the importation of communicable diseases, but they are unfavourable to the prevalence and multiplication of the infecting material, even when imported.

(1) Doughty, I, 210.

The outstanding features of the Arabian climate are dryness and heat, and working together they put a great check, in the desert at least, on the growth and spread of the many germs and parasites that are responsible as carriers of disease. The Nefud is the most healthful district in the whole Arabian desert. (1)

The salubrious effect of the desert environment is, however, greatly minimised by more than one factor. In the first place, the food supply of the desert is so limited, both in quantity and variety, and the power of the nomads to purchase their necessities from the outer world is so little - a fact which is again due to the economic poverty of the land - that they are for most part of the year on short rations; they have not enough to eat. The result of their scanty and insufficient diet is that their general efficiency and power of resistance to disease remains at a low level. In the long and lean summer months, when the bodies of the Bedouins are languishing from starvation, and the whole nomad life is at a low ebb, it is only their serene and pure atmosphere, free from contagion, that saves them from being carried off by disease. 'The Beduin body is as a light-timbered ship, which may be stranded till the spring-time, when with one great eating, he may replenish his

(1) Musil, Manners, p.185.

(2) On the scanty diet of the nomads, see the special section on 'food,' supra, p.79 *et seqq.*

(3) Boughty, I, 472.

fainting nature and his blood is renewed after many days of evil fare.^(Doughty, I, 472) A less healthy environment, with the insufficient food on which they have to live, would prove disastrous.

Whereas the observations of Ibn Khaldun⁽¹⁾ on the physical and moral benefits received by the nomads from their frugal diet might be true in the case of the nomads of N. Africa, with whom he came in personal contact, and whereas we are at one with him in thinking that super-abundance of food, coupled with faulty elimination, produces effects injurious to health, the fact remains that so far, at least, as the nomads of present-day Arabia are concerned, the reports of modern travellers and observers are agreed on the point that their diet is too scanty and that it is insufficient to ensure normal health and efficiency. Those who are not actually killed in inter-tribal warfare⁽²⁾ succumb prematurely to the hardships and privations of nomad life, so that old men are rarely to be seen among them. The frequent abstinence of the poorer nomads enfeebles and corrodes their viscera and, according to Doughty, there is no people who are more troubled with this kind of complaint than they.⁽³⁾

(1) *Prolegomena, Ar. text, Paris Ed., I, p. 158 et seq.*

(2) According to the estimate of Prince Nuri ash-Sha'lan, as reported by Masil (*Arabia Deserta*, p. 422), two-thirds of the Rwala die a violent death; the rest, without exception, carry their wounds and scars.

(3) Doughty, I, 473. Bad water also seems to be a contributory cause.

Women die mostly while suckling their babies. The rate of infantile mortality is high. Doughty has aptly called hunger the desert disease, since it predisposes its dwellers to several ailments, which they would be in a better position to withstand were they better fed.

Another factor which greatly detracts from the salubrity of the desert is the brackish character of its water, which proves upsetting to foreigners and which the natives seem to tolerate only through long habit. Sources of sweet water are very few. Whatever the character and conditions of its water-holes, they are made still worse by the carelessness of man and the abominable habits of his domestic animals.

Different parts of Arabia differ in salubrity, according to their respective climatic conditions. As compared with the interior desert, all the coastal districts are more or less unhealthy. Here the moist heat is oppressive; the climate is damp and unhealthy and there is much malarial fever. Mosquitoes are numerous, for instance, in the town of Mascat during the winter months; and cause a considerable amount of malaria among the inhabitants. In Hasa the humidity is increased by the presence of streams and lake-like ponds. The climate of Fihama, the lowland bordering the western coast, is likewise unpleasantly hot and oppressive, with its peculiar hot mists rising from the Red Sea.

On account of their dampness, the oases share the unhealthiness of the coast-lands and have an ill repute for their malarial fevers. Khaibar is particularly notorious in this respect,⁽¹⁾ its fever being the worst of its type and most deadly, especially to the newcomers to the place. In the pestilent season, called hamim (March-April), an adult is liable to be carried off after a day or two's illness. Although the air is pleasant at Madina, the place is not quite healthy, since fevers have been and still are prevalent in the town. The Companions of the Prophet, who followed him in his emigration to Madina, had an unpleasant experience of these fevers. After some suffering, however, they appear to have adapted themselves to the new conditions and acquired a sort of immunity - a fact which was ascribed to a change in the local climate, brought about by the prayer of the prophet. The Bedouins have a wholesome dread of all such malarial places and avoid them as far as possible. Surrounded, as it is, by high desert, Taima is the only important oasis-settlement (in the^N Hijaz), which is entirely free from fever. Even here the Bedouins, however,

(1)

A pre-Islamic poet, Akhnas, refers to the ague of Khaibar in the following line:

وَقَفْتُ بِهَا أَكْبَىٰ وَأَشْرَّ سَخِينَةً - كَمَا أَضَادَ عَمَوًا بِخَيْبَرِ مَالِكٍ

'While I stood there weeping, I felt a burning sensation as that of the ague-fever of Khaibar, which visits a fever-stricken person again and again'. Hamasa,

complain of night chill, (due to the evaporation from irrigation channels) which gives them cold in the head.

The settlements and towns are not only comparatively unhealthy in themselves, but the masses of pilgrims moving to and from the holy cities of Mecca and Medina are a source of great danger to the health of the peoples and places through which they pass. These pilgrimages have often aided the diffusion of disease and have repeatedly been the means of spreading cholera, small-pox and other communicable diseases.

CHAPTER VIII.

SOCIAL AND POLITICAL EFFECTS
OF PHYSICAL CONDITIONS.

The social organization of the Arabs stands in close relation to, and is mainly built on their economic organization. Social groups in Arabia as elsewhere, are at the bottom economic groups; their genesis, growth and size being determined or modified by their economic needs and the way in which they satisfy them in their peculiar environment. We have tried above to show how their economic life is adapted to the peculiar physical conditions of their land; in the present chapter we propose to notice certain aspects of their social life, which seem to be influenced by physical environment, either directly or through the intermediary of their economic life.

Environmental influences are specially significant and manifest in determining the size of the social group among the Arab nomads. This must be for ever small in a country like Arabia, where the natural resources are not only limited but are exploited in a primitively rude and undeveloped fashion. The meagre vegetable resources necessitate sparse distribution of herds and of the population that lives on them. The

food-supply of a given area is limited; the nomad cannot increase it at will, being helplessly dependent upon what nature doles out to him with a niggardly hand. The size of the nomad social group is thus rigorously kept small, because a large horde cannot find subsistence in one and the same place. The natural increase of population beyond the limited resources of its territory puts a strain upon the social bond; the tribe must split up, a part separating and migrating elsewhere, either forming a new independent group or losing its identity by merging itself into some other powerful group. Thus seems to have taken place the repeated division and ramification of the Arab population into tribes and sub-tribes, with their innumerable genealogies, the traditional scheme of which has been recorded by Wüstenfeld in his *Genealogische Tabellen*.⁽¹⁾ The geographical conditions of Arabia, thus, necessitate a sparse and discontinuous distribution of the nomad population.

Aggregation of individuals with a view to joint concerted action is required, on the other hand, by at least two considerations. Firstly, there is the need of economic cooperation. This need, however, is not so compelling,

(1) Wüstenfeld, F. *Genealogische Tabellen der Arabischen Stämme und Familien*, Göttingen, 1852.

because of the extreme simplicity of the pastoral economy. Joint or social action is chiefly dictated by consideration of internal peace and security and of common defence against external enemies. The larger and more closely united a group is, the better able it would be to defend itself against the outside enemy. Here are, then, two contending forces in the nomad life, each acting in a contrary direction: the strong dissociative tendencies inherent in the pastoral life, scattered over thinly pastured deserts and steppe-lands; and the imperious necessity of aggregation and joint social action, demanded by considerations of cooperation and of common defence. The size of the Bedouin nomad group, thus, represents the measure of the balance reached by these two conflicting forces.

In order that a number of human beings may be collected into a group, capable of joint concerted action, they must have some tie, some bond to hold them together. In the case of pastoral nomads, community of interest in pastures and waters should lead to the principle of local contiguity as a basis of tribal cohesion, but for the fact that the hold of the nomad society over the land is weak and its association with it consequently slight. It is very seldom that a tribe lives for long in one and the same circuit; migration is often forced upon it by persistent drought or by the intrusion of more powerful neighbours. Even in normal and comparatively peaceful times a nomad tribe makes only a transitory and

intermittent use of its territory, with the result that the cementing or integrating force of the land is almost non-existent in their case, or at the best, remains very weak. In these circumstances, the need for cohesion makes appeal to the primary and natural feeling of kinship. The sentiment of common blood serves as a bond of social solidarity and is emphasized for its usefulness as such. It is adopted, fostered and perpetuated as far as possible as a principle of social unity, with a view to engendering in the associated individuals a sense of mutual duties and rights as against other groups.

As a basis of social unity, the idea of blood relationship plays a very large part in the social and political life of the Arabs in general and the nomad tribes in particular. A Bedouin belongs not to any town or territory but to such or such a tribe. He bears a relative name (nisba), which refers to the fact of his being a member of some tribal group, irrespective of the territory occupied by that group. The military organization of the early Islamic times and the settlement of the Arabs in military stations closely followed the old tribal grouping. The feuds and rivalries of the warring desert tribes were thus transplanted to Syria and Iraq, to Spain and Khorasan. Although the factions in these civil wars were really due to local interests, the very fact that appeal was almost always made to the

sentiment of kinship, shows the importance that was traditionally and habitually attached in the Arab mind to kinship as a bond of union and solidarity. Moreover, we know that brotherhood between alien tribes might arise by covenant. Whereas, on the one hand, such possibilities must necessarily put us on our guard against acknowledging unreservedly any two reputed brother-tribes as the lineal descendants from a common ancestor, they, on the other hand, show that according to Arab ideas consanguinity alone is the primary basis of social unity.

How is it - it may be asked - that the feeling of kinship obligation is not universal in its operation, but works effectively only within a certain group of families, while beyond this group kinship obligations disappear. In explanation of this phenomenon, reference should be made to what has been said above regarding the dissociating effects of the scattered distribution of pastoral population. Though nearly or distantly related, the nomad groups are scattered over thinly pastured steppes and deserts, living exclusive and independent of each other. Their interests are, of necessity, separately localized, the physical conditions of their land making it impossible for them to habitually act together. The alliances, which they sometimes form for purpose of common defence or offence, are dissolved as soon as that purpose is fulfilled. Even within a single group, the social bond may be strained till broken, in

case the group is forced to divide itself under pressure of circumstances. The natural increase of a group, for instance, beyond the resources of its territory may make it necessary to split up. In such a case its local unity is broken and therewith its community of interest gradually disappears. At first every effort is made to maintain the old tribal system and the separated branches regard themselves as parts of one community. They continue to pay or receive - as the case may be - their share of blood-money. But, gradually the distance between the scattered groups makes itself felt; they lose touch with each other, till any useful and effective cohesion among them is scarcely feasible. Since they can no longer live and move and act together, the sentiment of common blood, which was fostered and kept alive principally for the purpose of common defence, ceases to operate and gradually fades away. It will, thus, be seen that the factor of scattered location ultimately gets the upper hand in nomad life.

To sum up, the Bedouin social and political group is fundamentally an economic group; its primary object being food-quest. The same quest, carried on in the thinly-pastured steppe-lands and deserts, determines its size; it lives and moves together so long as it can find food together. The integrative force of the land being weak or absent, the natural sentiment of common blood serves as a principle of social unity

and cohesion within a group. The physical conditions of the land, which necessitate a sparse and widely scattered distribution of the pastoral people, are responsible for introducing the factor of scattered location in Bedouin life. This factor powerfully militates against cooperation among scattered nomad groups and prevents them from rising, in the scale of organization as communities, above the tribal standard.

Political Conditions of Arabia
as influenced by Physical Environment.

Not only does geography make clear to us historical facts and events by giving us topographical and other information about the places with which they are connected; but the conditions of physical environment, taken as a whole, reflect themselves, among other things, in the historical and political activity of man. Such considerations of a physico-geographical character do not, of course, explain the variable element of human personality and initiative, but they certainly underly the stage on which the drama of human history unfolds itself and consequently help us to understand better the general trend of the historical process.

In the opening chapter of the present work, we have tried to trace some general effects of the insular and inter-continental aspects of the location of Arabia in the history,

race and language of the people; we propose to consider here such aspects of the political life of the Arabs as seem to have been influenced, directly or indirectly, by the physical conditions of their land.

The national independence of the Arabs has sometimes been made the subject of animated remarks. There are, however, some exceptions, which should be noted. The province of Yemen, for instance, has been subdued successively by the Abyssinians, the Persians and in modern times by the Turks; while Hijaz, with its holy cities of Mecca and Medina, has often been dependent upon the rulers of Egypt or Syria. Yet these exceptions are temporary or local. Upon the whole, the Arabs in general and the nomads among them, in particular, have escaped the foreign yoke. Arabia never formed a part of the great empires of antiquity, that embraced the adjacent lands of Western Asia and the Mediterranean region. Even under Arab Caliphs, viz. the Umayyads and the Abbasids, who might be expected to know the ways of the Arabs better and to be able to control them effectively, Arabia was only under a nominal subjection. Sometimes, the Arab nomad tribes actually raided the cultivated territories of the Empire. The chief causes of their insubordination and freedom are to be found in their mobility and in the physical character of their country, which gives them a decided advantage over their opponents.

Aided by a strong animal of transport like the camel, and in exclusive possession of the knowledge of secret waters of their deserts, they can always be sure of a safe retreat and can thus elude the pursuit of their enemy, for whom it is no easy task to follow them up in their forbidding solitudes. Even if the nomad tribes are temporarily subdued by an alien foe, they can always reassert their independence, since the physical conditions of their land, which make an effective control impossible, are decidedly in their favour.

Another reason of the independence of Arabia is its economic poverty and unattractiveness. The natural resources of the land are so meagre that the native population itself has a precarious living. An alien power has very slight prospects of deriving any substantial material gain from the occupation of the country. It was a complaint of the Turks that the province of Hijaz was a burden upon, rather than a source of revenue to, the Imperial exchequer. Despite the economic unattractiveness of Arabia, some foreign powers would fain get control of some parts of it for strategic reasons, if not for economic exploitation. The British government, made wise by the lessons of the past history of Arabia, has been content, for its own part, with attaining its political ends by friendly alliances with, and monetary subsidies to the tribal shaikhs and local rulers, rather than by any extensive occupation of the land itself, which would

give unnecessary offence to the religious sentiment of its Muslim subjects in other parts of the world.

When a student turns from the history of other countries and peoples to that of Arabia, he is at once struck by the absence of political unity among its people. Although the Peninsula is fairly well defined geographically, racially and linguistically - a fact which might reasonably be considered eminently favourable to the growth of political unity - history does not know of a well organized and strongly centralized stable state, coterminous with the natural boundaries of the land. It is true that the Arabs have a clear notion as to their being distinct from other peoples and nations of the world, but the Arab society in Arabia has not been able to weld itself into one organized permanent state. Only here and there in some parts of the Peninsula have arisen in a sporadic manner at various epochs of history dominions of varying extent and power. The South-West of the Peninsula has been the seat of some ancient kingdoms, whose history, however obscure, goes back to a fairly remote antiquity; but so far as we can see, they did not exercise any effective control beyond the agricultural settled territories over which they held sway. The rise of Islam and the theocratic government of the Orthodox Caliphs gave for a short space of time a semblance of political unity to the vast

Peninsula, which in later times continued to give a common but doubtful allegiance to the Umayyad and Abbasid rulers. Coming down to modern times, we find that the phantom of a united Arab kingdom, which foreign aid and personal ambition led the late king Hussain of the Hijaz to see, vanished even before the eyes of the dethroned and disillusioned old monarch were closed in death. The present Wahhabi power of Central Arabia, whose fortunes all students of Arabian affairs are watching with a keen interest, is based on a more solid ground and the very remarkable success it has already attained, remains without a parallel in the history of Arabia since the early days of Islam; but it can hardly be said to have passed beyond the experimental stage, when we take into consideration the reverses it has met in the past and the comparatively short term of its existence.

The explanation of this political disunion and instability of the Arabian society is to be found ultimately in the physical environment of their land and the conditions of life it has imposed on them. About three-fourths of the Peninsula is desert or semi-desert, the home of wandering nomads, incapable of economic and political development beyond the rude Bedouin status of life. Settled life, which alone is favourable for political growth, is possible only in a few favoured parts, which are isolated and separated from each other by vast

stretches of forbidding deserts. In a land where the camel is the sole means of military transport, considerations of water and pasture are of supreme importance. Communications between the various parts of the country are therefore difficult, so that the maintenance of a general control by one authority over the whole land is an extremely arduous, nay well-nigh impossible, task. Geographical conditions thus lend every aid to the forces of separatism and particularism and hinder the growth and expansion of a state that should cover the whole Peninsula and unite all its scattered people in its embrace.

Such states as exist or have existed in Arabia have been generally of limited extent and influence and confined to one part of the Peninsula or another. It will furthermore be observed that they have always had some settled territory as their basis. The migratory Bedouins are incapable of forming a state so long as they lead a nomadic life. Although they have a simple political organization of their own, based on their tribal system, the affairs of each tribe being regulated by its head, called the shaikh, they lack that stability that is necessary for the organization of a state. States have always originated in settled territories. In a sedentary life of agriculture, permanent residence in larger and more complex units leads to a closer integration of social units, for whom land becomes the dominant cohesive force. They feel a growing necessity for an organized

government, to reduce friction within and secure protection from without. Being settled, they are much more amenable to discipline and control than the mobile nomads. In short, the conditions of settled life are, on the whole, much more favourable to ordered political development and the growth of centralized unified states.

The province of Yemen furnishes the most notable example of a favoured area in Arabia, which has embodied considerable political power. Here there has existed from early times some sort of established government. The sceptre of power has passed from one hand to another and even the seat of government has shifted from place to place, but there has generally been a more or less powerful government - thanks to the sedentary agricultural population that has served as the basic foundation of the state. Similarly, in comparatively modern times, the Wahhabi power originated in the Heisiyah-Hanifah valley, the heart of 'Arid, the central district of Nejd. Here, in one town or another, has resided the chief political power controlling Nejd. Further, the establishment of Ikhwan settlements, which is an important part of the political programme of Ibn Sa'ud, shows what weight the rulers attach to settled communities as an element of stability and consolidation in the state. The now defunct Emirate of Shammar was centred in the settled cultivated territory between mountains Aja and Selma.

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