THE HUMAN HABITAT

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Chapter III

The Effect of Geographic Extremes

The sparse populations described in the preceding chapter are systematically found in the most repressive geographic environments, and stand very low in the scale of civilization. An environment which is repressive at one stage of human development may indeed be relatively favorable at another, but that does not affect our principle. Thus Australia was repressive so long as it remained isolated from the rest of the world. One reason was the vast deserts, which are still repressive. Another and far more potent reason was the complete absence of indigenous animals which could be domesticated and form the basis of the pastoral mode of life, and the almost equally complete absence of plants capable of sustaining man as an agriculturist. No race has ever been known to advance far toward civilization without agriculture. Thus the Australian environment was highly repressive until wheat, barley, cattle, sheep, and other useful plants and animals were introduced. Precisely the same is true of California where the aboriginal Indians stood at the very bottom in the scale of civilization, whereas for people of European culture, the environment is highly favorable.

For our present purposes the best way to understand the true relation between man and his environment seems to be to take a relatively few typical examples and treat them quite fully. The Kalahari Desert in southwestern Africa — "the southern Sahara" — furnishes an excellent example of an environment that is repressive because of its extreme aridity. Although the
Kalahari is nothing like so large as the Sahara — only a hundred and twenty thousand square miles compared with three million — it is equally inhospitable, as the Boers found in 1878. In that year a party of Boers, unwilling to submit to the annexation of their country by Great Britain, trekked northwest across the Kalahari to Lake Ngami with about three hundred wagons. They were on their way to the interior of Angola. Water for the animals soon gave out; the cattle grew weak and died; and finally there was no water for the people. Men, women and children died of thirst. Those who survived say that about two hundred and fifty people and nine thousand cattle perished.

In the central part of the Kalahari Desert the Boers found a great ocean of red sand. The crests of the waves were the tops of sand dunes rising from thirty to a hundred feet, while between them lay broad, flat troughs of varying width. On some of the dunes the sand was loose, but a great many were covered with tough, sunbleached grass growing knee-high in clumps at intervals of about fifteen inches. Here and there the travelers came upon dry stream beds where rivers once flowed long ago. Elsewhere the weary ozen found relief as the creaking carts moved easily across broad level stretches, flat as a floor. These “playas” or “pans” turn into shallow lakes if the scanty summer rains are sufficiently abundant, but the water is usually brackish and never lasts long. Sometimes as it dries up, it deposits a bed of sparkling salt crystals which give a curious beauty to the otherwise monotonous scenery. The Boers saw plenty of dry stream beds, playas and salt, but the water that they sought could not be found.

Not all of the Kalahari Desert consists of sand. In the outer portions long finger-like tongues of sand alternate with stretches of grassy land called veldt. Still farther from the center of the desert, especially on the west and north, the grasslands give place to dense scrub and occasional patches of forest. Even in
the central parts, and still more on the margins, one of the most characteristic features is the herbaceous plants which quickly spring up from drought-resistant tubers as soon as the scanty summer rains begin in earnest. One of the most remarkable plants is the watermelon, both sweet and bitter. The bitter kind has leaves like an ordinary watermelon and most beautiful little mottled green fruits with the bitterest taste imaginable. Both kinds supply man and beast with water. Another remarkable feature of the desert is the abundance of game, including the lion, leopard, zebra, jaguar, baboon, ostrich, and many kinds of antelopes such as the kudu and gnu. Along the few more permanent rivers, the hippopotamus, rhinoceros and elephant are found, while giraffes and elands are by no means unknown. Of course these animals are largely confined to the border regions where they swarm around the water holes. In the wet season however, they wander far and wide, and some of them reach the sand, for the succulent herbage that then shoots forth with almost miraculous speed, enables them to live for weeks without a drink.

This curious desert is the home of three kinds of people; one is the Bushmen who live entirely by hunting, and inhabit the worst parts of the desert; the second and most numerous, is the Ba-Kalahari, or men of Kalahari, who depend mainly upon hunting, but live where the desert is not quite so extreme as in the home of the Bushmen, and hence are able to keep a few animals and practice a little agriculture; the third is the Hottentots who inhabit the desert border and depend mainly on cattle, although practicing a little agriculture.

These three races are extremely interesting because they represent three stages of development, and three types of adaptation to a desert. The Bushmen illustrate the effect of the desert upon people whose stage of culture is very low. Of course the ancestors of the Bushmen came from some other
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environment, and doubtless brought with them habits which were not appropriate to the desert, but that was long ago. Today the earlier adaptations are practically lost, and there remain few characteristics save those which are appropriate to a desert people who not only have no domestic animals except the dog, but live in an environment so dry that it is almost impossible to keep any.

How far the physical features of the Bushmen reflect the desert environment it is impossible to say. They are very short people, the men averaging scarcely five feet. Their dirty-yellow faces are described as rather unattractive, partly because of the long low skulls, large prominent cheekbones, and deeply set eyes which give the face a crafty expression. The nose is small and flat, and the wide mouth, projecting jaws, and protruding lips give an animal-like appearance. These characteristics probably antedate the desert, and at least have no known relation to the geographic environment. Nevertheless, like most desert people, the Bushmen are slim, lean, almost emaciated. Even the children lack the dainty roundness which is so pretty in those of more favored regions. So little fat accumulates under the skin that in both men and women the skin often seems as dry as leather and falls into strong folds around the stomach and at the joints. Crooked backs and protruding stomachs are also common, although many of the Bushmen are well proportioned. In spite of all these seeming defects, the Bushmen are active and are capable of enduring the greatest privations and fatigue, for none who are otherwise can survive in so harsh an environment.

These primitive people go about almost naked, for the temperature is never very low. What clothing they have is composed of skins of animals. Practically no other material is available, and none can be purchased because the desert does not permit the people to accumulate a surplus sufficient to pay for clothing from other regions. The men often wear nothing except a triangular piece of skin which passes between the legs and is fastened around the waist with a piece of string. Many of the men, however, and nearly all the women wear the kaross, a kind of cape made of skins sewn together and used as a wrap at night. For footgear both men and women wear sandals made of hide or else of plaited bark. In the absence of clothing, the people need something to keep away the insects. Accordingly both sexes smear their bodies with a kind of native ointment. Dust soon gathers on this and forms a sort of coating like a rind. As bathing is almost unknown, this constitutes a more or less permanent protection, not only from insects, but from the scratching of the bushes.

The way in which the desert limits the Bushmen is seen in their crude attempts at ornamentation. They decorate their necks, arms, and legs with all kinds of teeth, hoofs, horns and shells, which they find in their wanderings through the desert, and stick in their hair rare feathers or the tails of hares. Of course they have a few ornaments which come from other parts of the world, chiefly beads and rings of iron or copper. In order to make their faces beautiful, the women follow the same practice as in America, staining their faces with a red pigment made from the rocks around them. Tobacco is another of the few luxuries which the Bushmen obtain in exchange for the skins of animals. It would be too expensive to carry this in imported tobacco pouches, so the horns of goats are used, or the shells of a land tortoise. A jackal's tail, tied to the end of a stick, is used sometimes for a fan, and sometimes for a handkerchief.

The dwellings of the Bushmen are made of matting woven from reeds which grow in swamps along some of the dwindling rivers. In the plains the low huts of reed matting are often placed above holes in the earth; in the mountains they may take
the form of shelters on the windward side of holes among the rocks. Almost no people in the world have fewer household utensils. Practically the only receptacles are ostrich egg-shells for water, and occasionally a few rough earthenware pots. The food, which of course is practically all meat, is cooked by merely holding it over the fire; and fire is obtained by rubbing hard and soft wood together. Equally primitive people are found only in equally repressive environments.

In spite of their primitiveness, the Bushmen are very clever in their methods of hunting wild animals. Their knowledge of the habits and movements of every kind of wild animal is marvellously keen and accurate, as appears in their favorite practice of following a herd of antelope in its migrations and killing the animals one by one without driving away the rest. The chief weapon with which they do this is a bow, cut in the bushy region on the borders of the desert, and strung with a sinew from some of the larger animals which they kill. The arrow likewise is made of the material that is most available, namely, a reed, about the thickness of a finger and two or three feet long. It is wound with thread to keep it from splitting, and is notched at the end for the string. Iron is too rare and expensive to be used for the heads of arrows which may be easily lost, so the arrow is pointed with bone or stone and a quill is attached to make a barb. Only in rare cases and for special purposes can the Bushmen afford to use iron arrows which they obtain from their Bantu neighbors. Yet curiously enough, tobacco, which only left America four hundred years ago, has penetrated to the Bushmen. So great a solace do they find in it, that when they cannot raise it they sacrifice almost anything to buy it from their neighbors of other races.

With their ordinary bows and arrows the distance at which the Bushmen can be sure of hitting the game is not over fifty feet, yet the clever fellows succeed in approaching thus closely to even the most timid animals. Even at this distance the light reed arrows would not be very effective were not the tips coated with a gummy, poisonous compound which kills even the largest animals in a few hours. This compound is prepared very cunningly and Europeans have not found out just how it is made. It is known, however, that it contains the murky juice of an abundant amaryllis or of a euphorbia, together with the venom of snakes or of a large black spider, or the entrails of a very deadly caterpillar, this latter being often used alone. These poisoned arrows cause the Bushmen to be greatly feared by the races who live around them. The Bushmen must have exercised extraordinary persistence and intelligence in testing the sap of every available plant and the minute organs of innumerable insects and larger animals in order to discover those that make the best poisons. Their ingenuity in this respect vies with that of other primitive men who long ago tested all possible plants and animals to see which could best be domesticated. But the search for poisons leads up a blind alley, whereas the other search led onward to agriculture, transportation, and many other broad avenues of progress.

For use at close quarters, the Bushmen again use the thing that they can most easily procure, namely, a club about twenty inches long with a knob as big as a man's fist at the end. Even in our day, knives and spears with their sharp metal cutting edges are too expensive for most of the Bushmen. The scanty resources of the desert do not allow them to accumulate enough capital to purchase even such obviously useful implements. Almost the only other implement of the Bushmen is a rude digging stick, consisting of a sharpened spike of hard wood inserted in a round flat stone with a hole in it. The stone is fastened to the stick by a wooden wedge driven into the hole. The stick is used by the women to dig the succulent tuberous
roots of various plants that grow in the desert. It is also used to dig pitfalls for animals.

The skill and endurance which the Bushmen display in procuring food are extraordinary. Sometimes, for example, they actually run down many kinds of game, pursuing them relentlessly until they themselves are almost exhausted and the game is completely exhausted and bewildered. On their own legs they do what we modern people pride ourselves on being able to do by means of fast automobiles. Another special accomplishment is the ability to imitate the cries of birds and beasts so cleverly that the creatures draw near. This is one of the Bushman's best methods of getting within striking distance of the animals which are almost his sole means of livelihood.

Such traits present one of the most interesting questions to the geographer, sociologist, psychologist, and student of history. The Bushmen undoubtedly display an extraordinary degree of skill in certain highly specialized lines. Their powers of observation, of endurance, and of patient persistence apparently far surpass those of the average civilized man. But are these powers innate, or are they merely the result of training from infancy? Could the Bushman be equally well trained to the steady industry required by agriculture, or to the life of the merchant with its physical inertness and its necessity for constant study of the desires and characteristics of his customers? Doubtless these questions will always be debated, for the simple reason that such traits as those of the Bushmen are partly innate and partly the result of practice.

A little reflection shows that we are dealing with one of the most fundamental of all principles involved in the study of geography. That principle is that the physical environment, either directly or more often through the type of occupations which it favors, exerts a selective effect. For example, in a region such as that of the Bushmen, where the desert is too dry to permit the use of domestic animals to any appreciable extent, the man who is fat and sluggish is almost doomed to destruction. With the resources available to him, it is impossible for such a man to procure sufficient game to support himself and his family. So too, with the man who lacks the sort of endurance which enables him to follow the fleet antelope for hours. He is equally doomed to destruction if he is so clumsy that he cannot approach cautiously and warily, without disturbing the game. The absence of good eyesight may be equally fatal. Certainly the man who is not a keen observer of nature can never hope to get a living as a hunter in the wild desert. Thus certain types of people almost inevitably tend to be weeded out.

On the other hand, the thin, wiry person who can go a long time without food, the one who is fleet and light-footed when approaching game, the one who is especially skilled in imitating the cries of animals and birds, especially keen-eyed and quick of hearing, and above all the one who not merely observes keenly but reasons correctly from his observations is enormously helped towards survival. He is able not only to preserve his own life in times of scarcity, but to obtain a surplus sufficient to support his wife and children. Therefore, if there is any such thing as the inheritance of physical and mental qualities, it seems inevitable that an environment like that of the Bushmen must tend, in the course of many generations, to weed out those who depart too far from the type described above.

At this point, the social phase of the matter enters in. The youth who is skilled along the lines here set forth is especially desirable as a husband; the parents of marriageable girls seek such a youth. He becomes the ideal, and therefore gets the wife who also approaches most closely to the feminine ideal. Whatever that ideal may be, it always includes good health and
the face of hardships which would be fatal to persons of a less tough and sinewy physique, or with less of the temperament which makes them accept privation without nervous strain. On the other hand, when the Bushmen find food, they eat ravenously; it is said that five adults will eat a whole zebra in a few hours,—entails and all, half-cooked and often raw. The greatest delicacies, such as the occasional honeycombs found in the desert, and the tubers and roots which give relief to a monotonous animal diet, are also eaten voraciously without much thought for the morrow. Is this an indication of thriftlessness on the part of the Bushmen? Perhaps, but it is the natural, in fact, the almost inevitable, result of their mode of life. Not only do they often need large amounts of food when they have been half-starved, but in their hot climate the meat of a zebra, for example, will keep only a short time. To attempt to preserve it and carry it around with them would in many cases merely mean losing it.

One of the most interesting things to the geographer and to every other student of mankind, is the way in which moral characteristics seem to be associated with certain occupations and modes of life. The Bushmen, for example, are accused of being extremely cruel. And so they are. To the white men who settled around the borders of the Kalahari desert, the Bushmen were a veritable scourge. One of their favorite methods was to make raids on the cattle and drive them off in large numbers. Their relations to the white man were almost identical with those of the Apaches of Arizona and New Mexico to the early American settlers. Naturally, such a state of affairs brings out the most cruel side of both parties. Bushmen, like the Apaches and practically all wandering people of the desert, regard raids as one of the legitimate means of making a living. They are the only available resource when every other means of obtaining food has failed. Under such circumstances, the early white
men naturally hated the Bushmen, and made systematic plans for their wholesale destruction. Cruelty met cruelty, for both races were living under conditions which almost invariably bring out that quality.

In other ways beside raids the Bushmen have the same characteristics as other desert people such as the Arabs, Turkomans and Mongols. They are passionately fond of freedom, for example; not because of high moral ideals, but simply because each man must fend for himself, and because the man who refuses to submit to the will of others is not killed off or ostracized as he is in more settled communities. The Hottentot neighbors of the Bushmen easily and almost willingly permit themselves to be made slaves, but the Bushman himself will fight to the last gasp for his personal liberty. Someone has described him as “the anarchist of South Africa.” This does not prevent him from voluntarily becoming a servant, for sometimes he does so, and is considered trustworthy. What it means is that his mode of life neither gives him a training in submission nor eliminates those who refuse to submit.

Among the Bushmen, as among other nomadic people, the mode of life makes it impossible to have anything except a very loose type of political organization. In fact, the word “political” can scarcely be used, for there is almost no tribal organization. Each family runs itself as a rule. Sometimes, to be sure, in special circumstances, as when game is abundant and a large herd of antelope is being followed, it is an advantage for several families to act as a unit. Then they join together and appoint a chief, but the arrangement is never more than temporary. Why should it be? Under such conditions, the individual families, or at most only two or three families, most generally live separately; otherwise there would be too many people for the scanty supply of game.

Courage is another Bushman quality which appears in prac-

tically all nomadic and desert people. Old residents, who seem to know what they are talking about, say that with a dozen Bushmen behind them, they would not be afraid of a hundred Kafirs. The fear inspired by the Bushmen, like that inspired by the American Indians in early colonial days, is said to have had a good deal to do with the cutting down of the trees around the early settlements in the more fertile lands south and east of the Kalahari Desert. If the “bush” were removed far and wide around their dwellings, the colonists had much less fear of the raids of the Bushmen.

Another evidence of the highly specialized mentality of the Bushmen seems to be found in the singular lack of success of missionary work. The ideas of Christianity are said to have no appeal whatever for the Bushman type of mind. Christianity is a peaceful, agricultural sort of religion. The Bushmen have no interest in either peace or agriculture. Christianity teaches industry, but industry in the ordinary sense of the word does the Bushmen no good. It teaches “thou shalt not steal,” but when no food can be procured from the chase or in any other occupation open to the Bushmen, how can one keep his family alive except by making raids? If one makes raids as part of his regular work, he must sometimes kill people as a part of the day’s work. So why, says the Bushman, should he adopt a religion that would spell failure at the most crucial of all crises? Even though the Bushmen may not put the matter that way, that is the inevitable result of their mode of life, their innate temperament, and their training; and all three of these depend on the extremely harsh and unproductive geographic environment. In this respect, as in a hundred others, the Bushmen act and think as one would expect from a study of similar environments elsewhere.