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The American Indian
As a Product of Environment



A TYPICAL SCENE IN THE SOUTHWEST
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Frontispiece

The American Indian

As a Product of Environment

With Special Reference to the Pueblos

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Saturday Classes, Denver University

With Illustrations

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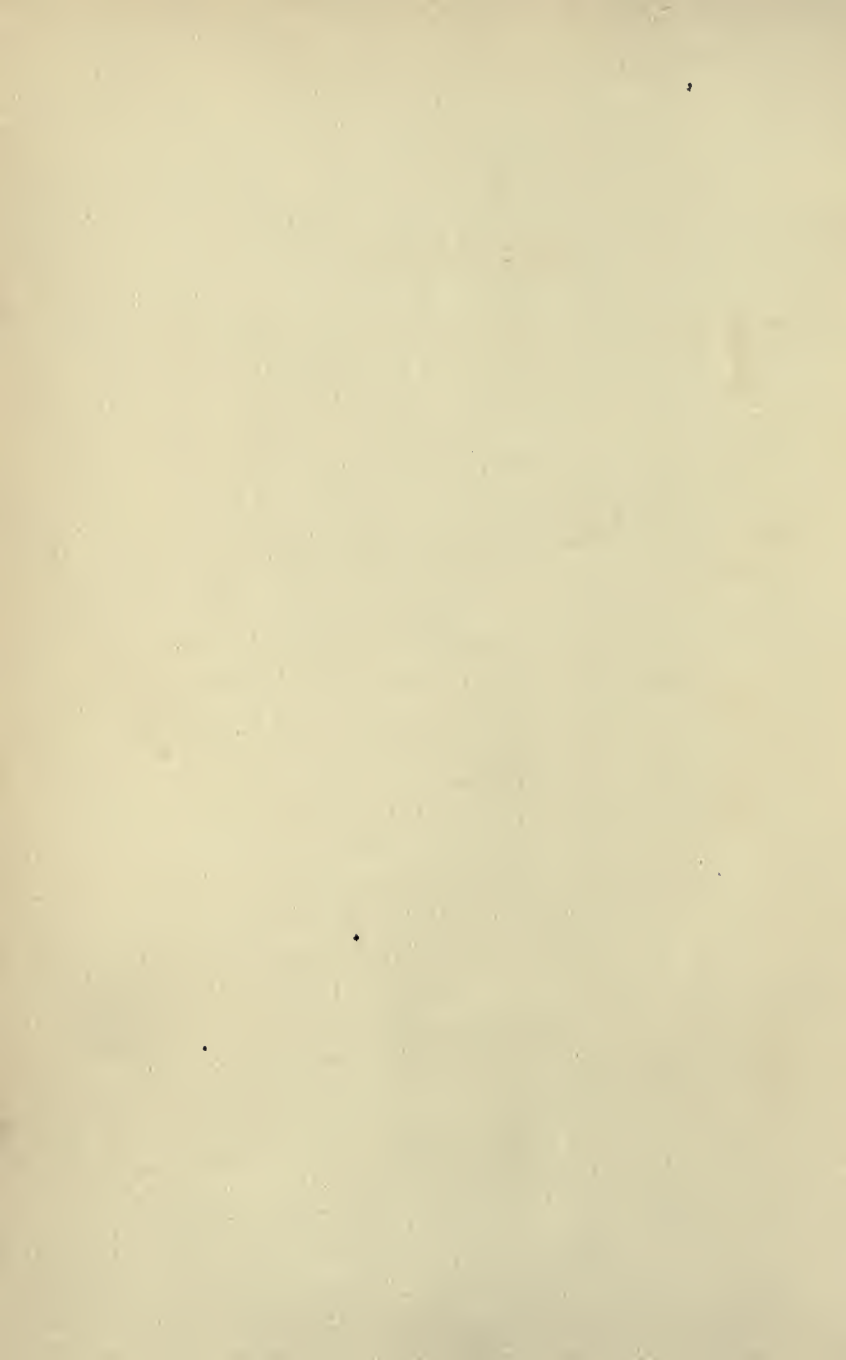
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U. C.
ACADEMY OF
PACIFIC COAST
HISTORY

Dedicated to My Wife



PREFACE

THE fundamental thoughts in this volume were offered some time ago as a thesis for a degree from the University of Colorado. Changed as to arrangement of subject matter and increased to several times its original length, the material is now presented in book form, with the hope that it may be of some service in helping to keep alive an interest in that race which is so rapidly losing its identity.

Written during short and widely separated intervals of time, covering more than a half-dozen years of the busy life of a schoolmaster, it is not surprising if the work shows defects naturally resulting from the interruptions. Thoughts begotten and expressed under such disadvantages are likely to lack continuity and completeness.

In the work there is no attempt at profundity or exhaustiveness. There is only an effort to set forth a few of the more noticeable characteristics of primitive life—especially primitive life in the Southwest—relating to environment. Many interesting phases of Pueblo ethnology bearing on the main subject are merely touched upon, others entirely omitted. Since the general reader rather than the student of anthropology has been kept in mind during the prepara-

tion of the volume, aboriginal terms of a local or technical character have been purposely avoided as far as possible.

Fortune has given the writer the privilege of visiting the Southwest several times for the purpose of seeing the land and its people, and collecting data at first hand; but he is pleased to acknowledge the helpfulness derived from that eminent group of authors who have written so well concerning this interesting Pueblo branch of the aboriginal race. His indebtedness to them is manifested in the various quotations and foot-notes of the book. Should there be any one to whom acknowledgment is due but who has been overlooked, an apology is here offered in advance.

The manuscript has been read by Dr. Francis Kelsey of Michigan University, the honored secretary of the Archæological Institute of America.

A. J. F Y N N .

DENVER, COLORADO, June, 1907.

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The American Indian

As a Product of Environment

CHAPTER I

PLANTS, ANIMALS, AND MAN

ALL life is radically affected by environment. The vegetable kingdom exemplifies this in its geographical distribution of plants. The differences in the flora of the several zones accord with the contrast in surroundings. Only simple plants, such as mosses and lichens, grow on the boundless plains of the far north; while endless varieties of mighty forests of palms, palmettos, rosewoods, and mahoganies, with trunks enshrouded in gigantic ferns and branches interlaced with climbing vines, flourish at the equatorial south. Tender trees thrive in pleasant valleys and under mild skies, but only the hardy ones are able to withstand the violent blasts of the mountains or the higher latitudes. Species of vegetation gradually borne by transplantation from the equator toward the poles, or to more elevated regions, become stunted, changed in color, altered in composition, modified in general structure, and finally reach the boundary beyond which existence is impossible.

Birches or willows sometimes are found growing in uncongenial northern regions, but they appear only as degenerates. Their roots cannot reach very far down into the frozen soil, and the inclemency of the weather prohibits them from thriving. As a result, instead of expanding into large, beautiful, and symmetrical trees, as these species do in the temperate zone, they assume the form and character of mere shrubs, rising but a few inches above the surface.

Even in the same latitude and on the same isothermal line, peculiarities of locality bring out peculiarities of organism. In common swamp-lands, plants are distinguished for rapid growth, soft bark, and abundance of branches and foliage; on the dry plains and sandy deserts, the few varieties that manage to exist are characterized by scantiness of true leaves, abundance of thorns, nauseating or poisonous juices, and coverings of a glazed or pilose nature.

In passing from the plant to its product, a glance is sufficient to remind us that kind, quality, and supply of foods vary in accordance with latitudes and elevations. Seeds and bulbs when carried from one continent, or even one country or state, to another, will not endure radical changes. The less hardy perish, the others become modified in shape, size, flavor, and nutritive qualities. To transplant, for instance, the juicy products of the moist Atlantic coast to the arid plains of Arizona and expect them to flourish would be folly.

To be sure many fruits and grains can endure

considerable variation of environment, but sooner or later results of changes become observable. Take for example Indian corn. It is naturally a sub-tropical grain, or more strictly a cultivated sub-tropical grass. It thrives best in a land of continuous heat; yet it is capable of growing in regions of country of very diverse temperatures. In fact it may be raised on territory so ever-varying as that reaching from Chili to Canada, a distance of several thousand miles. It matures conveniently during any period of time from three to six months, according to the length of the season of the locality in which it happens to be growing; and, in lands of excessive heat, especially in places where the nights as well as the days are warm, it is possible for it to develop from seed to ripened ear in the course of ten weeks. Under very less advantageous conditions, of course a very much longer time is required. The main fact is that while it is a hardy food-plant, capable of enduring many physiographic changes, it cannot resist the influences of climatic laws. When planted at certain distances from a given isothermal line, the stalks vary in height from two to twelve feet, the ears from three to fifteen inches; the kernels become noticeably changed, in size, shape, and color, and manifest striking differences in nutritive value.

Some foods have gained world-wide celebrity for qualities traceable to local characteristics of soil and climate. The cereals of the upper Mississippi Valley are noted for hardiness as well as plenteousness.

Grapes and oranges of California are justly celebrated throughout the western continent. Even in the markets of the Old World, the melons and the apples of Colorado are favored on account of their saccharine properties, produced as they are in the continuous sunshine of the Rocky Mountain plateau. From remotest antiquity, the dry warm climate of Persia and Arabia has made those regions of the world famous for exquisite perfumes. In a word the effects of soil, light, moisture, and temperature manifest themselves on plant life wherever it is found.

In the animal kingdom this dependence on climatic conditions is equally noticeable. Redistribute in a hit-or-miss fashion the fauna of the earth, and a large percentage must die or undergo radical modifications to meet the various changes.

Homogeneous types of brute creation exist on latitudinal, not longitudinal circles. The reindeer, polar bear, and arctic fox flourish in the zone of eternal snows, which is also the home of the large water animals, such as whale, walrus, and seal. Flying about in the icy air as fit companions to these, are numerous ptarmigans and wild ducks.

Farther south, on other isothermal lines, the bison of the New World and the wild ox, buffalo, and aurochs of the Old, animals closely related by nature and adapted to a moderate climate, have lived for ages. Here flourishes also the great group of animals that become easily domesticated, and have been the companions and helpers of man since the morning of time.

The large and lazy pachyderms thrive under skies well suited to them nearer the equator. On a rather wide belt of land and sea, extending from Upper Guinea to the Philippines, may be found the fiercest and most repulsive beasts of prey, the most venomous serpents, and the most gaudy and attractive birds. In the thick forests of Hindustan and central Africa,

“The elephant browses,
Undaunted and calm.”

In the swamps of the valley of the Brahmaputra, the huge rhinoceros is found, wallowing in the mud and satiating his appetite on the rank vegetation abounding in that interesting region. On the banks of the Nile or the Niger, the clumsy hippopotamus finds a congenial abiding-place. In other large sluggish rivers of the same zone, huge crocodiles live, sleep, and fight for food with kindred brutes. From the dense jungles of this equatorial belt, man-eating tigers and lions steal down upon the poorly protected natives and annually carry away their thousands of victims. A still greater enemy, because far more destructive to human life, is the deadly cobra de capello, perhaps the most venomous reptile of earth. Along the coast and among the islands of these seas of southern Asia, live the beautiful birds of paradise.

Permanent modifications of territory, even within very limited areas, have destroyed, driven away, or radically changed the animals within such bounda-

ries. The musk ox and caribou once roamed through the forests of Kentucky, but an alteration of climate drove them northward. The ancient mammoth, roving through the Arctic regions and protected by coarse woolly covering, differed very materially from his progeny, coming down to us in hairless tegument and browsing to-day on the twigs of a tropical forest. The whale of the frigid zone has been forced to develop thick layers of blubber to fit him for enduring the icy waters of that region.

The habitat of animals is also largely determined by the character and quantity of the food supply. The grassy plains of the two worlds attract and hold within their boundaries millions of ruminants. The polar bear lives on the ice, scores of miles out from land, where he is able to catch seals and fish. Various winged animals lay eggs on plants, the tender leaves of which become food for the larvæ when hatched.

The brute creation is noticeably checked in its land migrations by three great barriers,—mountains, deserts, and seas. Before man took a hand in the distribution of animals, there were many regions of earth well suited for species, which, by chance, the forces of nature had debarred. America, prior to the arrival of the white man, was deficient in its variety of animal life. Flocks and herds, which have since been imported from the Old World and have found the climate and soil congenial, have added millions to the wealth of

the country. Australia, shut off from the rest of the continents by the sea, possesses a class of wild beasts peculiarly her own. They are of an ancient and inferior kind.

Shaler¹ tells us that many marine animals are strictly limited in locality by the temperature of the water, and that a variation of only a few degrees will often drive out or destroy the prevailing fish. The preponderance of sex in tadpoles is changed by a change of food.² Weismann³ asserts that dogs from Europe become hairless under the influence of the heat of India; and he proves by experiment that two forms of one and the same species of butterfly are produced by difference of degrees of warmth during the pupal stage.

In fact the brute creation, while possessing some advantages over the vegetable, especially in the matter of locomotion, still finds itself at every turn slavishly dependent upon the decrees of nature. Sun, air, land, and sea are potent masters, stimulating, limiting, or prohibiting animal life everywhere.

In turning to man, there is no intention of setting up geographical environment as the "be-all and end-all," in shaping human affairs. Race tendencies, individual predispositions, self-activities,—all these and other attributes have their influence.

¹ Nature and Man in America, p. 19.

² Pedagogical Seminar, January, 1898.

³ Effect of External Influence on Development.

It might be interesting to the psychologist or anthropologist to attempt to trace even such back to their origin to ascertain if they too may not be strictly the results of the influence of external conditions; but the subject at hand requires no such examination, and hence the fighting-ground of a much controverted question is cheerfully avoided.

Tennyson makes Ulysses say:—

“I am a part of all that I have met,”

and the line is susceptible of a very broad interpretation. Environment reaches to the very heart of the life experiences of both the individual and the race. Latitude, soil, oceans, plains, forests, rivers, heat, humidity, and a score of other physiological influences, general and local, are ever present to modify human pursuits, progress, and destiny. “Man,” says Bryce, “must in every stage be for many purposes dependent upon the circumstances of his physical environment.”¹ Draper writes: “To this doctrine of the control of physical agencies over organic forms I acknowledge no exception, not even in the case of man. The varied aspects he presents in different countries are the necessary consequences of those influences.”² Buckle thinks, “that of the two primary causes of civilization, the fertility of the soil is the one which in the ancient world exercised the most influence.

¹ American Commonwealth, vol. ii, p. 450.

² The Intellectual Development of Europe, vol. i, p. 10.

But in European civilization, the other great cause, that is to say, climate, has been the most powerful."¹ Guyot says: "We may, then, expect to see the great facts of the life of the nations connect themselves essentially with these differences of soil and climate, with these contrasts that nature herself presents in the interior of the continents, and whose influence on the social development of man, although variable according to the times, is no less evident in all the periods of his history."² Among many other writers well worthy of notice in passing are Montesquieu,³ Bluntschli,⁴ Foster,⁵ Comte,⁶ and Spencer,⁷ holding also that the quality of mind and intensity of passions are strongly influenced by climate.

In the colder countries people are vigorous, quick of motion, inclined to bold enterprises, tainted with fewer vices, frank and sincere in speech, less fickle, not readily moved by passionate appeal, less susceptible to music, calm in reasoning, and on the whole compelled to use much forethought, energy, and skill.

In warmer climates there is less inclination to carry out great enterprises. The inhabitants are disposed to be like old men — timid and conservative.

¹ History of Civilization in England, vol. i, pp. 36, 37.

² The Earth and Man, p. 259.

³ Spirit of Laws, vol. i, bk. xiv.

⁴ Theory of the State, bk. iii, chap. i-iii.

⁵ The Mississippi Valley, chap. xi.

⁶ Positive Philosophy, vol. ii, bk. vi, chap. vi-xii.

⁷ Principles of Sociology, vol. i, pt. i, chap. ii, iii.

Their imaginations are easily stirred, their passions quickly aroused. A life of ease is preferred to one of care and activity. Feeling runs riot over reason. There is little independence of thought. Idleness is the soul of happiness; hence the people of hotter climates cling to old customs, old laws, old beliefs, in preference to making original investigations and laying out plans for new and better things. They are disposed to endure despotism rather than to go to the trouble of arousing themselves to throw it off. Their philosophy is dreamy and mystic. They are content to be simply comfortable, and are easily imposed upon, outwitted, and outclassed, by more vigorous and more keenly thinking people. "Is it not a fact," says Wallace, "that in all ages and in every quarter of the globe the inhabitants of temperate have been superior to those of hotter countries? All the great invasions and displacements of races have been from north to south rather than the reverse."¹

It is also worthy of note that in both the eastern hemisphere and the western the more advanced grades of culture first appeared in or near the torrid zone. On the banks of the Euphrates and the Nile, a notable civilization runs back, popularly speaking, into the morning of the world. Arts and sciences were flourishing in those lands when the rude tribes of the north with their stone weapons were engaged in hand-to-hand conflicts with the wild

¹ *Natural Selection and Tropical Nature*, chap. viii, p. 177.

beasts, that, when overpowered, supplied them with flesh for food, and skins for clothing and shelter.

In the new hemisphere the same conditions prevailed. It was the strip of land between the Tropic of Cancer and the Tropic of Capricorn that contained the most advanced aborigines at the time of the discovery of America by Columbus. Here are Mexico, Yucatan, and Peru; and here lived the Aztecs, Mayas, and Incas respectively, the most cultured of all the primitive tribes of this continent. It seems, then, that peoples beneath the equatorial sun are inclined to ripen first, especially when living in lands where the environments demand a certain amount of exertion and ingenuity in order to maintain a livelihood; but yet where a living may be obtained with only moderate exertion.

It has also been observed that the peoples that first attained a marked degree of culture, in both the Old World and the New, were those that lived not only in warm but also in dry climates. A very damp atmosphere, especially when accompanied with excessive heat, enervates. Invalids passing from a country of great humidity to one of extreme dryness become at once noticeably invigorated. So it is with tribes and nations. There has been a tendency on the part of those living on semi-desert lands to develop more rapidly than their neighbors living on those more moist.

When men pass into a different climate and remain permanently, they change in character. The

hardy barbarians that came down from northern Europe and settled on the coast of Africa lost the sturdiness which had characterized them in their early homes. The Hindus in very remote times left their native land, probably somewhere near central Asia, and moved southward into the isolated region beyond the Indus; and the little accomplished by these people in comparison with what has been done by the Greeks, Romans, Celts, and Teutons, other branches of the same family, is very suggestive. "It is a striking fact," says Laurie, "that the fresh and virile spirit of this vigorous race could not sustain itself on the plains of India. The Hindus succumbed to the influences of nature, which were too great and overwhelming to admit of the free growth of the self-conscious personality, so conspicuous in their brethren."¹ Instead of keeping up his energy and ambition, the new-comer became indolent, dreamy, mystic, unambitious, and pantheistic. He has no history like that of his kindred in the West. His whole national life has become stagnant, through the prevailing idea that bliss is a synonym for death of personality. To this has been added the paralyzing effect of an odious caste system, originating evidently in the differences in color between the swarthy native and the light-complexioned Aryan conqueror.

To what has been stated regarding the Hindus, it may be added that the English, who to-day go

¹ Pre-Christian Education, p. 166.

to certain parts of India to reside, are reported to grow lazy and sensual, drifting toward one or the other of the two great classes, which sub-tropical or equatorial countries tend to produce,—despots and serfs.¹

Professor Shaler,² in a magazine article, attributes New England industries and New England ideas to the physical features of the land on which the Puritans settled. Those pioneers found the soil thin and covered with forests. After the trees had been removed and an attempt made to cultivate the soil, it was necessary to clear away the stones. The returns for the amount of labor expended were small. As the stream of migration began to pour westward, it became evident to the New Englander that in raising crops he could not compete with the western farmer, settled on more fertile fields. He turned to the rocks for wealth, but found none. Gold, silver, coal, iron,—none of these minerals to any great extent rewarded his efforts.

There were opportunities, however, in other directions. There was the sea swarming with fish. There

¹“In India the children of English parents must be sent back to Great Britain or they will perish. It is said that in the history of the civil service there has not been a single family which survived three generations. Even the first generation loses the energy which characterizes the parental stock. The whites nowhere in the tropics can undergo continuous physical toil exposed to the sun. They are always found subsisting on the labor of the native races.” Brinton: *Races and Peoples*, p. 279.

² *North American Review*, vol. clxii, p. 726.

were excellent harbors. So the inhabitants became sailors, fishermen, traders, and lumbermen. There was also another striking feature of the country. Though the land was not fertile, yet it contained scores of fine rushing rivers. Along these, great manufactories were built. The variety of industries that grew up by the side of these water-courses tended to make the people inventive. Their occupations also had a powerful influence in shaping their political views; for everybody knows that the manufacturing and shipping interests of New England have been sources of hot controversies in American politics, from the Philadelphia Convention of 1787 down to the present.

No one would question that the adaptability of the tier of southern states for raising cotton, and the fitness of the tier of northern states for entirely different agricultural products, along with mining, manufacturing, and commerce, helped greatly to keep the two sections politically divided for the first seventy years of the Republic, and became a prominent factor in hastening the Civil War.

Other things being equal, countries with extensive seacoasts have a tendency to develop first. The lands about the Mediterranean had made rapid strides in civilization, while the people of more northern and far interior regions were yet in a state of barbarism. Greece, Italy, Spain, and Portugal, reaching out into deep waters, invited commercial intercourse. The Phœnicians and Carthaginians, stretched along

the seashore as they were, could be hardly anything but sailors. For the same reason in later times the Vikings, perhaps the most hardy of all, left their barren rocks to try their fortunes out on the turbulent northern ocean. England and Japan, fundamentally different in a score of essentials such as blood, language, and religion, each lies out in an ocean on an almost directly opposite side of Eurasia; and this physical fact secures for both similar prestige among the nations of two great continents. Guyot makes this sweeping statement: "Call together your historical recollections, and cast your eyes upon the map of the world, and you will see that all the highly civilized peoples of the earth, with the exception of one or two primitive nations, have lived, or still live, on the margins of seas or oceans."¹

Other features, such as height of mountains, courses of rivers, width of plains, coast indentations, and fertility of soil, have powerfully stimulated, checked, or disturbed the growth of national and tribal life.

It may be laid down as a rule that, in temperate regions especially, the first settlements are made on low fertile lands. To be sure, back in the interior in unattractive regions, weak and isolated tribal life may exist contemporaneously with that of far higher culture down on the better soils; but, after all, the law holds good that great nationali-

¹The Earth and Man, p. 171.

ties, big cities, and complicated societies first appear in fruitful valleys and on alluvial plains. Afterward, with the advance of civilization, the enlargement of facilities for promoting industries, and the increased means and appliances for protection against objectionable climates, man is attracted to less favorable regions. Mining interests for example have led him to build towns on lonely, wind-swept, rock-bound mountain tops.

Every schoolboy learns among the first of his geography and history lessons, that the long sinuous coast-line of Europe, with its many outlying islands large and small, has invited civilization since very remote times, and that the monotonous, unindented, islandless shore of Africa has repelled it; that the great number of gulfs and bays for harbors on the Atlantic coast of the United States and the scarcity of them on the Pacific have been and always will be an important consideration in the development of industries, and the distribution of population on the two opposite coasts of our continent; that the Alleghany Mountains were of great value in contributing to the success of the early English colonies, keeping the settlements within certain limits until they became strong and united, and serving as a wall of protection against the incursions of the hostile aborigines of the interior; that from the notable encounter of Champlain with the Iroquois to the surrender of Burgoyne, the country about the head waters of the Hudson was the scene of many bloody

conflicts, simply because nature had fashioned a highway through this region, bestowing great advantages upon those who should possess it.

It is not surprising that the earliest of great civilizations should spring up in southern Asia and northeastern Africa, with their soils rich and easy to till, their annually overflowing rivers, lands attractive for irrigation, and their several climatic and other natural advantages for obtaining abundance of food with comparatively little labor. It is no wonder that the country about the Tigris and Euphrates has been overrun, conquered, and reconquered by nations eager to possess such a coveted prize.

Again, what could be more natural than that Hellas, with a coast fringed with natural harbors, should develop into a great maritime country, and what more likely than that her people in days long before the intercommunicating and confederating agencies of steel and electricity should remain politically disunited on account of rocky ranges, cutting the land into isolated sections? In the words of Cowper:—

“Mountains interposed,
Make enemies of nations, who had else
Like kindred drops been mingled into one.”¹

Other environmental forces may leave deep impressions on a people and strongly influence race characteristics. The aggressiveness which the people

¹The Task, bk. ii, line 17.

of early Rome were obliged to maintain left a marked effect on the race. The little colony on the Tiber was surrounded by hostile tribes. A war-like spirit grew out of these conditions, hence the inhabitants came to be pre-eminently soldiers.

A similar example may be found in the history of the small company that settled on the banks of the Eurotas in the little state of Laconia. The settlers had to hold supremacy over a surrounding population that far outnumbered themselves. The necessity of the case demanded that practically the entire people should be trained to the use of arms. Thus the state of Sparta grew into a military school, so to speak, destined to become immortalized on account of its rugged, efficient soldiery.

The ancient Persians also became a great martial people, because, in the words of Seeley, "Success in defense against the frequent assaults of their surrounding enemies stimulated them to become a nation of warriors."¹

These examples of the influence of environment offer many suggestions, as we turn to some phases of life connected with the aborigines of the New World, where, to use the applicable words of Hewett: "Fixed environmental conditions compelled men to certain activities, to certain beliefs and customs, equally coercive whether true or false, good or bad."²

¹History of Education, p. 36.

²American Anthropologist, n. s. vol. vii, p. 3.

CHAPTER II

CONCERNING THE ABORIGINES OF THE WESTERN CONTINENT IN GENERAL

THE people that were found on the shores of the western world, when Europeans came to explore and settle it, were a race offering to students of science exceptionally fresh and interesting material for thought.

Scattered as they were over an immense area, untouched by civilization, living in every variety of climate, the aborigines were granted unique opportunities for the spontaneous growth of their peculiar primitive institutions. If the study of anthropology instead of the pursuit of wealth had been the primary object of many of the early adventurers, how rich would have been the harvest gleaned from this undisturbed field. To-day the conditions are far less favorable, for numberless treasures of priceless value to the archæologist have been lost forever, while apathy and waste have done their work far too effectually.

Fortunately all is not lost. Of late a spirit of inquiry has been abroad in the land. Sympathetic, truth-seeking, justice-loving, and science-promoting men and women of America and other countries have attempted to rescue from oblivion the story

of this changed and vanishing race. In the interest of knowledge, attempts have been made to preserve as far as possible what is left; and it is indeed a matter for congratulation to the student of primitive history, that there still remain some fragments of aboriginal life which the influence of the white man has not seriously molested.

We are to consider particularly one branch of these people. We are to approach the situation from the standpoint of environment. We shall often refer to the whole race for general characteristics, and to special tribes for distinctive qualities by way of comparison and illustration. As far as possible let us keep before us the type, unfettered and unaltered, as it appeared when first seen by Europeans, rather than the wasted and scattered tribes of later times, fundamentally changed through contact with civilization.

For a people to become modified perceptibly as a result of climatic conditions, a considerable amount of time is required. Some questions, then, naturally present themselves at the outset. Has he, whom we call the Indian,¹ been on the continent long enough to be essentially affected by it? If he has changed,

¹ It is unfortunate that we have no satisfactory name to apply to the natives of the New World. Writer after writer has lamented it, but no one has yet been able to hit upon an unobjectionable term. "Indian" is not definite. "American Indian" is bungling. "Amerind" has merits, but seems objectionable to many on account of its etymology. Other proposed terms have met with enough of opposition to exclude them from current use.

what were his characteristics when he first appeared? Where did he come from? What time has elapsed since the migration?

For centuries the white man has been thrown into contact with this fellow creature, has driven him from place to place, has bargained with him, has fought with him, has tried to proselyte him, has attempted to educate him,—in fact has endeavored to acquaint him with all the arts, customs, advantages, and tricks of civilized life. For centuries the older inhabitant and the newer have looked into each other's faces, the one a mystery to the other.

The original home of both is unknown. It may be that scores of centuries ago the two races stood on opposite banks of some stream in the Old World, possibly on one of the plateaus of prehistoric Asia. Necessity or inclination may have caused the one to face the rising the other the setting sun. Each wanders from region to region, in opposite directions. As generation succeeds generation and century rolls back upon century, those who began the journey pass away and are forgotten. Even the causes of the migrations cease to be remembered. At length here on the opposite side of the world they come together face to face, changed in form, feature, and status, the one a powerful and prosperous people, the other a simple and uncultivated race.

Truly there has been no lack of interest nor want of speculation regarding the part of earth from

which these aborigines drifted.¹ There has been many a war of words over the question of the place of their possible origin, and their relationship to the people of other lands. Almost every region of the eastern hemisphere, large or small, definite or indefinite, has been claimed for their habitat. Sacred books, mythology, language, government, industries, craniology, physique, weapons, decorative arts, and social life of the people of the known world have been studied, and oftentimes curiously lugged in as evidence, to throw light upon the question of the place of their origin.

There is a world-wide difference in the theories presented. To the east, across the Atlantic by way of Iceland, far away over into Scandinavia, one ethnologist has tried to trace back their course. To the west, from island to island, upon the broad Pacific over to far-off Australia, another has thought he has found evidences of their long ocean voyage, extending back through many centuries. Over the ice-bound regions of northwestern America, by way of Bering Strait or the Aleutian Archipelago from China or Japan, others have argued that they came. Some have thought that they were borne over by the equatorial current from western Africa. Argu-

¹ Brinton: *The American Race*, Introductory.

Fiske: *Discovery of America*, vol. i, chap. i.

^{*} Bancroft: *Native Races*, vol. i, chap. i; vol. v, chap. i.

Shaler: *Story of Our Continent*, chap. iv.

Winsor: *Narrative and Critical History of America*, vol. i, chap. vi.

Powell: *Shaler's United States of America*, vol. i, chap. iv.

ments have been advanced to prove them Carthaginians, Greeks, Egyptians, Trojans, Hindus, Chinese, Japanese, Celts, Scythians, and even the lost tribes of Israel. Some think that they are an amalgamated result of many migrations from many lands, extending back over scores of centuries, and that they have become a distinct type of man through the influences of new conditions. The controversy is still going on. The problem may remain forever unsolved.

These disputations, however, have not been in vain. Indeed in several ways much of value has come from them. They have settled beyond question that wherever the red man may have originated, he has been on the soil of the western hemisphere for many, many centuries. Back to the period bordering on the great Ice Age, he has been traced fairly well, and it is possible there yet will appear plenty of geological testimony to prove his existence during the great Ice Age itself. In fact Brinton already assures us that the Indian was here during glacial times, and before the lands of northern Asia or the Islands of Polynesia were inhabited.¹

Again, it seems well established that the original inhabitants were practically of one race. Shaler,² Fiske,³ Bancroft (H. H.),⁴ and many other eminent

¹ Eleventh Census Report: Indians, p. 43, et al.

² The Story of Our Continent, chap. iv.

³ Discovery of America, vol. i, chap. i.

⁴ Native Races, vol. i, chap. i.

authorities think so. The Eskimo may possibly be the trivial exception, but even this is disputed. Brinton says: "The closest observers report the physical traits of the Eskimos as thoroughly American and not Asian, as has sometimes been alleged."¹ He also, in connection with this statement, quotes Dall as saying that there is positively no racial distinction between them and the other American Indians.

Some years ago the mound-builders were thought to be a distinct and superior people, but later investigations seem to prove them Indian tribes. The Creeks, when discovered by Ferdinand de Soto in 1540, had villages with embankments of earth about them for the purpose of defense. These embankments by comparison are found to be similar in size and construction to those of the Ohio Valley.

In fact the opinion is now almost universal that the builders of the Ohio earth-works were the ancestors of the Cherokees and more northern tribes. Fiske says: "As for the mounds, which are scattered in such profusion over the country west of the Alleghanies, there are some which have been built by Indians since the arrival of the white men in America, and which contain knives and trinkets of European manufacture."²

It is also to be noted that the American aborigines differ materially from any people of the Old World. They have race characteristics and individual peculi-

¹The American Race, p. 61.

²Discovery of America, vol. i, p. 141.

arities which seem exclusively their own. As Fiske states: "The aboriginal American, as we know him, with his language and legends, his physical and mental peculiarities, his social observances and customs, is most emphatically a native and not an imported article. He belongs to the American continent as strictly as its opossums and armadillos, its maize and its golden-rod, or any members of its aboriginal fauna and flora belong to it."¹ These people differ among themselves to be sure, but there is only that dissimilarity which we would naturally find in climates varying from Alaskan cold and barrenness to Brazilian heat and verdure.

It may be concluded, then, on eminent authority, that the native home of the American Indian is unknown; that he has been on the western continent for many centuries, so long, in fact, that to all intents and purposes he may be considered an indigenous product; that there was substantially but one race occupying the territory up to the time of the discovery of the land by Columbus.

It has already been noticed that mountain ranges are strikingly important factors in determining the size, shape, and general character of the habitat of civilized nations and groups of nations. Walls of rock, standing out as barriers, have marked for ages the land limits of great European powers, and held in check the ambitions of land-grasping potentates. Asiatic races have found desired safety and

¹ Discovery of America, vol. i, p. 20.

isolation behind the massive mountain chains that run through the very heart of the country.

In the New World, boundaries of tribes, or of other social organizations of natives, were naturally formed by mountain systems. Communication between extreme eastern and extreme western groups was scanty and unimportant, on account of gigantic mountain systems, running more or less closely on longitudinal lines and forming serious obstructions.

On the other hand, intercourse between northern and southern groups was obviously very extensive. Attention has been drawn by Brinton,¹ Bancroft,² and others to the fact that territorial divisions near the oceans, especially along the Pacific, lay, as a rule, in naturally mountain-bound sections of very limited width. Upon a narrow stretch of land, reaching from southern Alaska to the Gulf of California, a distance of two thousand miles, crowded in between the northern Pacific Ocean and the Coast Range, favored by a climate always softened by ocean breezes from equatorial currents, were several tribes that, on account of similarity of surroundings and easy communication, grew to be wonderfully alike in personal appearance and culture. Through a string of inland valleys of the Rocky Mountains, reaching from the head waters of the Columbia River down through Mexico, extending over territory several thousand miles in length, was the Uto-Aztecan stock,

¹ *Races and Peoples*, lect. ix.

² *Native Races*, vol. i, chap. i.

embracing so noted members as the Bannocks, Utes, Shoshones, Mokis,¹ Pimas, Yaquis, Aztecs, and some forty others of more or less prominence. West and south of these, along the middle Pacific coast, the Nahuas, a part of this great parent stock, occupied a fringe of land, extending from northern Mexico to the Bay of Panama. Farther down, the Inca natives were strung along the narrow and sharply inclined western coast to the extent of seventeen or eighteen hundred miles. The extreme southern part of South America, consisting of a cold and mountainous region deeply cut into from all directions by arms of the sea, has long been occupied by the Fuegians. There is almost no level country, and the small, rocky islands and peninsulas are so covered with forests that the wretched inhabitants stick, as it were, to the shore close to the edge of the water. They spend the larger part of their days in canoes in search of food, for the major portion of their living comes from the ocean. On the Atlantic side the Guaranis have roamed, time out of mind, over a wide territory reaching from the Argentine Re-

¹ It is unfortunate that there is not a uniform method of spelling the names of American tribes. One finds the people above designated as "Moki", "Moqui", "Hopi", also such differences as "Esquimau" and "Eskimo". In view of this bothersome state of nomenclature and orthography, the spelling of aboriginal names in this book is that sanctioned by eminent writers, without special reference to linguistic affinity. Other things being equal, preference is given to the orthography found in the Reports of the Bureau of Ethnology and similar scientific productions.

public to the mouth of the Amazon. On the northern coast of South America lived the Arawaks and Caribs. They built strong canoes and used a rude sail in their explorations about the big sea that bears the name of the latter. They migrated from island to island over the Lesser Antilles, thence out upon the Greater Antilles, and even up among the Bahamas, where many of them were living at the time of the discovery of America by Columbus, and who were the first people of the American race seen by the great navigator. The warm waters that washed the shores of the closely huddled islands of the West Indies could not fail to be a strong attraction to the tribes along the banks of the mainland; hence the Arawaks and Caribs naturally came to be the aboriginal explorers, adventurers, and quasi-colonists of the eastern shore of the western continent. To the northwest of these, in the southeastern corner of the United States, were the tribes of the Maskoki stock, hemmed in rather securely by the Atlantic Ocean, Gulf of Mexico, Mississippi River, Ohio River, and the southern ranges of the Appalachian Mountain system. Farther north the Algonkians, a great and powerful division of the race, extended from North Carolina upward and around to the Hudson Bay; and, with no natural barriers to interfere, wandered about over the northern plains to the Rocky Mountains. At the extreme north, the widely dispersed Polar people lived, nomadized, and starved, on their inhospitable ice-fields.

Inland, on the banks of the Orinoco, Amazon, and Parana, with their affluents, over a surface of country covering millions of square miles, intercommunication was the rule, isolation the exception. According to Brinton,¹ tribes have always wandered freely over this vast area and held direct communication — rounds of friendly visits, as well as deadly encounters — with one another. On some portions of this great stretch of territory it would seem that the thick forests must interfere with travel, especially the land travel; but many parts would not be seriously disturbed in that way, and none of them would be obstructed by barriers so formidable as those confronting the tribes farther west.

On the great plains of North America between the Appalachian Mountains and the Rockies, facility of communication among tribes existed in even a more marked degree. Travel from the Gulf of Mexico to the Arctic Ocean was unimpeded. In the Mississippi Valley, which is the very heart of this region, the nature of the country made nomadism irresistible. Here could be found, especially in the western and southwestern portion of it, great expanse of territory, comparatively flat; unobstructed by forests; covered only with short grasses, weeds, and shrubs; visited with but little rain and snow; intersected by water-cut trenches, dry for the most of the year, and by wide rivers, generally shallow and easily forded. On these unfriendly plains, man was offered a living

¹The American Race, p. 229, et seq.

principally through the capturing of wild animals. Here, in pre-Columbian times and even later, before the horse had metamorphosed travel among the tribes by contributing more rapid transit, numerous bands of natives roamed constantly and lawlessly about, stealing and murdering without discrimination.

On this vast territory, earth, air, and sky combined to foster a roving disposition. In a dry, pulse-stirring, and energizing atmosphere; on stretches of land, so little obstructed by natural barriers; with a far-extended, alluring horizon always on a level with the eye; and with no moist, fertile spots to suggest tillage and the making of permanent homes; one can hardly imagine a primitive population other than that of wild migratory bands. Here roamed the lean and hungry Kiowas and Comanches, the Bedouins and Huns of the New World, whose thieving, murdering propensities made them a constant menace to all life and property.

Natural limitations are observable in many less extended territories. For instance, in the northwestern part of South America, the valleys, formed by the Magdalena and Cauca rivers and their tributaries, were densely populated with tribes hemmed in among the three mountain ranges that traverse the country from north to south. Up and down the water-courses, much visiting and trading was constantly going on among the various tribes; while people living a very short distance across the ranges were to them like inhabitants of another world.

The peculiar physical features of the peninsula of Florida have made it a region especially fitted for the wild life of the aborigines. Here is a tongue of land stretching to the southeast for four hundred miles between the Atlantic Ocean and the Gulf of Mexico. It is a low, flat country, full of sluggish streams, many of which are characterized by pond-like expansions. The land abounds in lakes of various sizes. There are forests unusually difficult to penetrate; ugly hummocks hard to approach and extremely dangerous when held by enemies; vast swamps full of tangled shrubs and rank grasses, among which there is no end of hiding-places; and, above all, immense everglades, making ordinary marshes appear tame in comparison,

Here occurred two of our Indian wars, one of which was doubtless the most costly, savage, protracted, and discreditable of all our Indian campaigns. It took the government of the United States seven years, at an expense several times greater than the original cost of Florida, to defeat considerably less than two thousand Seminole warriors, occupying this territory; and the loss of life to the Americans was nearly equal to the whole fighting force of the enemy.¹

¹“It had cost the United States upward of forty million dollars and an unknown number of lives. Of the regular troops, one thousand four hundred and sixty-six, of whom the very large number of two hundred and fifteen were officers, had died during the contest.” Drake’s *Indian History for Young Folks*, pp. 424, 425. (Other authorities put expense at a lower figure.)

Farther north were the Iroquois, who were especially aided in their achievements by physical agencies. In the first place, they lived in a latitude and on a thermal belt that stimulated them to put into profitable practice all their energies. The latitudinal line of 43° and the mean isothermal line of 53° ran through the very heart of their country. Here, halfway between the north pole and the equator, was their home. It was a land of neither enervating heat nor paralyzing cold. It was on a belt of earth always distinguished for the production of men of strong constitutions, clear brains, indomitable purpose, and untiring energy. Again, the same advantage that counted so much for the English over the French in the Colonial wars, viz., restriction in territory and compactness in population, counted also for this well-organized and formidable Iroquois Confederacy, in its various conflicts with the hordes of hostile tribes that extended completely around it. From their advantageous position along the Mohawk River and the chain of lakes of central New York, these restless, ambitious fighters could pounce out upon the unforewarned tribes of Algonkins in the adjoining territory, with astonishing haste and effectiveness. Natural passageways, by water and land, led out in every direction from their closely clustered homes. The Appalachian Mountain system, which in territory farther south was a formidable obstacle in the way of tribal incursions, was in this region so eroded and leveled that it offered practically no obstruction to

primitive traveling. These peerless Five Nations lived at the sources of great rivers and on the borders of important lakes, upon which canoes were advantageously used and alongside of which excellent trails were made, leading eastward, out beyond the junction of the Mohawk and Hudson into New England; southward, along the Hudson, the Delaware, and the Susquehanna into southern New York, New Jersey, Pennsylvania, Delaware, Maryland, and Virginia; westward, down the Allegheny and Ohio rivers and along the southern shore of Lake Erie into the vast territory of the Mississippi Valley; and northward, by the way of Lakes George and Champlain and the Richelieu River, or along the Oswego and Black rivers, the eastern shore of Lake Ontario, and on to the Saint Lawrence into Canada. "They harried the Indians to the north and the south until they were virtual masters of the territory from Hudson Bay to North Carolina, and east and west they pushed their conquests until their borders were free from danger." ¹

In and around the northwest corner of North America, have lived, since far remote times, tribes that in many respects would remind one of the Arawaks and Caribs down on the eastern equatorial coast. Portions of the shore and some of the islands of this north Pacific region are tempered, as has been noticed, by the Japan current; while other portions, owing to the high latitude and cold currents

¹ Farrand: Basis of American History, p. 161.

from the north, are bleak and frozen. A long mountain range reaches from Alaska, in a southwesterly direction, far out into the ocean, where it has become broken up into a large number of islands, forming the Aleutian Archipelago. These and other fragments of land in the vicinity have enticed the natives to them, and, at the same time, the inhospitable shores have driven the people out upon the sea for food, so that they have become pre-eminently a maritime people. With boats made from the bones of walrus and the skins of seals, they venture far away from home out on the turbulent waters, exposing themselves to great danger and enduring extreme cold, hunger, and fatigue. Their life is a struggle for food, which with them consists principally of fish, a few roots and berries, seal, otter, and whale blubber. Respecting the Aleutes, Bancroft says: "Their legs are bowed, from spending so much of their time in boats; they frequently sitting in them fifteen or twenty hours at a time."¹

The coast and adjacent islands of northwestern Mexico lying east of the peninsula of Lower California have long been held by the Seri Indians. Isolated from the rest of the world by natural barriers and being able to maintain at best only a precarious existence on those naked rocks and hot barren sands, they have come to be more brute than human. China and Egypt in their most exclusive days could hardly have looked with greater disfavor upon visit-

¹ Native Races, vol. i, p. 88.

ors than have these people, even up to the present time. They have exhibited a fiendish hatred not only for all alien races but even for the few neighboring remnants of their own. The contrast between this sterile region and that a few hundred miles to the southeast corresponds very suggestively with the difference between the life and character of these wolfish indigines on the one hand and the attainments of the ancient highly cultivated natives on the other.

Bandelier, referring to the lack of concentration among the Navahos when first seen by Europeans, says: "Their country, in many portions of it, fostered separation into small bands; for its deep valleys are long rather than broad, and the arable and irrigable spots lie in nooks, corners, and bay-like openings."¹

The natural highways and open places of America not only encouraged the growth and expansion of the great aboriginal families, but they contributed largely to the breaking up of groups and the complete separation of various branches from parent stems. On the banks of the Yukon and the Rio Grande rivers, two or three thousand miles from each other, have existed for centuries, in considerable numbers, easily recognizable branches of the great Athapascan stock; and northward or southward within the great furrows of the Rocky Mountain plateau, moved detached bands from one of these territories toward the other, prompted by war,

¹ Investigations Among the Indians of the Southwest, part i, p. 176.

food-quest, adventure, curiosity, or other motives. Meeting perhaps with powerful war-parties, or induced by hunger, attractive landscapes, or other influences, these small bands were drawn or driven from their naturally created pathways, laterally downward through the western passes of the mountains; and here and there to-day one may easily find along the broad Pacific, especially on the California coast, remains of the homes and the home-life of these off-shoots.

Let us pass again over the map of the western hemisphere, particularly over the northern portion of it, observing the various inhabitants of the country from the viewpoint of race culture.

When the aborigines of North America were first seen, they represented several stages of progress. Not only great territorial groups and linguistic stocks differed materially in degrees of advancement, but even the tribes, and some very small ones at that, served as marked examples of the advantages or disadvantages of physiographical conditions.

Taking Morgan's ethnic periods¹ as a basis, one would rank the people of the plains of northwestern North America in the upper stages of savagery; the tribes east of the Mississippi, generally speaking, in the lower stages of barbarism; the tribes of New and Old Mexico, Yucatan, Central America, and Peru in the middle stages of barbarism, or what the old geographers would call a semi-civilized condition. To

¹ Ancient Society, chap. i.

be sure, the tribes, scattered along the great plateau reaching from the Rio Grande River to Lake Titicaca, lacked a real phonetic alphabet, which anthropologists emphasize as a requisite for admission into the ranks of civilized or perhaps even semi-civilized society; but they were on the way to meet even this requirement, and had advanced far along other lines leading toward civilization. For an incomputable length of time, they had been using — as was the case with most, if not all, of the tribes of the continent — the bow and arrow, that compound weapon so important in the evolution of races. They had long been familiar with the art of pottery-making, which signifies so much in the establishing of a gregarious, sedentary, and communal life. Their governmental systems were unique and considerably complicated. In many localities — in fact it may be laid down as a rule in their country — they had largely given up the precarious life of hunting, and had settled down to agriculture. They were already building comfortable and permanent structures of stone and sun-dried brick, serving the double purpose of dwellings and forts. They were just short of reaching the art of smelting iron, that greatest, that almost indispensable metal of civilization; though, according to Prescott,¹ Bancroft,² and others, some were already making bronze.

¹ History of the Conquest of Mexico (first edition), vol. i, p. 139.

² Native Races, vol. iv, p. 557.

A great disadvantage to them was the absence of domestic animals. The early inhabitants of the Old World were favored with a group of larger beasts, which were easily tamed and consequently became companions and helpers. The New World contained no cows, pigs, goats, sheep, elephants, donkeys, or camels, or, at least, no species that seemed easy to domesticate. There was lacking the most useful animal of civilization — the horse — whose size, strength, swiftness, endurance, and intelligence fit him particularly to be the servant and comrade of man. The dog among the natives was chiefly a companion of the chase, excepting at the far north and in some parts of the great plains, where he was a passable beast of burden. The bison and the mountain sheep were not docile enough to be used to advantage as domestic animals.

A slight exception to what has just been said must be made with regard to the Peruvian aborigines, who made some use of the llama and alpaca for food, clothing, and beasts of burden; but these animals were very limited in usefulness and confined to a small area.

As a partial compensation for lack of tame beasts, a cereal plant, the maize, was widely distributed over the New World and helped substantially the growth of village life. This plant was cultivated very extensively among the various branches of the race, extending from New Mexico to Peru.

Before leaving these people, who of all the aborigines were most advanced in culture at the time of the discovery of America by Europeans, it should be noticed that, while they lived within or near the tropics, they did not, as a rule, make their homes on the hot, humid, and enervating lowlands. Had they done so their career would have been far different. They would doubtless have been as rude and repulsive as many of the tribes to the east of them, especially those found near the Amazon and its tributaries.¹ They luckily selected for their habitation the high and dry isolated plateaus, crowned and fringed with snowy peaks, among which circulated the pure, stimulating, mountain air. This elevation secured for them many of the advantages of the temperate zone, and their naturally fortified retreats tended to save them from invasions by savage hordes. Here half-way between the poles, on the crest of this western world, scattered for four or five thousand miles through elevated natural parks and pleasant valleys, these people lived, struggled, and prospered.

The whole population north of Mexico, consisting perhaps of four or five hundred thousand

¹“In culture the Tapuyas are reported to stand on the lowest scale. When free in their native woods they go absolutely naked; they have no other houses than temporary shelters of leaves and branches; they manufacture no pottery, build no canoes, and do not know how to swim. When first in contact with the whites, they had no dogs, knew nothing of the use of tobacco or salt, and were common cannibals.” Brinton: *The American Race*, p. 238.

people, was divided into about a dozen large territorial groups.¹ Of these the most of what may be termed the barbaric Indians were scattered over a middle zone, or section, reaching eastward from the Rocky Mountains to the Atlantic and northward from the Gulf of Mexico far above the Great Lakes and Saint Lawrence River. This area, comprising less than half of the dozen greater families of North America above the Gila River, contained probably more than half of the population.

Many of the groups within this great barbaric section of country doubtless should be classed as nomadic, or, at least, semi-nomadic. There were loosely defined territorial limits, within which clans, tribes, and confederacies were supposed to remain,² but the members of those organizations were constantly pushing out beyond their own domains, and waging war with their neighbors; and very frequently a fight meant the extermination of one of the antagonistic parties and the occupation of the land by the other.

The tribes and families scattered over this large and highly diversified country differed very mate-

¹ Brooks: *Story of the American Indian*, chap. iii.

Brinton: *American Race. North American Tribes.*

Deniker: *The Races of Man*, chap. xiii.

If all the small struggling groups were counted, the total would be about sixty.

² Tylor says this of land tenure in South America: "Thus in Brazil each tribe had its boundaries marked by rocks, trees, streams, or even artificial landmarks, and trespass in pursuit of game was held so serious that the offender might be slain on the spot." *Anthropology*, p. 419.

rially from one another in size, character, and pursuits. Bordering on the Gulf of Mexico and the Atlantic, and extending over nearly a half-dozen of the southern states of to-day, were the Appalachians, or Maskoki, dwelling in a fashion suited to the opportunities and limitations of their subtropical climate. The nature of the country inclined them toward a sedentary and agricultural life.

Directly to the north of these and covering the greater part of the territory extending from the Atlantic to the Mississippi and up to Hudson Bay, were the Algonkins, strong, fearless, and full of the energy which is characteristic of men living in such latitudes.

In northern New York and reaching over into Canada and out among the Great Lakes, were the Iroquois, whose energy and prowess gained for them the title, "Romans of the New World." As has been noticed, they were completely surrounded by Algonkins whom they closely resembled in ambition and fighting qualities, but to whom in many respects they were superior.

To the westward, covering an immense territory bounded by northern Texas, the Rocky Mountains, the Saskatchewan region, and the Mississippi River, were the Dakotas, or Sioux, wild as the plains over which they roved.

As has been said, these barbarous natives were, generally speaking, nomads. They, however, maintained a primitive sort of village life, and a few,

for example, the Iroquois, Mandans, and some tribes farther south, built immovable and tolerably substantial habitations. Many, perhaps the majority, of their dwellings, however, consisted of tents of skins, which could be taken down easily and carried to any place where game, horticulture, war, or plunder might attract them. For food they depended principally upon the chase and the products of the rude tillage. The latter was carried on mainly by the women.

Their arts consisted of such simple industries as the production of crude pottery, coarse ornaments for clothing, canoes of bark or skins, boats formed from logs, and a few common primitive weapons.

The misfortune of lacking domestic animals on the American continent has been already referred to; and this want was particularly felt throughout these vast areas of open country, where beasts of burden would have been extremely valuable. The uniformity of nature and the flatness of this part of the western continent, extending over territories covering thousands of square miles, have attracted the attention of visitors and writers like Bryce,¹ De Tocqueville² and Guyot.³ The general evenness of country along the Atlantic seaboard, in the vicinity of the Great Lakes, and throughout the Mississippi Valley, contributed much toward keeping the natives

¹ American Commonwealth, chap. cxvi.

² Democracy in America, vol. i, chap. i.

³ Earth and Man, chap. viii.

in a state of barbarism. Easy and constant intercommunication may be one of the most potent factors in sustaining the march of civilization, or may prove a barrier. The effect depends upon the nature of the intercourse, and the status of the parties coming into contact with one another. In primitive life there seem to be certain advantages in isolation. On this topic Shaler says: "It appears in the Old World that all the folk who succeeded in passing from savagery to civilization, secured their advance by occupying some limited field where, by reason of mountain ranges or broad spaces of sea, they were safe from the incursions of savage neighbors, and were thus able through centuries to accomplish a great deal of progress in the development of the arts, which is impossible without the seclusion and safety which comes from such isolation."¹ One may pass from England to Egypt, through southern Asia with its isolated sections, on to Japan and thence to America, or he may take a more northern route above the Alps and Himalayas, and, in either case, he will find, on every hand, abundant proof of this statement. It was impossible for American tribes to exist and thrive, or, at least, to make much progress, where the topography of the country offered no protection from powerful neighboring marauders, ready at any moment to swoop down upon more or less sedentary communities, destroy them, and seize everything in sight. There is little

¹ Story of Our Continent, chap. iv, p. 162.

ambition to accumulate wealth, to foster the arts of peace, when the life and property of a people are constantly menaced, and the chief business of life must be given up to warfare and preparation for warfare.

This portion of the United States, on which the barbarian natives have lived, is of special interest to us from a historical viewpoint. Here were the aborigines that most engaged the attention of the pioneers who were planting colonies and states. These were the hardy natives with whom the whites traded, fought, and made treaties. Here were the great warriors that stubbornly contested every foot of ground gained by the intruders. Here, also, could be found the most noted orators and statesmen of the red tribes. Here was the courteous Massasoit, honored by two races. Here was his son, Philip, a terror to the thinly scattered settlers of New England. Here were Powhatan and his daughter, two figures of more than ordinary interest in Virginia history. On the outskirts of the Adirondacks was Brant, the Mohawk, a warrior of the fiercest type, obtaining an education from the white man and using those accomplishments against the early settlers of the Empire State with telling results. Here, on the shore of Seneca Lake, was Red Jacket, the distinguished barbarian, the consummate orator, whose abilities would be a credit to any civilized nation. On this geographical belt was the great Ottawa chieftain, Pontiac, a leader

of marked ability, fearless and crafty, an unmitigated enemy of the new-comers, and the pre-eminent conspirator of all the aboriginal north. In the region of the Ohio was Tecumseh, the famous Shawnee, who proved almost a rival of Pontiac himself as a leader and fighter. The land about the upper waters of the Mississippi produced Black Hawk, the famous Sac chieftain, fearless, restless, and ambitious, the unrivaled hater of the white race, the enviable warrior and forensic leader of his own. Many others might be added. Such names as Chief Joseph of the Nez Percés, Sequoyah of the Cherokees, Sitting Bull of the Sioux, Captain Jack of the Modocs, and Satana of the Kiowas come readily to mind. A long roll of names might also be added to exemplify noted deeds of valor, mercy, justice, patriotism,—in fact the whole list of virtues, the counterparts of which, when found in the ranks of civilized men, are recorded and cited “to point a moral or adorn a tale.”

It is not for the purpose of arousing sentiment or sympathy, nor is it even for exalting the character of the natives, that these nobler qualities have been named. The world is familiar with the Indians' perfidy, their cruelty, their delight in torturing victims, their custom of taking scalps, and their many other undesirable traits of character and horrible customs. All this is readily conceded, but the impression too often prevails that these people have always been and now are practically devoid of intel-

ligence, honor, or morality; which certainly is far from the truth. The witnesses on the other side, unfortunately, have not had the privilege of giving testimony.

There are, indeed, good and bad Indians, as is the case with the white race. Some one has truly said that between a Pueblo and an Apache, or a Nez Percé and an Arapahoe, there is as much difference as between a Broadway merchant and a Bowery rough.

It seems, therefore, that the members of this great barbaric division — still keeping in mind Morgan's classification — on account of the disadvantages of the open country, the lack of domestic animals, the difficulties of forest-clearing, their ignorance of iron-smelting, and other similar drawbacks, were unable to get farther along than this middle stage of culture; nevertheless, the names of the brilliant chieftains we have noticed, as well as the native vigor of the tribes under discussion, remind us that here stretches out on latitudinal lines the great intellectual zone of earth, and here we find, as would naturally be expected, restlessness, ambition, determination, enterprise, and advancement,— all of which are characteristic of this great mind belt. The January isothermal line of forty-one degrees runs through the very heart of the country we have just been discussing, and, in regard to the aboriginal occupants of it, the remark of Draper seems particularly appropriate: "It [the January isothermal line of 41°] may therefore be regarded as the axis of a zone a few

degrees wide, upon which, in Europe and Asia, all great men have appeared.”¹

As in the Old World there has been a tendency in the north temperate countries to foster race independence, individual freedom, and democratic forms of government, and in the more southern a tendency toward serfdom and monarchical institutions, so, among the aborigines of North America, there appeared a much stronger personality, a more independent spirit, and, on the whole, a much keener intellect, than among the members of the race living on the lowlands in the vicinity of the equator. “The Indian of the North,” says Scudder, “was a stern, silent man, who knew the rigors of a northern winter and the perils of the wilderness. His highest idea of courage was to suffer without complaining. He was a different being from the Indian whom the Spaniard met on the islands of the Gulf or even in the highlands of Mexico.”² “The Indians that Columbus met in the West Indies,” says Montgomery, “were usually gentle, timid, and easily enslaved by Europeans. But no colonist ever accused the northern Indians of excessive meekness of spirit.”³

Regarding a tribe a few degrees south of the equator in the interior of South America, Brinton says: “[The Cashibos are the most savage tribe on the

¹ Civil War in America, vol. i, p. 124.

² School History of the United States, p. 52.

³ Student's American History, p. 19.

Ucayali or its affluents, and are said to have the ugly custom of eating their relations when they die, and if this event is long delayed, the old men are killed.”¹ Of a tribe on the Mamore at about thirteen degrees south of the equator, he says: “They were unusually dark in complexion and ugly of feature; nor did this unprepossessing exterior belie their habits or temperament. They were morose, quarrelsome, tricky, and brutal cannibals, preferring theft to agriculture and prone to drunkenness.”² “In the South American Indian,” says Guyot, “all these defects are still more exaggerated, and give to the races of the South compared with those of the North, a very marked character of inferiority.”³ Though our interest first of all is in the aborigines above the Gulf of Mexico, these South African tribes have been noticed in passing, because they exemplify vividly the deep contrast between themselves and those above them on the north temperate zone.

On the same latitudes even, there are differences worth noting. The milder coast of the Pacific seems to have brought forth a gentler kind of people than did the “stern and rock-bound coast” of the Atlantic. “The Pacific tribes are more quiet, submissive and docile; they have less courage, and less of that untamable independence which is so constant a feature in the history of the Algonkins and Iroquois.”⁴

¹ The American Race, p. 290.

² Id., p. 301.

³ Earth and Man, p. 247.

⁴ Brinton: American Race, p. 104.

If it seemed necessary, many striking examples of similarity of tribes living far apart could also be furnished, where physical conditions are of the same nature in both countries; as, for example, the nomadic Pampean stocks along the banks of the Parana compared with the roving tribes of our own western plains.

To the northwest of a line loosely drawn from Hudson Bay to the northwestern corner of the United States, were what may be called the savage aborigines, representing the third great division of the race, in distinction from the barbarous and semi-civilized, already noticed. Over the greater part of the inland portion of this territory roamed the Tinneh, or Athapascan, tribes, undoubtedly the best representatives of this grade of culture. The land on which they lived was cold and barren, and from it the real necessities of life were obtained with difficulty. The half-starved inhabitants prowled about over the country, singly or in small groups, searching for the limited supply of berries, roots, fish and wild game, which the region afforded. These hard conditions fostered isolation and savagery, and so prohibited any extended system of village life and domestic arts. Occasionally bands, such, for instance, as the Apaches, would wander off the territory and fight their way to the possession of perhaps more congenial lands, far remote from their ancestral abodes.

Above, on a frozen fringe of territory some five thousand miles in length and bordering on the Arctic

Ocean, the Eskimos have lived, no one knows how long. Three months of darkness, three of sunlight, and six of twilight bring to the people occupying these regions peculiar experiences — experiences such as are never dreamed of in more favored lands. On these ice-bound tracts all thoughts and actions of the people are consumed in plans and in the execution of plans for obtaining food. When men live on the borderland of starvation, and all energies are expended in simply devising ways and means for getting nourishment, there can be no culture of a very high order.

In taking a look over this vast territory, extending from the ice fields of the Arctic to the barren cliffs of the Tierra del Fuego, the survey has necessarily been wide and superficial rather than deep and thorough. It has been a glimpse, nothing more; but in a general way it may be seen that throughout the whole western world the several great physical agencies, such as seas, rivers, plains, deserts, forests, and mountains, have set limits, or given encouragement, to the growth and progress of the various divisions of the race. Everywhere the topography of the country has created tendencies to unite into large groups or to break up into small ones. Some tribes we find squeezed into isolated and undesirable localities, others given excellent advantages for development and improving those advantages. Examples are plentiful to show how the occupants of one district, on account of limited land boundaries and scanty

food supplies, were always on the threshold of extinction, while neighboring tribes, more highly favored, were constantly growing larger and more powerful.

If a closer inspection were deemed necessary, one could find among the widely scattered members of this interesting western race, almost unlimited examples of local influences, entering into their life and affecting their various careers. Tacitus tells us how the wild German tribes in seeking homes were induced to settle in this locality or that, owing to topographical consideration.¹ Likewise the thousands of lakes, bays, inlets, brooks, coves, pools, springs, islands, rivers, sea-beaches, strips of fertile soil, valleys, glens, caves, sheltered nooks, useful minerals, plants, wild beasts, birds, and fishes of the western continent have been incomprehensibly accountable for the various allotments and distributions of the numerous tribes. Moreover, this diversity of physical conditions, from the most important one of climate down to some simple source of local attraction or disturbance — even a tribal quarrel over the possession of a natural water-fountain — stirred the passions and shaped or modified the character, in accordance with the greater or lesser influence of the agency in operation. “The native races of America,” says Bancroft, “by their geographical position and the climatic influences which govern them, are of

¹“Colunt discreti ac diversi, ut fons, ut campus, ut nemus placuit.” *Germania*, 16.

necessity to a certain degree similar; while a separation into isolated communities which are acted upon by local causes results in national or tribal distinctions. Thus the human race in America, like the human race throughout the world, is uniform in its variety, and varied in its unity. Descending from the north into more genial climes, the physical type changes, and the form assumes more graceful proportions. With the expansion of nature and a freer play of physical powers, the mind expands, native character becomes intensified, instinct keener, savage nature more savage, the nobler qualities become more noble; cruelty is more cruel, torture is elevated into an art, stoicism is cultivated, human sacrifice and human slavery begin, and the oppression and degradation of woman is systematised.”¹

¹ Native Races, vol. i, p. 96.

CHAPTER III

PUEBLO LANDS AND HOMES

THE aborigines to whom special attention is directed in these pages, comprise a large part of the native inhabitants of the land of New Mexico and Arizona, a narrow strip of southern Colorado and Utah, a small portion of southeastern California, and considerable territory of northern Mexico. This rather indefinite area may be larger than that actually occupied by these people, but the boundaries are made large purposely so as to include abandoned homes in outlying districts. The region is known as the Pueblo country, a name given it by the Spaniards. The word *pueblo* means village, and hence the people living in these peculiar communal houses are called Pueblo Indians. Within the border of this expanse are other aborigines, not dwelling in such buildings, but who, on account of proximity and inter-relation, are entitled to occasional notice.

Ranges of the Rocky Mountain system traverse the country in a northwesterly and southeasterly direction, while sharp spurs run outward from the main series toward every point of the compass. Cañons thousands of feet in depth, and many of them so narrow that the rays of the sun can hardly penetrate

them at noonday, are found all the way along the higher elevations. Isolated peaks reach upward from the principal ranges to the height of twelve or thirteen thousand feet above sea-level. Here also are vast plateaus—*mesas* they are called in the Southwest—rising abruptly from the common plain to the distance of several hundred feet, and covering hundreds of square miles. Frequently, at some distance back, other similar steep masses appear above the first tier, so that there are often three or four immense platforms, the whole forming a system of majestic terraces. Here and there solitary buttes, worn into forms of cones or truncated prisms, stand out on the horizon, and give to the field of vision a peculiar aspect of loneliness and mystery. Huge jagged rocks, jutting out from the primary elevations, becoming toned down in color when seen from a distance, appear like great forts, castles, or cathedrals.

Over the whole, nature spreads a variety of coloring that is truly fascinating. White, red, and gray rocks form a background, upon which settles an atmosphere of deep and dainty tints. Throughout the whole day the color scheme is constantly changing. The delicate blues, yellows, pinks, and purples are hour by hour intensified, softened, blended, or superseded by other hues.

As the sun passes out of sight into the western horizon and throws its last rays upon the summit of some lofty peak to the eastward of the observer, a most picturesque series of colors, lying in strata, may



RUINS OF CLIFF HOUSE, MANCOS CANYON, COLORADO

be seen, as the eye passes from the fiery summit down through an ever softening pink and on through an ever deepening blue into the nearly black circle at the base.

On account of the bright sunlight, ordinary shadows are remarkably dense; and therefore hollows, caves, and cañons appear almost dark as night.

These natural objects and unique conditions — the clear air, bright blue sky, charming sunsets, and exceptional variety of landscape color — make the mountain country of Pueblo land a paradise for the artist.

While the distributions of lights and colors lend charm to the country in general and to the mountain districts in particular, there are many sections which have an over-abundance of unattractive natural features. There are great stretches of plains, the very embodiment of monotony. Standing on some elevation, one may look out over an immense level region as over an ocean. Not a sound greets the ear. Not a living, moving object is in sight. The loneliness is oppressive. The sun pours down from a cloudless sky through the thin atmosphere and makes the daylight fierce and dazzling. Here and there the hot air-blanket, unsteadily hovering over the sandy plain, becomes suddenly broken in spots, and whirling clouds of dust rush upward into the heavens. One is surprised to see in the far distance what appears to be an immense, calm, and glassy lake. Nearer are natural objects lifted disproportionally into the skies.

Other forms are observed, imperfect in outline, like figures seen through defective glass, or reflected on ruffled water. The illusion vanishes when it is recalled that this is the land of the mirage. The heat of the day rapidly dissipates in the rarefied air as soon as the sun goes down, and hence the nights are cool. Snow, occasionally falling to the depth of several inches, passes away in a few hours.

Vegetation as a natural growth is scanty. There is hardly anything worthy of the name of turf. There are several kinds of weeds, interspersed with nutritious grasses. Cactus, greasewood, yucca, rhus, and artemisia are indigenous to such soil and climate, and hence appear as characteristic plants. There is, as a rule, but little underbrush. Willows, cherry-trees, and alders are occasionally found on the banks of streams. Cottonwoods grow here, as throughout the whole Southwest. The forests are, for the most part, of the nature of groves, and consist principally of spruces, pines, scrub-oaks, junipers, and piñons. Along the sides of the mountains some good timber lands may be found. Thrifty trees grow there, because the soil is moistened with snow, which is held by the forests for a great portion of the year. In the southern part of this region the giant cactus, a branchless, leafless, log-shaped mass of vegetable matter, with thorns on the outside and with ribs of woody fibre, grows from five to sixty feet in height.

Generally speaking, game is scarce, and difficult to

obtain. In the days of the bison,¹ scattering herds of these animals were frequently seen and killed. There has evidently always been a rather scanty supply of antelope, deer, mountain sheep, and bear. There are but few birds fit for food. Grouse, doves, and pigeons are the principal exceptions. Vultures and coyotes are the scavengers. Venomous animals abound. Rattlesnakes, centipedes, tarantulas, lizards, and Gila monsters are found as fit adjuncts to the thorny scanty-leafed vegetation.

Everything carries with it the suggestion of old age. The country in general appears as if it had been dried and heated for centuries, indeed for cycles of centuries. The inhabitants have the same appearance. The hot dry atmosphere makes the children seem old, and the old shriveled and weird. One's eyes instinctively squint and one's face becomes distorted in the glaring sunlight.

During the spring months, and even at other times of the year, there are terrific dust storms. Isolated clumps of weeds and bunches of bushes catch the sand as it whirls about in the wind among their roots, and these little shady mounds become the homes and hiding-places of rattlesnakes, jack-rabbits, mice, beetles, and other creatures. Strong winds drive the dust very far upward into the sky, and the whole

¹George Catlin's map of the Indian Country in 1833 represents these animals ranging through the parks of the Rocky Mountains from the head waters of the Clarke River to the mouth of the Rio Grande.

atmosphere assumes a gloomy yellow appearance. Particles of stone, as they are whirled through the air, cut like glass, and, like granules of snow in the northern states, are piled up into drifts — drifts which never melt, and are constantly shifting from place to place and changing in size and shape. In many localities, where the plain terminates abruptly at the base of mountain ranges, and the dust-laden wind, on that account, is suddenly arrested in its course, dunes are piled up to heights sometimes reaching above the tops of trees. In other places the trunks of the large growing spruces and pines are covered only up into the branches; and the tops, projecting out of the sand-beds, form picturesque hills and ridges, bristling with evergreens.

Pueblo lands abound in abnormities and wonders. On the northwest border is the Grand Cañon of the Colorado, a piece of awe-inspiring scenery which baffles description, the greatest wonder of its kind in the known world, a mighty gorge worn by the waters of the Colorado to the depth of a mile or more. Gray, red, brown, and white cliffs of sandstone, granite, and volcanic rock rise from various levels to the height of thousands of feet. Into the main cañon open hundreds of other cañons from all directions; and, among these, stand towering buttes and gigantic ridges of stone, broken and worn by the elements into fantastic shapes resembling fortresses, castles, and cathedrals. Over the whole rests an atmosphere of coloring which makes the scene inexpressibly enchanting.

Southeast of this wondrous Grand Cañon and somewhere near the centre of the Pueblo country is the land of the Petrified Forest. It lies in detached sections, but collectively embraces thousands of acres. Back in remote ages of geological time, large patches of woodland, in what is now called Arizona, evidently became sunken into lakes of mud and water powerfully mineralized. The particles of organic matter, thus preserved, slowly gave way to particles of inorganic, until these trees which once probably floated on the surface of the water, became converted into adamant. There they are to-day, strange products of a sandy desert. Here and there broken trunks, some of them four or five feet in diameter, lie about promiscuously, and others project for several feet out from the banks of earth. One noteworthy log of stone, with a diameter of some four or five feet, reaches across a gorge thirty or forty feet in width. Throughout these forest districts, the scattered pieces of petrified wood vary from the size of a penny to the weight of tons. Beautifully colored fragments, on which the impressions of bark, knots, pith, and grain of the wood may be easily traced, are common. One may walk for miles among lumps of most exquisitely colored flint, amethyst, and agate. These take on a beautiful polish and in the hands of lapidaries become of great commercial value. The impressions of beauty, silence, and mystery associated with this strange piece of great Nature's handiwork, once experienced, can never be forgotten. Here is a pros-

trate forest without a green leaf, a vein of sap, or a budding, blossoming twig—a forest upon which winds, frosts, and sunshine have no effect. One becomes spellbound and awe-stricken simply gazing upon it.

In other parts of the country are springs, wells, and small lakes of brine, some of them holding so much salt in solution that Indians come hundreds of miles to visit them. The water is dipped up and allowed to evaporate; and, when enough of the residue has accumulated, it is carried by the natives to their homes. These salt-supplying springs are sometimes very carefully guarded, and are the causes of innumerable jealousies and feuds.

Again, in many parts of this strange land one may travel scores of miles over volcanic rock, porous as a sponge,—rock that, in comparatively recent times, flowed from the ground like a mighty river out over the country, and became hardened. Over many of these vast beds of stone there is no soil, and, as a result, no living thing exists upon them.

The aborigines, of course, built no bridges over their rivers and streams, but there came to be many fords, where crossing could be done with comparative safety. Convenient and well-defined routes were highly desirable on account of the nature of the water-courses. The composition of the soil, containing as it does large proportions of slippery particles of mica mixed with the other ingredients, and the tendency of the surface of the land in many places

to favor water-soaked banks, create innumerable and destructive beds of quicksand.

There is especially great danger in crossing these streams in times of flood. A dry gulch in the course of a few minutes may be changed into a raging torrent, sweeping everything in its way. Regarding the smaller streams Lummis writes: "I have seen them rolling down in freshets with four-foot waves which seemed simply sand in flow; and it is a fact that the bodies of those who are drowned at such times are almost never recovered. The strange river buries them forever in its own sands." ¹

The land also has its peculiar pitfalls. There are deep soft holes in the earth which are exceedingly dangerous, and especially so because they offer no warning. Lummis says: "These masked wells occur in bare, alkali-covered flats. The mud upon their surface is baked dry, and there is absolutely nothing to distinguish them from the safe ground around. But man or horse or sheep or cow that once steps upon that treacherous surface slumps from sight in an instant." ²

This is indeed a land of wonders, and beauties, and oddities, and surprises. Old Australia itself can hardly match it for variety and irregularity.

From very primitive American times, there appear to have been four geographical centres in this vast area toward which the natives have been inclined

¹ Some Strange Corners of Our Country, p. 35.

² Id., p. 27.

to gravitate. These naturally comprise the four most favorable river systems. Here life seems to have been most active and intense. Here ancient ruins are found in greatest profusion. While circumstances have led to the establishment of villages in certain remote and isolated corners of the land, the rule has been to build them within the basins of the Rio Grande, San Juan, Little Colorado, and Gila.

The living representatives of the race are settled within boundaries conforming somewhat closely to those of earlier times; and for the most part the same agencies have prevailed in determining location. Other influences, however, like shrinkage in population, increase of hostile neighbors, and possible changes in physical conditions of the country have caused, through the long centuries, no little redistribution of population and readjustment of pursuits.

The sedentary Indians of this Pueblo country, since far remote time, have been separated into three principal areas; while roving and semi-sedentary ones have encompassed the whole region, and, without being seriously molested, have traversed the intervening lands and sometimes securely held possession of them, remaining a constant menace to the settled groups.

To-day in the whole southwest country the number of natives and of native villages along the Rio Grande exceeds that of all other Pueblo regions combined. Beginning in the north central part of New Mexico, and reaching southward for about a hundred miles

along the banks of this Euphrates of the Southwest and the lower waters of its diminutive tributaries, are sixteen pueblos, which lie in the following order: Taos, Picuris, San Juan, Santa Clara, San Ildefonso, Pojoaque, Nambe, Tesuque, Cochiti, Jemez, Sia, San Domingo, San Felipe, Santa Ana, Sandia, and Isleta. About fifty miles almost directly west of Isleta and in a southwesterly direction from the above-mentioned villages as a group, are the two pueblos, Laguna and Acoma, which would naturally be included in this Rio Grande system. Beyond these, just on the western border of New Mexico within the basin of the Little Colorado, is the pueblo of Zuñi, historically the most important of all the villages of the Southwest. In northeastern Arizona, upon land lying within this same river system, is the noted province of Tusayan, containing the Moki, or, to use the term preferred by these people themselves because more complimentary in meaning, the Hopi pueblo. The total population of these sedentary people does not much exceed ten thousand, and is to-day — whatever it formerly may have been — not nearly so large in number as the aggregate of non-sedentary ones within the borders of the Pueblo territory. In fact the village Indians are surpassed in numbers by the Navahos alone, to say nothing of the Apaches and various other branches of the race that have homes all about them.

The Pueblo Indians do not speak one language or dialect. They represent several different stems, and

yet circumstances have made them one people, and made them singularly alike. Referring to the fact that they are not members of the same stock, Brinton writes: "This proves that the Pueblo civilization is not due to any one unusually gifted lineage, but was a local product, developed in independent tribes by the natural facilities offered by the locality. It is a spontaneous production of the soil, climate, and conditions, which were usually favorable to agricultural and sedentary occupations, and prompted various tribes to adopt them."¹

It has been suggested, that far back in the morning of their tribal life, all these people may possibly have been members of one great stock, presumably the Shoshonean, and that, while topographical similarities encouraged similar customs and manners, the necessity for separating into small bands and the long continuance of forced isolation, brought forth the present groups of dialects. The question is interesting to the philologist but not vital to our inquiries. Whatever the origin, there are to-day at least four easily distinguishable linguistic stocks. The Moki villages with one exception are Shoshonean; the Zuñian people are all confined to the one pueblo of Zuñi; the Tanoan stock comprises the villages of Taos, Picuris, San Juan, Santa Clara, San Ildefonso, Nambe, Pojoaque, Tesuque, Jemez, Sandia, Isleta, and Tewa of the Moki country; the Keresen stock embraces the villages of Cochiti, San Domingo, Sia,

¹ American Race, p. 116.

Santa Ana, San Felipe, Laguna and Acoma. As to number of occupants to a village, the pueblos differ from less than a score to about two thousand.

In this territory the Pueblo Indians have lived for centuries, and, while we may have the kindest feeling toward the land and its primitive inhabitants, the obvious lack of conveniences suggests an inquiry as to what could induce them to take up their residences in such a region. In searching for an answer we are debarred from turning to oracles, musty manuscripts, coins, clay tablets, or monumental inscriptions. Our informants must be principally legend and conjecture, along with meagre contributions from rude architecture, crude symbols, weapons, and utensils. There must have been weighty reasons for building homes in such a land. It would seem difficult to find a more unfavorable region — certainly many more unfavorable regions — in America. In nearly every other section, several of the great food products could be easily obtained. Starting from this Pueblo country and traveling in almost any direction, fish, game, great stretches of fertile soil, indigenous vegetables, fruits, nuts, and plenty of good water,—almost all of these would be found. Here a scarcity of nearly the whole of them has evidently existed time out of mind. So we may reasonably press the inquiry — why these people have chosen this part of the New World for their permanent abode. It does not seem possible that aborigines, poorly prepared as they were for combating the hostile forces of nature, would

settle here from choice, when other parts of the country offered so many greater advantages.

Dwelling in unfavorable localities, however, is not uncommon even among civilized people. Often, indeed, do we find the best types of the race living in disadvantageous retreats, putting up with great inconveniences, suffering hardships, exposing themselves to unfavorable climates, and even periling their lives. The motives are numerous. Wealth, health, fame, or duty may prompt them. How often men leave their old homes merely to shun disagreeable neighbors. How often we find whole communities and colonies seeking other lands to free themselves from persecution. For very praiseworthy reasons the Puritans came to an uninviting region of the New World. Venice, that romantic and interesting city out in the sea, was founded in the fifth century by people who sought those miasmal swamps for safety from the murderous Huns, sweeping over northern Italy. The castles of the Middle Ages were placed on hills, cragged rocks, peninsulas, or in marshes for purposes of protection.

Among less civilized people there are examples equally or even more striking. The mountains, deserts, islands, and forests of earth have provided places of seclusion for millions of refugees. Caves and eminences are constantly serving the same purpose. In several lands, but especially in Switzerland, are relics of people who lived in villages built out over the waters of the lakes. The dwellings were set

on wooden piles, the oldest of which, at least, were cut, trimmed, and sharpened with stone implements; and it is not simply the fact that these large timbers were hacked down, dragged to the water, placed in perpendicular positions, and driven into the muddy bottoms of these lakes, it is amazing that the number of the piles is so large, running up as it does into the many thousands, and incidentally proving a very extensive communal life. The labor of constructing abodes in such places was unquestionably prodigious, but the occupants underwent it all, in order, evidently, to make for themselves a refuge from their enemies.

Into the forbidding Pueblo country, offshoots of the aborigines came, and doubtless for some of the same reasons as those just noted. Among the native tribes, before the advent of the white man whose presence tended to unite them against him, there was eternal strife. The contests were frequently wars of extermination. The weakest must flee, or be butchered. Predatory bands, sometimes for mere sake of conquest, sometimes on account of lack of provisions at home, fell upon weaker neighbors, and drove them out of the country. The refugees in order to maintain existence must conquer some still weaker neighbor, or go to unoccupied land. The latter course was evidently the one pursued by the Pueblos. Doubtless on account of inferiority of numbers or lack of skill in fighting, they sought this region for quiet and safety. Significant in this connection are the words of Robinson, who, writing about the wild sheep compelled to

remain on the peaks of mountains because of fierce animals below, subjoins this remark: "Many a human refugee hunted by a human beast of prey has had to do the same."¹

The Pueblos have numerous traditions of wars between themselves and the Indians of the plains. Many of them, even in these days when they are under the protection of the United States Government, have an instinctive dread of the Apaches and Navahos.

The country they sought offered at least two advantages. In the first place, on account of scarcity of booty it is not a land that would attract roving, plundering tribes in great numbers; and, in the second place, it offers many adequate retreats if by chance enemies do appear. Hostile bands, coming to the outskirts of the Pueblo country and knowing the hardships to be endured and the little to be gained, would hesitate long before entering upon an inland expedition.

In drawing near to this land of the Pueblos, among the first objects that attract our attention are the habitations.

It is obvious that architecture all over the world is planned and built, as a rule, in accordance with physical necessities and the law of natural supply and demand. In old Egypt, stone of excellent quality was found in great abundance along the banks of the Nile, and invited the construction of pillars, obelisks,

¹ Wild Traits of Tame Animals, p. 165.

temples, tombs, and pyramids; hence the nation became noted for massive structures. Good clay for brick was also plentiful, and so the homes of the common people were made of that material. Many of the still humbler dwellings were formed of rushes growing along the river. Over in the valley of the Euphrates, where there is no stone, not only the buildings of the common people but also the palaces and temples are built of brick; and, on account of scarcity of wood for baking the clay, the bricks are simply sun-dried. On the eastern coast of Asia and the adjoining islands, the homes are constructed of wood, and are one story in height in order to withstand terrestrial disturbances. On this point Hubbard says: "Some writers criticise the houses of the Japanese, because they are built of such frail materials and so loosely put together, forgetting that these typical Japanese homes, though entirely unsuited to our life, are better fitted for earthquake-shaken Japan than buildings of wood and stone."¹ "Climate and shape of country," says Samson, "give laws for building. Houses of India are surrounded by open verandas for shade, . . . Swiss cottages have sharp, peaked roofs and projecting eaves to cut and fling aside the falling snow; and on sunny plains dwellings have flat roofs as promenades in the cool evening breeze."²

In northern Europe the buildings, especially the

¹ Smithsonian Report, 1895, p. 675.

² Art Criticism (Abridged), book iv, chap. i, p. 200.

churches, are made with very sharply pitched roofs for dispelling the snow, and with very large windows for admitting as much light and warmth as possible. Farther south, on the snowless and rainless belt, church structures have flat roofs; and the windows are small so as to lessen heat and glare.

Among primitive people the nature of the country strikingly suggests the nature of the homes. Many are unique, others peculiar. Some are curiously and ingeniously constructed to secure ventilation, others to keep out heat, cold, wind, rain, or snow, others still to guard against poisonous lizards, snakes, and kindred crawling animals. Some are built in trees to avoid fierce beasts, others on posts with circular plates intervening to keep away rats and other rodents.

The abodes of the primitive American race have been fashioned to meet many diverse surroundings. In the far north the tribes seem to have lived always in snow-dwellings. Brick, stone, wood,—all these have been but scantily supplied and in many places entirely prohibited by nature; but the very ice that has kept the country in a state of desolation serves to furnish walls and roofs for the strange habitations that keep the people from perishing by cold. In New York a fair protection from snow and rain was the “long house,” built of bark and logs. In the Gulf region were huts plastered with grass. On the treeless western plains, wigwams of skins, holes in the ground, or hovels of sod gave shelter and protection.

On the banks of the upper Missouri, wood was scarce, hence round houses, with framework of poles and walls of clay, were constructed. In Kentucky, the natural caves served as ready-made homes. In Brazil, a rude roof, shingled with palm leaves, was all that the climate demanded. In Central America, interlacing maize-stalks, plastered with mud, formed the walls, and a thin layer of straw was sufficient for the roofs. In Mexico, cane branches, mud, and palmetto leaves furnished a house sufficiently substantial for that latitude.

The builders of European castles in the turbulent Middle Ages were hardly more thoughtful and circumspect in the selection of sites and the adoption of plans for the safety of their inhabitants, than have been many of the aboriginal tribes of the New World. Take for example the Hurons. The advantage of situation seems to have been with them a matter of special consideration. In order to make themselves safe as possible from enemies, they selected for their centralized homes a small peninsula on the southeastern shore of Georgian Bay — a large sheet of water extending eastward out of Lake Huron. This tongue of land, projecting northward, was enclosed on the west, north, and east by Nottawassaga, Georgian, and Matchedash bays, the Severn River and Lake Simcoe, in the order named. The peninsula, generally speaking, was flat and deeply indented. It was interspersed with lakes, and intersected with sluggish rivers; and its contour was of such irregu-

lar, peculiar shape that the waters of these various winding rivers were poured out toward every point of the compass.

This little territory therefore exhibited many protective features. Upon the hilltops, at the confluences of rivers, on islands, within safe retreats on the shores of lakes, and in various other naturally favored nooks and corners of the peninsula, the habitations were placed. To make them still more defensible, deep ditches were dug to enclose some of the villages. Banks of earth were thrown up, and trees were hacked down with stone hatchets, or burned down with encircling fires built about the base, and finally swung around into place to form rude fortifications.

This whole country about the lakes seemed to bring out a peculiar order of house-architecture modeled more or less on the "long house."

As we have already seen, the Pueblos evidently came to the Southwest for safety. In the vicinity of streams or water-holes, they built their strange homes. In localities difficult to approach, far up the perpendicular walls they climbed, and there erected their curious buildings in nooks and corners of the cliffs. Suggestive building material was at hand. There was stone suitable to the purpose. There was also adobe clay, a sticky, cement-like substance, excellent as mortar for their rude masonry. With rough stone implements they hacked niches for footholds into the faces of the cliffs, and climbed

up with their loads of adobe earth. For the chief wall-making material, they went to the beds of streams, and gathered fragments of rock of various shapes and sizes, or broke pieces from the adjoining cliffs and worked them into convenient form. Sometimes, from the soft sandstone or the brittle volcanic rock, they fashioned rectangular blocks. Again, if no suitable stones were at hand, and adobe clay could be easily secured, bricks were made of this, dried in the sun, and then carried up to the shelvy rocks on which the houses were to perch.

In some localities excavations were made into the sides of the cliffs. With their bungling stone implements, they hacked into the sandstone or volcanic rock and scooped out their rude cells. Into these the families of the cliff-dwellers went like bears to their caves; and in these they lived, loved, conversed, planned, disputed, feasted, jested, suffered, starved, and died. There are the rooms to-day, silent witnesses of a strange primitive life.

Entrances were made from the faces of the cliffs, and were purposely difficult to approach. The shapes and sizes of the doorways, if such these holes may be called, conformed to the tastes and conveniences of the master of the household, who was also the carpenter, or, more strictly, the mason. They were two or three feet in diameter, and many of them much larger, so that a person could very easily crawl through, and in many cases could enter by simply stooping. In shape they are found as circular, square,

oval, or oblong. One popular form was that of the Egyptian, or tau, cross, which enabled a person, by slightly stooping, to enter easily with a load on his back or in his arms. Seen at a distance, the entrances appear not unlike the holes left by sparrows as openings to their nests under the eaves of a barn. Internal passages leading from room to room are seldom found. Communication between families was evidently intended to be only by way of front entrances.

The ceiling of each room is dome-shaped, and, as a rule, is high enough to give standing room to an ordinary person; though in numerous cases exceptions are noticeable. In fact in many a room the distance from the highest point of the ceiling to the floor is not more than three or four feet. The floors, which of course are circular in form, are large enough to allow the members of an ordinary family to stretch at full length.

Attempts were made by the occupants of these rooms to preserve cleanliness. For example, after the walls had become thoroughly begrimed with smoke from the fire, which was kept in one corner, they were coated with a layer of adobe earth. In some of the rooms as many as a half-dozen strata may be found on the walls, the intense black soot alternating with the brown clay. The smoke problem, in the absence of chimneys, and with the impossibility, or, at least, inconvenience of making holes through the ceiling, must have been serious. When safety allowed it, probably fires were built outside.

Into many of the walls and floors, nooks were dug, as receptacles for their few simple household utensils. Some were made large enough to contain several bushels of grain. Often they were made for a less cheerful purpose. They became repositories for the dead.

Beneath the doorways, along the sides of the cliffs, generally run narrow, irregular, and oftentimes dangerous paths, connecting one cave-house with another. In many places the track simply consists of a series of notches into which the feet and hands are placed in walking and crawling. Where the rock is soft, and the paths have been in use for a long time, footprints have been worn to the depth of eight or ten inches.

Into the rock, directly above the doorways on the outside, deep, narrow, horizontal holes were often made. They were used evidently for supporting poles, over the projecting ends of which skins could be thrown for awnings; for the sun beats down fiercely upon the cliffs of those cañons and mesas. Somewhat similar holes, cut into the perpendicular surface, are found elsewhere than over the doorways; and these were used for a variety of purposes connected with household affairs, such as supporting pegs for pieces of meat, garments, utensils, and the like.

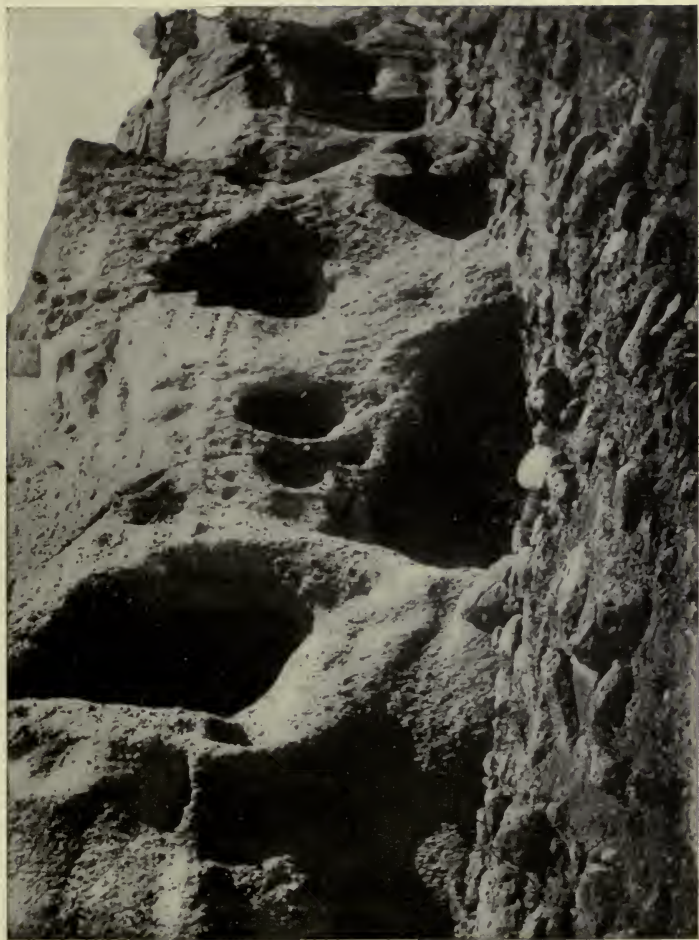
The water problem with these people was always vital; hence we find, in many different stages of preservation, rude cisterns, or reservoirs, built where they might catch the snow and rain. In some localities, towers, built of stone and adobe clay, were

placed out on projecting rocks, from which an approaching enemy might be spied.

These cliff-dwellers, who were formerly thought to be a different people, are to-day generally considered the ancestors of the Pueblo Indians. Indeed, the latter speak of them as such. Clothing, food, weapons, utensils, ornaments, architecture, and mode of living,—all seem to corroborate this theory. It is fortunate that in the dry atmosphere of the country not only the stone and bone implements and pottery, but even the food and fabrics are preserved for comparison with those of our own times.

Having noticed the homes of the cliff-dwellers, let us turn to the habitations of the people of to-day. The pueblos, or communal houses, while differing very materially from the cavate dwellings, are similar to the cliff-buildings, with changes to suit new conditions. They are now, generally speaking, what they were when the Spaniards first visited the country. Ruins in all stages of decay are found scattered about in profusion. Cushing¹ thinks that the original structure of the Pueblos consisted of a simple, isolated, adobe hovel. Oppressed by some enemy, the scattered residents congregated for safety among the cliffs. Afterward, when the enemy had withdrawn, they returned from their high-perched homes to the plains or foot-hills; but, as a matter of prudence, they still kept up the communal way of building and living.

¹Fourth Annual Report of the Bureau of Ethnology, p. 473, et seq.



ENTRANCES TO CAVATE DWELLINGS, PAJARTO PARK, NEW MEXICO

The same kinds of material and the same general plans of construction are found to-day in the cliff-ruins above, and in the modern pueblos below.

The common building material of the country has been already noticed. Adobe clay is the staple. The atmosphere is so dry and the rains are so infrequent that this sticky earth, pressed or moulded into rectangular blocks, with or without straw, and dried in the sun, is safe and desirable. The buildings made from it are warm in winter and cool in summer. They are easily constructed, easily repaired, very inexpensive, and in a dry atmosphere very durable.

The adoption of adobe has not been confined to the natives. It has been the chief building material of the Mexicans and Anglo-Saxons. Nor has it been restricted to the homes, and other simple structures. Its increasing use has kept pace with the march of civilization, and it has become the principal product in the construction of the stores, railroad depots, hotels, chapels, churches, and government buildings.

When the designs or plans of the pueblos are closely studied, the controlling idea, as in case of the cliff-dwellings, seems to be regard for safety. A rocky eminence, a well-sheltered retreat, a broad expanse of country over which the eye can easily sweep,— each of these has its advantages.

A pueblo consists of a single house with many rooms, or, what is the same thing, of many houses united by walls into a mass of totally distinct apartments. The arrangement — perhaps more properly

the disarrangement — of many of them may be sufficiently imagined, on a small scale, by thinking of a disorderly pile of dry-goods boxes, such as are often seen in the yard of an ordinary country retail store. A typical village, however, is designed with more care. Think of a long row of flat-roofed houses, one story in height and with continuous walls, placed in the form of a rectangle about a large court. Into this court there is but a single narrow entrance somewhere between two of the buildings. Each apartment, or house, or room, whatever it may be called, is completely closed, with the exception of a hole in the roof, which is reached from the yard by means of a ladder or a notched pole. The passage is generally through the portion of the roof which is nearest to the court — that is, closest to the interior wall.

Place another chain of houses exactly over the ones already made, keeping the outside walls continuous, but not allowing the front of the upper buildings to extend in toward the court quite over the front of those beneath. Our pueblo has become two stories in height, and is completely surrounded by a formidable wall, except at the point of passage into the yard. The space of roof left uncovered forms a small yard for the upper and shorter building, and also admits light to the room below through the roof-entrance. Another story may be added by an additional chain of houses, only each building must be a little shorter than the one below in order

to allow the residents of the apartment underneath an opening for exits and entrances. Thus several stories may be built up. For each room two ladders, or notched sticks, are required — one for a passage on the outside up to the roof, the other for reaching the floor within. Not a piece of iron or steel is used in the construction of these apartments. Stone, clay, and wood are the three chief components. The implements used are of stone, wood, or bone. The whole structure is without nails, screws, bolts, wire, clamps, hinges, staples, and the like,— that is, such as are used by us. Withes of native twigs, ropes of grass, bark, or hair, and thongs of skin or tendon are employed in the simple mechanical arts of these people.

From a distance, the whole structure, with its swarm of inhabitants, invisible, congregated in their mud rooms, resembles an immense square box. One can see from the outside no doors, no windows, no openings of any kind, except the one narrow entrance through which an enemy must force his way, and probably encounter many obstructions before reaching the court; and this passage would probably prove very dark and dangerous to a foe.¹ The inhabitants at night collect their property into the yard, and drive thither their domestic animals, if by chance they have any. Let us ever have in

¹ G. H. Bancroft speaks of pueblos "having no entrance on the ground floor." *History of the United States* (Century edition), vol. i, p. 37.

mind that the donkeys, horses, goats, cows, pigs, and sheep are the gifts of the white man to the aborigines; and it is pre-Caucasian times that should be kept chiefly in thought. Once inside the court a foe is still placed at many disadvantages. At night the ladders, or climbing-poles, are drawn up; and for an enemy to attempt to crawl upon the roof and then to pass on down through the hatchway would be hazardous.

Since the buildings are arranged in terraces, whenever there is a feast, a dance, or other amusement in the yard, the inmates of each apartment have simply to climb up through the roofs to witness what is going on.

Such is the ideal village built in a time when the Pueblos are harassed by roving tribes of enemies. The variations from this, however, are very numerous. Indeed, one could not find to-day in all the Southwest a structure that would answer this description in every particular. With the element of danger removed to a certain extent, many varieties of house-construction appear. In fact the ground plans of the villages are as various as a group of written Chinese characters, and silhouettes of them, thrown upon the sky, present, from the surrounding plains, forms as curious as the mountain peaks beyond. Often a pueblo grows into existence apparently with as little regard for pathway arrangement as there would be if all of the little, adobe, family structures of the village had been dropped at hap-

hazard. Sometimes fairly well-regulated avenues and narrow foot-paths lead into the centre of the village from all points of the compass. Often the large court is cut up into several small ones by blocks and rows of buildings. In some of the greater pueblos, for example, Isleta, Zuñi, and San Domingo, there are so many winding passages a stranger might easily lose his way in walking through them.

One of the most interesting villages of the whole region is that of Taos. It is the most northerly of all the pueblos — situated about twenty miles east of the Rio Grande and about the same distance below the point where this erratic river crosses the Colorado boundary line. The pueblo consists of twin buildings five or six stories in height, each made throughout of adobe clay and built in the form of a pyramid. A pretty little mountain stream flows between the two main structures, and a formidable wall of cobblestone and adobe, built since the Spaniards came into the country, encloses them. Of late several dwellings have been built out away from the two main apartment houses. Of course these small, isolated, one-story buildings are more convenient in many respects than the upper rooms in the larger structures, which can be reached only by climbing over terraces and ladders. To people accustomed to stairs and elevators, however, the inconveniences of running up over roofs and down through hatchways, on ladders or notched logs, appear much more serious than they really are to people accustomed to such

modes of travel. Indeed, one is surprised at the ease and equipoise with which a woman, with two or three jars full of water, resting one above the other on her head, and her hands occupied in holding her blanket about her, will carelessly trip up and down over the ladder-rounds; and men with both hands loaded with food and fuel will ascend and descend perfectly unconscious of any acrobatic demonstration; and children and dogs will chase one another up and down, in and out, like squirrels in tree-tops.

The most noteworthy consideration is that whatever variety in shapes and sizes may be found in occupied or abandoned pueblos, cliff-structures, or cavate rooms, the one distinguishing feature of the dwellings of the Southwest has been the provision made for defense against marauders. The continuous arrangement of the buildings in rows and the adjustment of them about the court, the location of the villages on eminences or in nooks and corners difficult of approach, the terrace idea, the entrances through roofs, the high, thick, solid, continuous, outside walls,— all these point to notions of safety.

In addition to being constructed as a defense against wild beasts and men, the pueblos were built with an eye to economy. A cluster of apartments does not require, in building, so much labor, material, or space, as each standing isolated. In an age when wood is cut by means of stone axes, and no draft animals relieve man's burdens, it is necessary to lessen as far as possible the expenditure of human energy.

Other circumstances contribute to the question of plan and locality of a village. There must be water. In many places, it is always scarce; in others, it is scarce at certain times; in others, it can never be found near at hand without digging more deeply into the earth than the defective implements of the aborigines are fitted for penetrating. The supply is obtained for the most part at springs and streams. Proximity to water in the Pueblo country does not mean what it does in most of other localities. To walk a few rods to obtain it is considered something of a drudgery among civilized peasantry, but to the Pueblo it is hardly more than a pleasure trip. The distance of a mile is considered not a very great hardship. With immense jars on their heads, the Moki women uncomplainingly go to springs two or three miles away. Of course there must be a limit to the distance. Water will tend to draw the pueblo near to it, while security will keep the homes on some spot, difficult for an enemy to approach, even if at a long distance from wells or streams.

The people of the village must also have wood. The roofs of the apartments are made of poles, laid to reach from wall to wall; these in turn are covered with wicker-work, consisting usually of wooden branches and twigs; and these, finally, are over-spread with a thick layer of mud.

They must have wood also, with which to cook their food and for producing warmth in winter. Like water, it is scarce, and, like water, a small quan-

tity will go a long way, but it cannot be dispensed with entirely. It is brought a half-dozen miles on the backs of men, and, in this age of donkeys, is borne by these misused but useful and patient beasts, thirty or forty.

The house-heating problem appears also in another aspect. Fewkes points out the disposition of home-builders of the Moki Pueblos to construct their dwellings so that they will not shade one another.¹ In a land of scarcity of wood, with villages perched upon high, cold, and wind-swept rocks, the sun as a source of heat is not to be slighted. There is urgent necessity, in the joining of new apartments to the old, that neither shall suffer for sun exposure; consequently the homes are arranged in long, parallel rows extending north and south.

The situation of the village is also limited in altitude. Somewhere between four thousand and nine thousand feet seems the most advantageous elevation. Below that the climate is too warm and unhealthful for such a mode of life; above it the weather is too cold, and the inconveniences are too much increased. The actual elevation on which the Pueblos do live is about six or seven thousand.

The erection of homes upon mesas has another important relation. The Babylonians placed their dwellings upon raised platforms, not only for purposes of defense but from sanitary considerations. The pure dry atmosphere of our southwestern coun-

¹ American Anthropologist, n. s., vol. viii, p. 88.

try acts as a scavenger. If one of these pueblos could be removed, just as it stands, to a less elevated region in a more humid climate, all the inhabitants of it would soon die of pestilence. The streets, alleys, and yards of many of the villages are considerably higher, some to the extent of several feet, than originally, on account of the accumulation of refuse. A general carelessness prevails regarding ordinary health laws. Hygeia is not the patron goddess of Pueblo land. Dame Nature therefore steps in and furnishes a system of pipeless sewerage. A life-sustaining sun, a dry, disinfecting atmosphere, a suitable elevation,—all unite to foster health amid surroundings, which under different conditions would produce plagues and death. After the old pueblo becomes too filthy for endurance, the inhabitants remove and make a new home on another site.¹

Another limitation is proximity to fields suitable for agricultural purposes. Crops can be raised only on lands containing a certain amount of moisture. Such tracts are scarce. Little strips and fragments of suitable soil, along the banks of a stream or around water-holes, are eagerly sought. Proximity, as has already been remarked, is merely a relative term in the Southwest. It means any place within

¹This voluntary abandonment of old pueblos has doubtless been the cause of exaggeration on the part of writers regarding the number of former inhabitants of the Southwest. Simply to count the ruins would imply a very dense population, but many of these have been occupied and abandoned even within the historical period.

a few miles. When there would be a tendency to place the village upon arable land, other considerations might keep it some distance away. The pueblo of Acoma is twelve miles from the locality in which the inhabitants raise crops. In cases of that kind, part of the inhabitants generally remain at the home, while the rest go out for the season to attend the tillage.

CHAPTER IV

FOOD AND CLOTHING

THE sustenance of the American aborigines has been whatever the various localities afforded. The variety is suggested by foods such as seals, whales, oysters, clams, salmon, snails, turtles, locusts, reindeer, dogs, llamas, buffaloes, rabbits, maple sugar, acorns, sunflower-seeds, gourds, potatoes, bananas, water-rice, maize, and various roots, barks, nuts, and berries. These are but samples of the predominating foods found in the many diversified regions extending from Point Barrow to Cape Horn. From the complete stock, one could make out a long list of edibles which would adorn the table of any civilized man, and a list equally long of those, simply the names of which bring up feelings of disgust. There is also great variety in the manner of preparation — or lack of preparation — from raw meats, rotten fish, and obnoxious insects to well-roasted corn and thoroughly cooked calabashes.

It may be said in general that the tribes east of the Mississippi River obtained sustenance by agriculture rather than by hunting; though the predominance of one or the other of these occupations throughout this vast area was largely determined by locality.

On the banks of the St. Lawrence, from source to mouth, the thinly scattered occupants were pre-eminently hunters. The seasons were too short for extensive agriculture, and game was rather plentiful.

On the shores of the Great Lakes, fishing was an extensive primitive industry. For a considerable distance out on those immense sheets of water, canoes could pass with ease and safety; and, upon the lands reaching for hundreds of miles in every direction away from this group of inland seas, were scattered thousands and thousands of small lakes and ponds, each teeming with wholesome fish, which, with those in the adjacent rivers and streams, added largely to the food supply of the great Algonkin tribes of that extensive region.

While the waters of the whole coast of the western hemisphere furnished more or less sustenance to the tribes bordering upon them, there were certain limited areas which were especially noted for piscatory foods. Over among the fiords of the Canadian Pacific, the tribes depended principally upon halibut, sturgeon, cod, salmon, oolakan, herring, shell-fish, and various other animal products of those prolific temperate waters. In large canoes fittingly fashioned from gigantic trees abounding in that region, the natives, generally in squads, rowed about on the comparatively placid waters comprising the straits, inlets, caves, river-mouths, and other arms of the ocean that circled and twined about among the various islands and peninsulas; and, with ingeniously devised fish-

hooks, strongly woven nets, deftly made spears, and paddle-shaped fishing-rakes, the amphibious population captured from the sea enough of their sustenance to make them, as a class, emphatically fish-consumers. Many other strips and patches of shore with human occupants equally piscivorous could be found farther above on the long coast-line of northwestern America, before one would reach the icy polar ocean, where larger aquatic animals have always figured more conspicuously in furnishing food for the scanty Arctic population.

Down on the mouth of the Columbia, the salmon in the springtime poured inward from the ocean in immense schools—as they did more or less into other rivers farther northward—and pushed on up against the current to find suitable places for spawning. At advantageous points along the river, many miles inland, the various tribes gathered and caught vast quantities of these fish, darting along on their way to the spawning beds. The usual ingenious devices for acquiring them were put to use. Spears, hooks, nets, and weirs were the more prominent implements and appliances. Sometimes, at a shallow place in the river, posts were driven into the soil at short distances from one another across the channel, and a network of willow branches was strung along from one to the other, thus forming a sort of dam. The foremost fishes on their way up-stream would be intercepted by this obstruction, the ones behind would crowd upon those ahead, making a tangled mass, and

in the confusion vast numbers could then be easily speared or caught in nets and baskets. Writing of a device used by the Quiaripi tribe, at Kettle Falls on the same river, H. H. Bancroft says: "Here an immense willow basket, often ten feet in diameter and twelve feet deep, is suspended at the falls from strong timbers fixed in crevices of the rocks, and above this is a frame so attached that the salmon, in attempting to leap the falls, strike the sticks of the frame and are thrown back into the basket, in the largest of which naked men armed with clubs await them. Five thousand pounds of salmon have thus been taken in a day by means of a single basket." ¹

In the fishing seasons, whole tribes would camp upon the banks of the rivers as well as on the ocean coast and dry the newly caught fish in the sun and carry them away to become the principal annual sustenance.

The dietary of the savage Seris, down on the Gulf of California, has also always consisted chiefly of the products of the sea, or of creatures closely associated with the sea. For lack of rain along the coast, the inhabitants have never been agriculturists, and, on account of scarcity of land animals, they could not be ranked as a hunting class, despite their remarkable fleetness of foot and proficiency in the art of capturing prey.

The article of first importance in the bill of

¹ Native Races, vol. i, p. 262.

fare of these people is the green turtle,¹ an animal found in considerable numbers in and about those sub-tropical waters, where many of the clumsy species are seized when waddling along on the sandy beaches, or, from the balsas, are harpooned while lying in the surf. The animal may weigh from one to several hundred pounds, and the capture of it is the occasion of a feast. After being caught, the creature is immediately seized upon by the ravenous natives, the plastron is broken with a stone and torn off piece by piece, the cold oozing blood sucked up as if by a swarm of leeches, the raw flesh torn away in fragments with the fingers and greedily devoured.

Pelicans form no insignificant part of the food supply. At a certain season on some moonless night, when at roost in their island haunts, they are stealthily approached and killed by men and larger boys provided with clubs, who, in company with the squaws and children whom they have brought across the turbulent straits with them, begin, as soon as the birds are despatched, to gorge upon the uncleaned, uncooked meat in a manner sickening to behold. The carousal lasts several days, perhaps weeks, according to the number of birds killed. In the meantime the squaws have skinned the dead fowls for the purpose of making pelican robes; and, at last, when every bone has been picked, these temporarily satiated gormandizers return over the water on their balsas

¹ McGee: Seventeenth Annual Report of the Bureau of Ethnology, p. 186, et seq.

to the rude transitory dens which are called their homes.

Journeys are also made to the outlying islands of Patos and San Esteban in search of wild ducks and their eggs, the former of which are obtained with the use of the bow and arrow, the latter by visitations to the hatching-grounds.

After all, next to the turtle, as a source of sustenance, fish are of most importance to the Seris. The methods of obtaining them are simple and primitive. These Indians have never excelled in the piscatory devices put to use by natives farther north on the same coast. They have depended chiefly upon their long practised deftness in catching by hand the imprisoned fish, left in shallows or entangled among rocks or shrubbery at the receding of the tides. The whale, the great mammal visitor of those waters, is occasionally carried in at high tide and stranded on a shoal, and, when this occurs, the natives, on discovering the animal, camp in the vicinity of it for weeks till the carcass is consumed. Clams, oysters, lobsters, and crabs, snatched from the water or dug out of the sands, are also important acquisitions to the food supply.

The land fauna of this wild and desolate region consists of a few specimens of antelope, deer, jaguar, puma, mountain sheep, and rabbit, a few of which are stalked, but probably more of which are chased down and caught alive.

Vegetal food is exceedingly scanty and consists principally of tunas of the cacti, beans of the mesquite-tree, and a few varieties of seeds.

On the Atlantic coast of the New World were several noticeable segments of land containing natives, living almost exclusively upon the products of the sea. Take, for example, the strip of shore extending from central Maine to the Gulf of St. Lawrence. It is strikingly different from Seriland in almost all its great natural features; but, like the Seris, the Echemins and Micmacs obtained their living principally from the waters, and, like them, were low in the culture stage, when compared with their immediate neighbors on lesser latitudes. For instance, on territory reaching from the Kennebec River southward for several hundred miles, keeping rather closely to the shore, the population exhibited a far higher order of culture than the tribes mentioned above. The difference in living between the two sections was particularly noticeable. These more southern aborigines carried on a comparatively extensive agriculture. Indian corn was evidently the staple; and, as an aid to the production of crops, the quasi-farmers were accustomed to place a fish in each corn-hill as a fertilizer. Other native plants were cultivated to a greater or less extent. A very large part of their dietary was also obtained from the ocean, and this stock of salt-water food was much augmented by the fresh-water fish from the abounding lakes and rivers. So fishes, crustaceans, and mol-

lusks from the waters, game from the woods, and cultivated products from the soil, all contributed to support a population, dense, when compared with many other areas of similar size, especially those northward, where the inhabitants were confined to a practically single source of food supply, and perhaps a not very bountiful one at that. In fact this coast region of middle New England is one of the best examples in the western world to illustrate multiplicity of tribes and comparative density of population on a very limited area where the food problem is not especially serious on account of the several channels of supply.

Upon a limited portion of this area, a small tract of land extending from the lower waters of the Merrimac to those of the Connecticut, were crowded the Massachusetts, the Wampanoags, the Nipmucks, the Narragansetts, the Nyantics, the Pequots, and probably at one time the Mohegans.

While unusual resources for obtaining food made the existence of such a compact population possible, there was of course a secondary reason for keeping the tribes crowded together and pushing them outward toward the sea. The dreaded Iroquois were not far westward, and it was advisable to live as far away as possible from those invincible fighters.

Taking primitive North America as a whole, uncultivated vegetation as a food product was no insignificant factor. The supply was of course a constantly varying quantity, owing to the great ex-

tent of territory and the multiformity of physical conditions. In some localities it assumed, among the natives, a place of much importance, in others it was of almost no consequence. Berries, nuts, and roots very frequently kept starvation away from tribes, especially nomadic ones. Wild rice grew indigenously over an area covering probably half of the United States. In the vicinity of the Great Lakes it figured very conspicuously. With some tribes it became the chief means of sustenance. The Menomenees derived their very name from this cereal, growing abundantly as it did on the lands they occupied near the western shore of Green Bay and along the banks of the Menomenee River.

Among the most advanced natives of the New World, cultivated vegetable foods have long been of more importance than any others. In some sections the supply of meat came to be of comparatively little significance as a means of sustenance, before Europeans augmented the stock by the introduction of domestic animals.

Of all vegetable products of North America, maize has been most conspicuous in aboriginal life. As Fiske says: "It could be planted without clearing or ploughing the soil. It was only necessary to girdle the trees with a stone hatchet, so as to destroy their leaves and let in the sunshine. A few scratches and digs were made in the ground with a stone digger, and the seed once dropped in took care of itself. The ears could hang for weeks after ripening,

and could be picked off without meddling with the stalk: there was no need of threshing or winnowing." ¹ On the same subject Bancroft writes: "The maize springs luxuriantly from a warm, new field, and, in the rich soil, with little aid from culture, outstrips the weeds; bears, not thirty, not fifty, but a thousand-fold; if once dry, is hurt neither by heat nor cold; may be preserved in a pit or a cave for years, aye, and for centuries; is gathered from the field by the hand, without knife or reaping-hook; and becomes nutritious food by a simple roasting before a fire. A little of its parched meal, with water from the brook, was often a dinner and supper; and the warrior, with a small supply of it in a basket at his back, or in a leathern girdle, and with his bow and arrows, is ready for travel at a moment's warning." ² [This was the great staple food product of the Pueblo country when Coronado ³ passed through. There were also beans and squashes, but corn comprised over ninety per cent of the food.

This grain is planted in hills. The agricultural implement, used by all Pueblos originally and by many to-day, consists of a stick some three feet in length, generally with a stub of a limb or some other projection reaching out at right angles about twelve inches above the sharpened end. The customary ap-

¹ Discovery of America, vol. i, p. 28.

² History of the United States (Centenary edition), vol. ii, p. 423.

³ The Coronado Expedition: Fourteenth Annual Report of the Bureau of Ethnology, vol. i, p. 518, et al.



ONE OF TAOS DWELLINGS, NEW MEXICO

pearance of the implement suggests a miniature stilt. When used, it is pushed into the ground with the assistance of the foot placed upon the projection. A hole several inches in depth is thus made, and into this the seeds are dropped, and then covered. To plant so deeply in moist clay-soil would be fatal; but here the necessity for such planting arises on account of the dryness of the ground at the immediate surface. As soon as the blades have projected above the earth, the plant is constantly guarded till harvest time in order to preserve it from enemies, brute and human. After the grain has ripened, it is cut or torn from the stalk and carried to the pueblo to be distributed among the occupants.

The food supply of the country has been materially increased from time immemorial by rude systems of irrigation. These were established at comparatively convenient distances from the pueblos, and often much ingenuity was manifested in their construction. The rivers and brooks that flow through the land of the Pueblos are literally "few and far between," and the quantity of water in them, except in times of flood, is comparatively small. The natives, however, made the most of their opportunities. They learned to construct dams out of brush, stones, and mud, and consequently were able to convey portions of the running water out over the more or less level patches of earth lying in the vicinity of the natural streams. The individual members of a village combined their energies, and scooped out

broad shallow canals which discharged their waters into lateral ditches, and these finally into innumerable trenches, furrows, and grooves. The thirsty earth eagerly drank the water as it passed along the various conduits, and sent up a generous supply of vegetable growth in return.

Considering the lack of facilities, some of the irrigating systems were constructed on an extensive scale. In order to obtain sufficient elevation for bringing the water out over the land, canals sometimes tapped the river several miles above the tracts to be irrigated. The labor of preparing the long aqueducts must have been exceedingly irksome. There were no picks, plows, spades, shovels, or scoops, according to our ideas of these implements. With rude stone, bone, or wooden implements the earth must have been pecked, pounded, softened, or broken at first; then scooped up with the bare hands, or perhaps with pieces of pottery; then placed in baskets, skins, or vessels of earthen-ware, in which it was finally lugged out of the trench and piled along its edges. Where the water had to be conducted over beds of loose, coarse sand, it was necessary to spread a thick layer of adobe clay over the bottom and sides of the ditch to prevent seepage. When the plastering was finished, the clay apparently was hardened by artificial means. "The extreme hardness of the canal lining," says Hodge, "may be accounted for by the supposition that instead of burning the dense underbrush for the sole purpose of destroying it, the

natives gathered it into their moist canal beds, where it was burned to harden the newly-plastered lining.”¹

The canal-builders went even further than to delve in clay and sand in order to construct their conduits. With stone axes — harder of course than the material they sought to remove — they broke and chopped out fragments from the beds of rock and thus made a passage for the water. Concerning one of the prehistoric irrigating canals, near Mesa City in southern Arizona, Hodge writes: “This knoll or mound of concrete was partly encircled by the irrigating ditch in order to preserve the proper incline of the canal bed, and to accomplish this it was necessary to excavate through this indurated deposit with implements of stone, a work necessarily attended with inconceivable difficulty and requiring a great length of time.”²

It was a difficult task to construct the conduits in the first place, and in many localities it was tedious work to keep them in repair. Floods caused the water to break over the banks and wear them away; drifting sands choked the smaller trenches and made them temporarily worthless by preventing the uniform distribution of the water; waste by seepage had to be carefully guarded against; and, worst of all, some of the waters were so charged with minerals that the land soon became unfit for agricultural purposes and so had to be abandoned.

¹ American Anthropologist, vol. vi, p. 325.

² Id., p. 327.

Since many of the streams of the Southwest are intermittent, and nearly all are likely to become dry in midsummer, reservoirs were built at favorable points, especially across washes running out from the mountains. Some of these were several rods in diameter and ten or twelve feet in depth, and were of great value in supplementing the inadequate ditch supply.

The amount of land irrigated in one way and another in the whole region of the Southwest ran up into the thousands of acres, and the length of main canals or ditches when taken together, would reach scores of miles.

The method of grinding corn in the Pueblo country attracted the attention of Castañedo of the Coronado Expedition, 1540-1542, and the same kinds of tools then in use are retained to-day. In each house, or family apartment, is stationed a trough, or box, about six feet in length, made of stone slabs, cemented in place by adobe clay. It is usually divided into three compartments. In each of these is a flat stone, called a *metate*, about the size of a small washboard, one end resting on the bottom of the trough, the other leaning against the side. This stone is pitched at an angle of thirty or forty degrees from a horizontal. The three pieces differ much in degrees of coarseness. The Indian woman places corn in the end compartment, in which is the coarsest slab. With a stone about a foot in length, four inches in width, and one in thickness, which she seizes in both hands,

she lifts and spreads the grain over the slab, crushing and grinding it into coarse meal. It is passed along to the other compartments in turn, where it is made still finer, and thus becomes ready for use. The process of grinding reminds one of a woman at her washing. After being reduced to as powdery a form as desired, the meal, by mixing with water, is made into a sort of batter, and is then spread upon a large flat stone to be heated over a fire. Preparing this food is similar to the ordinary manner of making griddle-cakes. This thin corn-bread is, or rather was, the most popular article of sustenance among the Indians of the Southwest.

The introduction of wheat and domestic animals has somewhat changed the mode of living in the Pueblo country, and greatly lessened the possibility of starvation in times of shortage of the corn crop. Many beasts are raised almost solely for food, and have become of great importance in cases of emergency. Wheat is cultivated rather extensively through irrigation.

The threshing is done by clearing away stones, sage-brush, clumps of earth, or other obstructions, from a level and circular plot of hard adobe ground twenty-five or thirty feet in diameter, situated somewhere near the village. The threshing-ground is enclosed with a fence. The unthreshed straw is then brought from the field and piled into a stack on the threshing floor to the height of fifteen or twenty feet. The fence is let down at some point, and a half-dozen

or more of horses, donkeys, or goats are crowded in, one at a time, all headed the same way, between the fence and the stack. The beasts are then driven round and round, like horses in a circus ring, while the drivers stand on the outside, or perhaps ride on the backs of some of the animals, shouting, swinging whips and clubs, and making the beasts step inward as far as possible against the stack, and thus drawing down the straw from the pile a little at a time, beneath their feet, and thoroughly trampling it. This process is continued until the whole pile, by degrees, has been pulled down, and the grain sufficiently shelled. The straw is then removed, and the chaff and grain separated by tossing in the wind. The wheat is then put into a common storeroom, or distributed among the families. This whole process is modern of course, and could not have existed in pre-Columbian times. To one witnessing it, there is a suggestion of ancient Egypt and the Holy Land. The wheat kernels are ground into flour in the same manner as the corn, and similarly made into wafers.

Wild game was only a subordinate item on the food list of the Pueblos. A deer or antelope was occasionally brought in, and less frequently other of the larger animals. Several rabbits were killed in the course of the year. Game in general was obtained by means of rude traps, and by use of the bow and arrow. Smaller animals, especially rabbits, were, and are to-day, frequently killed with a boomerang. This weapon consists of a piece of hard wood, about thirty

inches in length, some three inches in width, and less than a half-inch in thickness. It is usually made from a tough bough with a natural and rather abrupt bend, which produces the elbow in the middle of the weapon. On account of its peculiar shape, this Pueblo boomerang can be thrown with great accuracy, swiftness, and telling effect, several hundred feet; and, as it flies along, the ends circle round and round each other, cutting a swath through the air. When thrown, it does not return, as the Australian weapon, bearing the same name, is said to do.

The game supply was often temporarily increased through that widespread custom of going out in parties, forming a large circle, marching inward, driving the enclosed animals into an ever-narrowing circular space, and thus easily destroying them with clubs and other weapons.

For clothing, the aborigines of the western hemisphere depended upon what their local surroundings might furnish. In the far north, pelts of seal and reindeer, feathers and skins of birds, and the intestines of the whale were the most common coverings. Among the Algonkins and Iroquois, leggings of dressed skins, upper garments of many varieties of the lighter furs, and strong moccasins made of tough teguments of the larger beasts, constituted the typical dress. On the prairies and plains, dried and tanned hides artistically ornamented with furs, bones, and quills were mostly worn. Among the mountains farther west, strong suits of buckskin and hats of coarse

basketry were in use. On the western coast were skins of smaller animals, well tanned and richly ornamented with grasses. On the West Indian Islands and adjoining coasts, but little clothing was used, and that was made very largely of grasses and bark fibres. In Brazil also, the climate demanded but few articles of dress, and these consisted principally of bark cloth. Down among the Patagonian aborigines and the inhabitants of the rocky island of Tierra del Fuego, protection was afforded principally by skins hanging in such a way as to lessen the cold blasts common to that barren wind-swept region. On the mountains and plateaus of equatorial South America, the llama and alpaca furnished wool fibre for cloth, and cotton was also woven into fabrics.

In the Pueblo country, tanned skins of various animals were common. Textures were also made from cotton, a plant indigenous to the southern part of the United States and growing all along the country far down into South America. The Pueblos wove the fabrics, of which the cotton garments were made, from well-spun threads, and much of the work was of excellent quality. Garments were also made from woven fibre of the yucca, a very characteristic plant of Pueblo land. A sort of cloth was also made by weaving, tying, or in other ways uniting feathers with bits of rabbit skins. A sort of kilt was made from several substances, especially from shredded bark and numerous plant fibres, woven into fabrics of various degrees of coarseness. Sandals were also

fashioned from the interlaced rushes, and moccasins from various skins.

Like the other branches of American aborigines and primitive men in general, the Pueblos are excessively fond of ornament. Decorations for the hair have always been worn by both sexes. The long locks were sometimes allowed to hang loosely about the head and shoulders, with just enough of fastening to keep the eyesight from being obstructed; but, generally, with greater attention to convenience and adornment, they were twisted into braids and tied into knots. Before ribbons from the looms of the white men were introduced, the knots and braids were fastened as well as ornamented with strips of fur and home-made threads of cotton. A Moki marriageable girl wears to-day, as did her ancestral maiden prototype in the days of Coronado, on each side of her head a presumably alluring cart-wheel puff some five or six times larger than her ear. On gala days at Pueblo villages, there is always a great display of flesh-paints, feathers, ear-rings, bracelets, anklets, kilts, belts, and blankets. Tattooing has been practised more or less all over the continent; and, in certain regions of the Rocky Mountain plateau, it has been very fashionable. Just before Friar Marcos started on his expedition up through Sonora, he reported a visit from tattooed Indians from the north or east. Certain it is that many tribes in and around the Pueblo region—the Mojaves, Pimas, and Comanches—have made use of this sort of

ornamentation; but the Pueblos do not seem to have practised it very extensively. Indians on the outskirts of this country also perforated their ears, lips, and noses; and, within those perforations, inserted ornaments of shell, bone, or wood. The Pueblos have appeared very well satisfied in using paints as their most characteristic ornament, though, as noted above, other finery was common. The men especially distorted their ears by wearing heavy ear-rings.

CHAPTER V

GOVERNMENT AND SOCIAL LIFE

ONE of the most striking characteristics of the government and social life of early races is communism. To be sure, isolation, hermitage, and ostracism are found in every zone and every grade of culture. All civilizations reveal Robinson Crusoes, Timons, and Santons. No estimate can be made of the number of those who, through no fault of their own, have died "out of humanity's reach."

Causes for retirement and isolation are many. Religion, race-persecution, individual peculiarities and preferences,—these and various others come at once to mind, to say nothing of a case now and then in which a person finds it convenient to withdraw from society to avoid jailer and hangman. The spirit of independence, the food problem, competition, search for health, moneyed interests, and many other considerations draw regretful thousands every year, singly or in groups, far from friends, kindred, and native land.

In lower grades of society, individual isolation is difficult to endure. Man, before he has reached the higher stages of advancement, is but poorly equipped to contend with the forces of nature. Left to struggle

single-handed with merciless elements, ferocious beasts, and hostile men, the native stands out in the world friendless and helpless. Using all his craft and talent, he is outstripped again and again by beasts stronger and swifter than himself, and with keener hearing, sharper eyesight, and more acute organs of smell than his own; and often, when he least expects it, he finds, to his discomfort or distress, that he is overmatched even in cunning and bravery by those same brutes that he fights and despises.

Still greater dangers attend him in his conflict with human foes. He is as a fugitive from justice with the hands of every man raised against him. A thousand others of his kind, with organs of sense and texture of brain as good as his own, are constantly on the watch to waylay, overpower, and destroy. With all these odds against him the contest is not long in doubt. He soon succumbs to greater strength or cunning.

Safety and self-interest, therefore, even if no other reasons present themselves, induce primitive man to become gregarious and communistic. He sees on every side practical examples and advantages of alliance. As Drummond says: "Long before men had learned to form themselves into tribes and clans for mutual strength and service, gregariousness was an established institution. The deer had formed themselves into herds, and the monkeys into troops; the birds were in flocks, and the wolves in packs; the bees

in hives, and the ants in colonies.”¹ The crows in flocks watching from the tree-tops, the buffaloes in bands on the plains, and the communities of beavers in their mud homes would suggest to the native American the many advantages of co-operation. Order, system, and government among the brutes about him readily recommend themselves. Unions of individuals for offense and defense, sentinels on the lookout for danger, systems of signals, militarism in various forms, obedience to leaders, punishment of offenders, special care of sick, maimed, and aged, division of labor, and many other necessary or expedient features of social life would naturally attract his attention. Thrust into a world of hardship, danger, and death, he would be a dull student indeed if he learned no useful lessons from these mute but experienced teachers. “Two heads are better than one,” and a thousand hands, eyes, and brains, employed as a unit for mutual advantage, add infinitely to the comfort and safety of the individual, and to the general improvement of the masses. Therefore, under pressure from without and with special attractions from within, man feels the necessity for a social organism and he sets out to create it. The individuals are marshaled into battalions. Society, a sort of relationship with more or less clearly defined duties and obligations, grows up. Identity of interest brings out certain courtesies and customs which gradually develop into laws, varying according to local

¹ Ascent of Man, p. 155.

demands. There is an improvement in man's desires, aspirations, ambitions, and spirituality. The base and brutal are more or less smothered to make room for the noble and ideal. In the words of Bryant:—

“ But misery brought in love; in passion's strife
Man gave his heart to mercy, pleading long,
And sought out gentle deeds to gladden life;
The weak, against the sons of spoil and wrong,
Banded, and watched their hamlets, and grew strong;
States rose, and, in the shadow of their might,
The timid rested. To the reverent throng,
Grave and time-wrinkled men, with locks all white,
Gave laws, and judged their strifes and taught
the way of right.”¹

Communism had long become a settled principle among the native tribes of the New World, when they were first seen by white men. The Indian was hunting in company with his kindred and friends on common soil, killing wild beasts for food and sharing it with his comrades. When he returned to his abode within his palisades, or to the rocky heights on which his home was perched, he defended himself and his companions.

Co-operation thus became a ruling idea. Equality in property, power, speech, and tribal affairs generally, was the established custom. There was but little individual ownership, as understood and put into practice in the complex life of civilization. The white man's idea of buying and appropriating to himself a piece of ground was to an Indian a strange order of things. It seemed artificial. He saw nothing

¹The Ages, eleventh stanza.

in nature to justify so peculiar a system. Generally speaking, he could not understand how a person could own land and water any more than he could own air or sunshine. In a general way he recognized the right of a tribe over a certain territory, and now and then a person might come to have a sort of claim over a patch of land, but this was a circumstantiality, not an established principle.

This communistic practice is evidently the root idea of that hospitality that pervades primitive society. To give food and lodging to a stranger has been considered from very remote times a sort of sacred obligation. The great world-epics, especially the earlier ones like the *Iliad*, *Odyssey*, and *Æneid*, tell of many banquets and feasts; and constantly allude to the spirit of hospitality and the firm hold it had on the customs of the times.

Why should so much stress be placed upon this custom in the earlier stages of culture?

“It is generally held right in wild countries,” says Tylor, “that hospitality shall be given to all comers, for every one knows he may want it any day himself.”¹ Starr writes: “Hospitality is everywhere among ruder people not a virtue but a natural and necessary quality. Those closely related by blood, of course, are entitled to their share; but so were all the gens members; so was all the village; so was every stranger who might come.”²

¹ *Anthropology*, p. 409.

² *First Steps in Human Progress*, p. 276.

One can easily imagine the dangers and difficulties of travel under primitive conditions. Land and sea are infested with robbers and murderers. He who goes from settlement to settlement must run the risk of facing outlaws, wild beasts, severity of weather, and starvation. The one taking such chances should be entitled to special consideration in order that intercourse might be promoted. The best classes of men would encourage punishment to outlaws, for the safety of the itinerants. Through travelers, people receive information regarding what is going on in the outside world. There would probably be in such lands no written language. News must be passed from mouth to mouth. Wayfarers must depend upon the clemency and generosity of people along the road, or intercourse must cease. The typical mode of carrying on business in such society is by means of barter. Many classes have no medium of exchange, or, if they have, it is of such a nature that it cannot easily be handled and transported. Stones for hatchet-making, colored clay for paints, skins for clothing, animals, especially oxen and sheep, shells, corn, tobacco, and various other substances have been used extensively, either in primitive America or elsewhere; so to offer these in payment for lodging would be usually inconvenient and often impossible.

Again, hospitality was encouraged in many parts of the world on account of the possibility of the stranger's turning out to be a god, or a distinguished

personage traveling in disguise. "Be not forgetful to entertain strangers, for thereby some have entertained angels unaware." Monarchs in ruder times were accustomed to go about alone and undisclosed among their subjects to find out how themselves were regarded by those under them, or for the purpose of gaining information relating to the social life of the peasantry. Early literature abounds in stories and legends appertaining to such visits from kings and princes.

Hospitality has always been a noted characteristic of the aborigines of the New World. When the explorers landed at various points on the lonesome coasts of the continent, and before they had incited the enmity of the natives, almost the first gestures they saw and expressions they heard were those interpreting courtesy. Oliver Wendell Holmes refers thus to the meeting of the Pilgrim Fathers with the Wampanoags: —

"Ah, little could Samoset offer our sire,—

The cabin, the corn-cake, the seat by the fire;
 He had nothing to give,— the poor lord of the land,—
 But he gave him a WELCOME,—his heart in his hand.
 The tribe of the sachem has melted away,
 But the word that he spoke is remembered to-day,
 And the page that is red with the record of shame
 The tear-drops have whitened round Samoset's
 name."¹

Morgan, with many citations, testifies to the "universality of the practice of hospitality among the Indian tribes of America at the epoch of European

¹ At the Banquet to the Grand Duke Alexis, fourth stanza.

discovery. Among all these forms, as stated by different observers, the substance of the Iroquois law of hospitality is plainly found, namely: If a man entered an Indian house, whether a villager, a tribesman, or a stranger, and at whatever hour of the day, it was the duty of the woman of the house to set food before him.”¹

The prevalence of this spirit in Pueblo land is constantly referred to, and verified. Lieutenant Joseph C. Ives was at the Moki Pueblo in 1858, and says: “Our host courteously asked us to be seated upon some skins spread along the floor against the wall, and presently his wife brought in a vase of water and a tray filled with a singular substance, that looked more like sheets of thin blue wrapping-paper rolled up in bundles than anything else I had ever seen.”²

General Emory visited the Pima villages in 1846, and says: “Living remote from the civilized world, they are seldom visited by whites, and then only by those in distress, to whom they generously furnish horses and food.”³

Regarding the little village of Sia, on the banks of the Rio Grande in New Mexico, Mrs. Stephenson says: “Such is the code of their hospitality, that food is always offered to guests as long as a morsel re-

¹ Houses and House Life, p. 60.

² Quoted by Morgan in Houses and House Life, p. 56.

³ Military Reconnaissance in New Mexico, p. 85. Quoted by Morgan in Houses and House Life, p. 57.

mains.”¹ Here, then, as in other parts of the world where similar conditions exist, the scarcity of food and the close dependence of man upon man for aid has fostered a spirit of kindness to strangers which has become a marked trait of the inhabitants.

The numerous accounts and official reports of the friendly receptions, by the poor natives along the way, to the Spanish monks, friars, and soldiers, coming up through Mexico, New Mexico, and Arizona for the first time, are the best of evidences for the kind of spirit of these men toward foreigners. They came out of their mud and sod houses and greeted the strangers as messengers from the skies; loaded them with gifts; were kind to them in sickness; gave them the best of their food, contenting themselves on what was left; and volunteered the best information they had regarding distant lands and tribes. They formed themselves into hunting expeditions, and, with much labor and hardship, furnished the visitors the best of their wild meats. At great inconvenience and sacrifice, they acted as guides and protectors. In those days of no bridges they assisted the strangers in crossing the rivers, streams, and flooded ravines. They carried water and provisions for them over the long, hot, and dreary wastes of sand, and through the passes of the steep and dangerous mountains. Communities that were at enmity with one another on account of local grievances

¹ Eleventh Annual Report of the Bureau of Ethnology, p. 12.

threw aside their animosities for the time; joined in welcome greetings whenever the expeditions approached; went ahead to find the best routes; spread, from village to village, the news of the coming of the white strangers; watched them through the night, and contributed to their thousands of individual needs during the day.

A narrative of the exploring party that preceded the great Coronado Expedition relates the conduct of the Indians toward the Spaniard, Friar Marcos: "They pressed him to accept their offers of turquoises and of cow skins in spite of his persistent refusals. At one village, the lord of the place and his two brothers greeted the friar, having collars of turquoises about their necks, while the rest of the people were all *encaconados*, as they called it, with turquoises, which hung from their ears and noses. Here they supplied their visitor with deer, rabbits, and quail, besides a great abundance of corn and piñon seed."¹ The "cow skins" in the foregoing quotation are evidently buffalo skins.

Even the "savage Apaches" furnished guides and other necessities for expeditions.²

It is not to be supposed that the advent of the Spaniard into the great Southwest was always smooth and easy, and entirely unaccompanied by dissensions and clashes on the part of the two races.

¹ Winship, in Fourteenth Annual Report of the Bureau of Ethnology, vol. i, p. 358.

² Bandelier's Southwestern Historical Contributions, part v, p. 197.

The aborigines were struck with wonder at the display of the new-comers. They looked with amazement upon the gaudy apparel and brilliant trappings of those processions. In the midst of all this admiration and bewilderment, some hesitancy would naturally arise at times on the part of the simple natives, when the strangers' demands seemed unreasonable. Though our criticism of the conduct of the Spaniards toward the Indians has perceptibly softened in the light of later and better history, yet, according to their own statements, they were not always mild or prudent in their treatment of those people, to whom they were under so many obligations.

One of the first outbreaks was that which arose when the negro Estevan reached the pueblo of Zuñi. He was one of the survivors of the ill-starred Narvaez Expedition. Those men had made their way into Mexico, and had told of the wonderful riches and strange cities reported to be to the Northwest. The eight years' experience of Estevan among the Indians, his knowledge of their ways of living, his familiarity with their language, his proficiency in intelligible sign-making,—all contributed toward making him a very valuable guide for an expedition into that unexplored country. In fact he had been purchased and retained by Mendoza for this very purpose. Under the direct authority of Friar Marcos, he guided the cavalcade, and was sent out in advance of the main body, but he took unseemly advantages of his trust. He demanded of the na-

tives beautiful pieces of turquoise. He demanded from them several handsome girls. In fact he went through the country like a king, demanding anything that took his eye. He kept a body-guard to assist him in carrying his valuables. With bells and plumes and in gaudy habiliments, he went on till he reached the "Seven Cities of Cibola," or what is to-day known as the Zuñi pueblo. His insolence, immorality, and foolhardiness brought him into trouble. He informed the inhabitants that he was the herald and representative of white men who would come later. Such assertions did not appeal to the common sense of the Pueblos. That a black man could be sent to them as an ambassador from white men was not in accord with aboriginal logic; so they killed him.

When Coronado came northward it is said: "The first winter spent by white men in the pueblos of New Mexico was a severe one. Fortunately for the strangers, however, they were comfortably domiciled in the best houses of the country, in which the owners had left a plentiful supply of food, and this was supplemented by the live-stock brought from New Spain."¹ The natives finally felt themselves imposed upon, and revolted. A fight ensued. The natives were induced to surrender, and then: "The Indians received an ample promise of protection and safety, but the captain of the attacking party was not in-

¹ Winship, in Fourteenth Annual Report of the Bureau of Ethnology, p. 392. 1

formed of this, and in obedience to the general's orders that no prisoners should be taken, he directed that the captives should be burned as a warning to the neighboring tribes. This affair is a terrible blot on the record of the expedition and of those who composed it." ¹

The contact of the Spaniards with the Indians of the Southwest, therefore, was not one of constant mutual happiness. It was a strange advent of strange people into a strange land. The records of the occurrence are filled with romance and vicissitude. On each side there was enough of cruelty and bitterness, and, on each side, were many examples of tolerance, kindness, and sacrifice.

The various communities of Pueblos frequently quarreled among themselves, peaceful as they naturally were. Certain peculiarities of the country tended to draw them together, others contributed to keep them apart. Scarcity of conveniences and fewness of numbers made them dependent upon one another and united them against predatory bands of their own race; yet, they would wrangle like communities of white men over the use or possession of salt springs, mineral hot springs, water-rights and water-courses, clay beds, and turquoise-producing fields, when a scarcity of supplies of these things was threatened.

But the social centripetal forces far exceeded the centrifugal. Inter-dependence, hospitality, commun-

¹ Winship, in Fourteenth Annual Report of the Bureau of Ethnology, p. 393.

ism, must have become, in very early times, powerful factors in their social life.

The question of danger would probably receive first consideration. As has been noticed, they were constantly menaced by roving tribes, not only those near at hand such as the wild Apaches, but even those far out on the plains.

Again, in taking care of their crops, some must work in the fields, some must watch for thieves and murderers, and frequently all must fight. Since surprises of a hostile nature were thus likely to come at any time, each member of the village felt that for the safety of all it was a duty to be constantly on the lookout for foes, brute and human. About the village and out on the farm lands, some must be constantly on guard while others rest and sleep.

In the construction and management of their irrigating systems, many men would be called into service, and advantages of co-operation would be very apparent. Morgan, in his culture classification, considers this industry one of the crowning accomplishments in American aboriginal life,¹ and it is evidently true that this rather complicated process of farming would serve to awaken the mental activities of these people, stimulate their inventive genius, and assist very materially in lifting them up to the higher levels of culture. Even in constructing their rude reservoirs, or cisterns, for holding water or for catching snow, there would naturally be fostered

¹ Ancient Society, p. 10, et al.

a feeling of enterprise, amiability, and mutual concern.

Hunting has probably never been an important pursuit in their daily life when compared with agriculture; yet, before the introduction of domestic animals, the accumulated amount of game obtained in the course of the year must have been considerable. The custom of surrounding animals and hurling missiles at them from all sides, or of driving them into traps and enclosures and there despatching them, could not be successfully carried on without the employment of squads of men. Whatever the methods of capture happened to be, the advantages of groups over individuals were self-evident.

Again, the servile dependence of the inhabitants upon the forces of nature tended to make them communistic. They dreaded those powers, the evidences of which they saw and felt but could not understand. They were very superstitious. Matters of trivial importance often very deeply affected their daily plans. Lightning striking a pueblo would frequently be a sufficient reason for abandoning it and building another. A mere toothache of one of the shamans might be taken as evidence of displeasure on the part of the ruling powers of earth and skies, and the village must make many sacrifices to appease the wrath of these presumably offended deities. So fear drew them together. They met in secret in the estufa to practise ceremonies for warding off evil. They chanted and danced conjointly in order to gain favors

from the powers that be. They turned to one another for sympathy in the presence of diseases and disasters, the fundamental laws and principles of which were beyond their comprehension.

One of the most striking characteristics of primitive society is the habit of reckoning kinship through the female line. Civilized nations consider the father and husband the head of the family.

Among the American Indians, mother-right has been the prevailing custom. In the words of Fiske: "Throughout aboriginal America, with one or two exceptions, kinship was reckoned through females only, and in the exceptional instances the vestiges of that system were so prominent as to make it clear that the change had been but recently effected."¹

The most fully developed governmental organization of these people consisted of four divisions, each with its own functions quite clearly defined. Society with them was established on clanship, not on family. Using the terms employed by Morgan in his "Ancient Society," one finds, as the first or smallest of these social components, the gens, founded on kin. It consists of a small number of persons firmly united by the bond of the same maternal ancestry, and distinguished from other organizations of the same kind by a gentile name. We use the word maternal, because the adoption of maternal in contrast to paternal ties was the oldest and perhaps the most characteristic custom. The second was the phratry, or

¹ Discovery of America, vol. i, p. 56.

brotherhood, as this word, borrowed from the Greek organization, implies. It consisted of several gentes bound together for special purposes, generally social and religious. The third was the tribe, speaking one dialect and holding in possession a limited amount of territory. The last and largest was the confederacy, consisting of several kindred and contiguous tribes united for mutual advantages, particularly those of defense.

This system is interesting on account of its universality. Morgan, in the first chapter of "Houses and House Life of the American Aborigines," says: "The gentile organization opens to us one of the oldest and most widely prevalent institutions of mankind. It furnished the nearly universal plan of government of ancient society,— Asiatic, European, African, American, and Australian."

The division which is particularly interesting to us in this connection is the first, or gens. It is perhaps more often called clan. Whatever the name, it is the real basis of tribal society. While it might be, as already noticed, a single male line of ancestry, as a matter of fact it nearly always has meant a company of blood relatives, consisting of the mother, her children, her daughters' children, her granddaughters' children, and so on down through the female side of the descendants.

Why is this custom so prevalent in primitive society?

Answers are seemingly not difficult to find; at

least, many plausible theories have been advanced by eminent ethnologists. The practice arose in an archaic period. Marriage was necessarily in a chaotic state. The gens, therefore, existing as it did, spared the confusion and embarrassment which otherwise might arise, "when," in the words of Morgan, "the paternity of children was not certainly ascertainable, and when their maternity afforded the only certain criterion of descents."¹ Members of the same gens claim origin from some object, usually an animal, such as bear or wolf, from which they take their name, and which they hold as sacred. The object becomes the totem of the group. The whole body of these relatives usually occupies the same portion of the village, forming a sort of colony and taking upon itself certain duties and responsibilities, bearing upon the conduct of its own members and the general affairs of the village. Each gens often has its *estufa*, or chamber, for secret ceremonies.

There was nowhere such a family bond as we find in civilization. Marriage among members of the same gens was prohibited; therefore, since the ties of clanship were very strong and the links of matrimony very weak, there was no harmonious, firmly united family, but rather a loosely constructed household. Since the children belonged to the mother, and the mother was a member of a gens different from that of the father, there was always

¹ Ancient Society, p. 68.

a wide gulf separating the individuals of the domicile. The husband was isolated, perhaps simply tolerated. Plans and secrets existed among the members of the gens rather than between husband and wife. In the words of Bandelier: "The affairs of the father's clan did not concern his wife or his children, whereas a neighbor might be his confidant on such matters. The mother, son, and daughter spoke among themselves of matters of which the father was not entitled to know, and about which he scarcely ever felt enough curiosity to inquire." ¹

This social and governmental system prevailed in the Southwest when the Spaniards first came, though Bandelier says: "The Pueblos were approaching a state of transition from mother-right to descent in male line." ² The woman owned the house or compartment which she occupied. She owned the greater part of the personal property. She owned the children. She was the chief business agent of the household. She managed the marriages. A man wishing a wife brought gifts to the betrothed, and presented them on the wedding-day. The marriage ceremonies were usually simple but differed greatly according to locality. The bonds were never strong. Complete separation could take place at the option of either party, and, when it did occur, the ex-husband threw his blanket over his shoulder and returned to his clan. Here as elsewhere among the tribes of the race,

¹ The Delight Makers, p. 14.

² Investigations in the Southwest, part i, p. 161.

“Children were the strongest bond; for, if the mother was discarded, it was the unwritten law of the red man that she should herself retain those whom she had borne or fostered.”¹

Social and governmental regulations of the aborigines were everywhere disturbed by local conditions. On the plains, for example, the constant wanderings of the tribes made strict, complicated, and well-sustained organizations impossible. Ties were loose, and easily dissolved. The boundless expanse of unobstructed territory tended to make restrictions and formalities distasteful. So the vicissitudes of the Pueblos have often weakened or destroyed their social and governmental organizations. For instance, wedlock within the gens is forbidden, but the rule has been frequently broken. In the smaller villages, this infringement has sometimes seemed necessary, and hence has been encouraged. The matter becomes to the inhabitants a question of existence; so, as Mrs. Stevenson says of one of the feebler pueblos of to-day: “At present there is nothing for the Sia to do but to break these laws, if they would preserve the remnants of their people.”²

The practice of blood revenge, which is so very common among the early races, has prevailed among the Pueblos. The stage at which bloodshed may be

¹ Bancroft's History of the United States (Centenary edition), vol. ii, p. 419.

² Eleventh Annual Report of the Bureau of Ethnology, p. 19.

atoned for by a property substitute was long ago reached, and since then matters relating to retribution are managed by gentes. A murder is particularly a crime against the gens. The peaceful inclinations of the sedentary Indians have rendered criminal proceedings of less importance than in many other parts of aboriginal America. On account of their great superstition, witchcraft has caused much trouble among these people. Many innocents have been obliged to endure pains and tortures, and to submit to death to satisfy the delusions of the multitude. Supposed sorcerers, particularly the old and unfortunate members of the village, have been objects of special wrath, and have suffered horrible deaths.

In the earlier stages of primitive society, land is owned, or rather worked, in common. Clans have certain holdings which the members use for agricultural purposes. Occasionally, a man, after tilling a piece of ground for several seasons, seems to acquire by silent consent a sort of special claim to it. In building a house or compartment, the man, wife, and perhaps a whole gens unite their efforts. Nothing corresponding to wages, as we understand the term, is paid. Sometimes the owner of the building provides food for the laborers. After the house is completed, the wife, as has elsewhere been noticed, owns and rules it. A few things, like blankets and weapons, are the property of the husband. It may be said generally, regarding the Pueblos, that the

men jointly claim the land, the women individually the dwellings, and the clans the crops.

On account of the physical features of the country, making it necessary for the villages to be strung far apart along the water-courses, and presenting scores, perhaps hundreds of miles of barren land between stream and stream, there did not grow up a confederacy to be compared with that of the Aztecs or the Iroquois. The conditions were of such a kind that it would be difficult, or impossible to have a strong and complicated system of government similar to that existing on the banks of the Mohawk or in the celebrated valley of Mexico. There were alliances, however, formed for the mutual protection of the villages, and this bond, loose as it was, proved at times very effective. When Coronado came into the country, he found each village governed by a council of old men, and the native government is much the same to-day. Each pueblo acts independently in selecting its own governor and councilors, and in making its own laws. All matters of importance to the community are discussed and disposed of in the *estufa*, and are announced afterward to the villagers by the criers. Questions are settled by a majority vote. The councilors are supposed to represent the clans. In times of peace, routine business is in the hands of the civil chief. In times of war, supremacy resides in the war-chief, who usually obtains his office through election.

CHAPTER VI

EDUCATION

INDIAN children follow the occupations of their ancestors; and, in doing so, they adhere to a practice which is very widespread among the peoples of earth. As a rule, however, this custom is far more prevalent in lower than in upper grades of culture. In the complexity and differentiation of modern life, especially modern civilized life in America, there is no assurance, there is hardly a probability, that a boy will carry on the kind of work which has engaged the attention of his father. There is in these days a strong tendency toward more narrow vocations, toward specialization, whether the work be mental or manual; and the son's energies are likely to run in a more contracted channel than did those of his parent. New inventions frequently throw a man's trade into desuetude in the course of a decade, and compel him, in middle life or even in old age, to seek some strange employment which generally proves extremely irksome. Such is the outgrowth of a complicated civilization in the hands of a restless, ingenious people.

Among uncivilized races this is not the case. Advancement during a limited period — say in the course of a century — is very slow, often impercep-

tible. Generation after generation witnesses practically unchanged conditions. The son struggles with the same forces of nature and in precisely the same way as did his ancestors. He fights men and beasts with the same weapons, or, at least, with the same kinds of weapons, that were used by his father and grandfather.

There are certain elements of education which from the very nature of primitive life are of special importance, and must be cultivated. One of the first of these is the cultivation of the power of observation. The Indian must learn in early life to be vigilant. Thrown into a world of danger, he must be constantly on the lookout. His very life depends upon his quickness of perception, therefore he must watch for unusual signs or disturbances. He has to live close to nature. Earth and skies are his textbooks. He watches the heavens and becomes a meteorologist. From necessity he comes to be a student of clouds and sunshine. He notices the blowing of the winds, and prepares accordingly for storm or calm. No atmospheric disturbances, whether general or local, escape his attention. He becomes the best of weather-prophets, for his outdoor life makes him such. As a hunter, trapper, or warrior, he learns to notice in his pathway the slightest trace of man or beast. A bent branch of a tree, a broken twig, or a disturbed leaf, furnishes to this child of the forest a fund of information, which his more civilized brother would never surmise. "His knowledge

of the habits of animals surpassed that of Audubon. The shrewd devices with which he snared them would have elicited the applause of Ulysses; the clearness of his vision excelled that of the oldest sailor; the sharpness of his hearing was not equaled by that of the deer.”¹

A second important feature of aboriginal education is the power of imitation. The children are taught to do what they see their elders doing. With their childish weapons they hunt the smaller game, chasing squirrels and rabbits and lying in wait for wild fowl. They run about the fields and through the village, endeavoring to capture one another with lariats. They pelt with stones, or shoot with blunt arrows, the unfortunate dogs, pet bears, or other animals in the possession of the members of the village. Beast or bird is unmercifully tormented in order that the youth may have something by means of which he may test his strength, speed, or cunning. The boy is taught by his parents to produce the noises made by the wild beasts. He becomes such an adept in his imitations that he deceives not only human beings but even the animals themselves. He produces so cleverly such sounds as the hoot of the owl, the bark of the wolf, and the quack of the duck, that these denizens of the wood and plain are drawn into snares and captured with comparative ease. When the youth becomes large and strong, he goes

¹ McMaster's History of the People of the United States, vol. i, p. 6.

out on hunting expeditions, and the father is as much pleased when his son kills his first deer or buffalo as is the white father whose son receives a high-school diploma.

Again, many of the tribes require from the children a military discipline as rigid as that demanded among the ancient Spartans or Persians. When very small, the boy engages in sham battles with his comrades, and often his pretended warfare comes close to reality. The flying arrows are headless but pain-producing and metal-trying. The dried-mud missiles are not deadly but uncomfortable. These engagements are accompanied with advances, retreats, skulkings, and shouts.

Perhaps on the whole, physical endurance has been the most characteristic feature of Indian training. The youth must accustom himself to go for days without food. He must endure excruciating pains and bear self-inflicted tortures. Writing about the Creeks, Starr says: "The Creek boys had a pretty hard time. They were made to swim in the coldest weather; they were scratched with broken glass or fish teeth, from head to foot, till the blood ran; these things were intended to toughen them to the endurance of pain."¹

Regarding the training of the boys of the California Indians, Bancroft speaks of the following harsh practice: "A youth to become a warrior must first undergo a severe ordeal; his naked body was

¹American Indians, p. 129.

beaten with stinging nettles until he was literally unable to move; then he was placed upon the nest of a species of virulent ant, while his friends irritated the insects by stirring them up with sticks. The infuriated ants swarmed over every part of the sufferer's body, into his eyes, his ears his mouth, his nose, causing indescribable pain." ¹

Among the Indians of the Southwest in prehistoric times, the nearest approach to a schoolhouse was the estufa, where various ceremonies were held, or a room in one of the dwellings, where, during the long evenings, the young and old sat by the fire and received information from the aged instructor, the patriarch of the pueblo. Only during the winter months are such gatherings practicable, for the summer season must be given up to the care of the crops. There are in each town several of these old men who from long practice become excellent reciters. The scene is impressive. Ranged around the room in their highly colored blankets, members of the village sit and listen to the tales that have been handed down from generation to generation. The fire throws a vivid glare upon the group. There are no couches or chairs, but the floor of adobe or stone, with skins or blankets scattered over it, serves the purpose. No lamps flicker, for there are no lamps. No night-curtains are drawn, for there are no windows through which enemies may look. The walls

¹ Native Races, vol. i, p. 414.

are bare with the exception of the war-clubs, bows and arrows, and a few simple utensils hanging from pegs or rafters. The learners are not classified according to age or size. There is no controversy over adjustment of grades or fitness of text-books. The pupils vary from the lisping, wondering child to the survivor of a score of battles. The gray and shriveled chronicler, amid these peculiar surroundings, imparts to his audience a sort of homely philosophy of

" the wandering moon, and of the sun
The laboring eclipses; and of men,
. . . . and of showers, and fires of heaven."

Again, the language becomes mystic and dreamy, as he talks of the origin of things, the miracles of nature, the myths of the winds, clouds, stars, snow, vegetation, seasons, things great and small, abstract and concrete.

Again, the theme changes, and the blood of the listeners is stirred and the eyes flash, as the old man tells in simple and impassioned language the stories of the wars with the dreaded Apaches and Navahos. He goes back to the sufferings and privations of ancestors, just as in the New England schoolhouse to-day the boys and girls are thrilled with the story of the hardship and misery of the Pilgrims.

On another evening the topic may revert to the origin of earth and skies, the birth of the people, their first appearance in the land, the cause of their

coming, the genesis of their customs, manners, and religion.

“And tales we tell by the evening flame
 Of how the earth was made,
 And the tribes came up from the Under-world
 To people plain and glade,—
 Tales that will echo round our hearths
 Till the last glow shall fade;
 And of the two immortal youths,
 Twin children of the Sun,
 Who eastward led their faltering bands
 To find where morn begun,—
 To gain the stable midmost lands,
 And the trembling borders shun;
 And of Pó-shai-an-k'ya, the master,
 Whose help we never lose,
 And said that whoso smites a man
 His own heart doth bruise.
 Of Earth and the Gods he taught us,—
 How slope and plain to till,
 And the streams that fall from the mountain snows
 To turn and store at will;
 And how to trace the glorious Sun
 North and south to his goal;
 And straight, when the body's life is done,
 Set free the prisoned soul.”¹

Again, the monologue runs in a vein of pleasantry, by way of stories of animals with which all are familiar, especially the rabbit, coyote, bear, antelope, mouse, rattlesnake, magpie, woodpecker, eagle, horned-toad, and their kindred.² The wit, wisdom, cowardice, ambition, truthfulness, deceit, bravery, foolishness, sloth, swiftness, curiosity, love, and hate of the various creatures are portrayed through these

¹ Proctor: *The Song of the Ancient People.*

² Lummis: *The Man Who Married the Moon.*

legends and traditions. The antelope adopts a child in a manner suggestive of the fabulous wolf of old Rome. The moral of the tortoise and the hare, suited to primitive conceptions, draws forth generous applause from the listeners. The mouse of the Indian country gnaws the warrior's bow-string and thus disarms him, bringing to mind the story of the Esopian cable-severing rodent. Old and young are thrown into fits of merriment over accounts of trick contests between animal and animal. A very tame story, a very artless remark, or a very mild joke, makes the mud walls resound with unfeigned laughter. There is an element of heartiness and simplicity about their mirth which reminds one of the joyful exuberance of childhood. Indeed, they all, even the oldest, have the predominant characteristics of children.

The speech of the Indians, in general, is full of figures, taken from suggestive objects about them. They have no classical models from which to borrow trope or metaphor. The embellishments come to them at first-hand from the rugged mountains, dark caves, floating clouds, fearful storms, and dazzling sunshine,—stimuli that are never wanting in this southwestern land of strange and interesting objects.

In addition to this general method of imparting knowledge, which, of course, is given in a desultory way, there is a kind of instruction which is communicated for special purposes. There are sacred traditions which must be preserved. There are myths,

tenets, and legends to be transmitted from the older ones to the younger with exactness of language. A certain number of boys are therefore chosen from the youths of the village, to whom this specific instruction is given. The subject-matter is learned word for word from the lips of the teacher. On the authority of Morgan,¹ there are three old men in the Taos pueblo whose special duty is to impart this kind of knowledge to a few young men, selected according to age and capabilities. The Zuñis have a real epic, a sort of Iliad or primitive Bible in verse, originating in far remote times and transmitted by oral communication from generation to generation. "This sacred work is publicly recited at rare but regularly recurring intervals. It is in four divisions, corresponding to four books, and each of these is divided into four chapters. Its recitation occupies two long evenings. It is in perfect rhyme and rhythm, and is highly poetic. When Mr. Cushing first came to Zuñi, the charge of the Bible was officially entrusted to an aged, white-haired, and blind old man, a veritable native Homer. This was the sole duty of the bard, and he was supported by the public. He died, and the succession came to one of four whom he had trained up. These four are continually instructing youth qualified for the highest trust by birth and lineage."²

Much of race-history, tradition, and mythology is faithfully kept and handed down through the

¹ Houses and House Life of the American Aborigines, p. 152.

² Sylvester Baxter: Harper's Magazine, vol. lxxv, p. 76.

various societies. These are in some respects the most conspicuous and interesting educational institutions of the whole social life of the Southwest. Some of them are exoteric and hold their ceremonials on festal days, with both sexes taking part. Others, such as the Snake order and the Antelope order, are strictly esoteric; and males only are members. These societies of the Southwest in the majority of cases are clan organizations, and the initiatory ceremonies are rigid and complex. The novitiates are usually children; and their association with these various orders becomes a very great part, perhaps, on the whole, the most important part of what may be called their technical education. "These initiations differ in detail among the various pueblos, but are essentially similar. It is through these initiations that the child becomes a rightful member of the pueblo, shares in the communal rights and privileges, and is placed under the protection of the tribal gods. To the primitive mind, these initiatory ceremonies are so necessary, so sacred and impressive, that all their features are indelibly stamped in memory. Taken in connection with the elaborate rites and ceremonies which must later be learned, they form the larger part of their purposeful education."¹

In the Pueblo country, instruction has probably never become so well systemized as among the Aztecs, according to the writings of Prescott² and

¹ Spencer: *Education of the Pueblo Child*, p. 82.

² *Conquest of Mexico*, vol. i, p. 69, et al.

Bancroft.¹ In the Mexican Confederacy, there was the culmination of aboriginal educational progress in North America. The youth of both sexes were placed under the care of a strongly organized priesthood. The boys were taught how to decorate shrines, and to chant and dance at religious festivals. They were instructed in the traditions of their tribes; they learned to read and write hieroglyphics; they were taught the fundamental principles of their government, also rudimentary astronomy, natural history, and, as a culminating accomplishment, military tactics. The girls were trained in religious and household duties, and received special instruction in the art of weaving and embroidering cloth for the altars. The whole system is interesting when placed in comparison with that of the Pueblos, for the two peoples are supposed to have reached practically the same rank of culture.

The differences in the natural features of the respective countries account for the principal dissimilarities in education; and the variation is more a matter of quantity than quality. The aborigines of the Aztec Confederacy were far greater in number, were more compact, and were much more thoroughly organized than those of New Mexico and Arizona, who were obliged to live in comparatively small villages far apart from one another.

In the topography of the two countries, however, may be found many common characteristics,

¹ Native Races, vol. ii, p. 240, et seq.

and in their whole practice of education are many of the same fundamentals, and these in turn are traceable back to similar sources. In both lands was that all-pervading superstition, that fear of innovation, that horror of experiment, that hide-bound reverence for ceremonial repetition. There was as strong an aversion to changes of custom, to originality of thought, or to freedom of action, as could ever be found in isolated, tradition-loving, ancestor-worshipping old China. Through the southwest portion of the United States and for thousands of miles on down along the borders of the Pacific, the mode of aboriginal life has been similar. Agriculture has been chiefly relied upon as a means of subsistence, and this always means a sedentary life; and out of this, in turn, under such peculiar physical conditions as exist in the Southwest, would naturally grow up the many secret societies with their ancient customs and reactionary influences. The thoughts of the natives have thus been kept upon the past. Their reasoning powers have been dwarfed, and even their imagination has been more or less fossilized. While there have been the above-mentioned influences on the positive side, there have been many others on the negative, all tending in the same direction. We are constantly reminded that such drawbacks as the lack of a suitable alphabet, the ignorance of iron-smelting, and the need of domestic animals, seriously crippled all progress.

Keeping now in mind the various prominent physical features of the Southwest, and realizing that they all constitute a great educative agency, one may fittingly ask what kind of human product will tend to develop on a tract of arid land, broken up into dreary plains and rugged mountains, settled here and there by a scanty population, which has been unmolested by higher culture and forced into communal life by peculiar systems of labor and through constant fear of roving enemies.

Noticing first the physical man, we find these people of medium stature, or perhaps, as a whole, slightly undersized, with noteworthy development of those powers and proclivities which are constantly encouraged and exercised. Having no burden-bearing animals, they were able to endure great loads. The women were accustomed to carry immense jars of water on their heads. Both sexes would drag or carry with comparative ease enormous quantities of wood, clay, or stone for very long distances. McGee mentions a withered old woman of the desert land of the Papagos, who weighed no more than eighty or ninety pounds, but who arose from the ground with a kiho — a large rude basket borne on the back — containing a stone mortar of one hundred and ninety-six pounds, carried it more than a half-mile over a sandy road, without perceptibly exhausting herself or attracting particular attention from her neighbors.¹ Indeed, as burden-bearers, the

¹American Anthropologist, vol. viii, p. 370.

women may be considered worthy rivals of the brawny matrons of the Himalaya Mountains.

Endurance, that characteristic of all Indian life, is, in certain directions, strikingly observable in the Pueblo. He becomes inured to privation. In cases of expediency he is content with but little food, and in cases of emergency he can abstain altogether for a very long time. He can get along with very little water to drink, and can pass two or three days in the hottest weather without even a drop. His power of endurance is perhaps nowhere better exemplified than during the long, exhausting dances and festivals.

He frequently appears to have a strange, rolling gait, brought on by the peculiarities of the country, particularly the sand, over which he is compelled to travel. He will start out over the territory on a sort of trot, and will keep it up for hours at a time. He will go from fifteen to twenty-five miles away from home to chase and kill rabbits, and return the same day. He is a swift pedestrian always, and especially so in those parts where limited forage has deprived him of the use of horses. A Moki, it is said, will go on foot a hundred miles in a day and night.¹ "To my knowledge," says Walter Hough, "an Oraibi man made a continuous run of one hundred and sixty

¹ While we naturally look for unusual endurance and swiftness of foot among uncultivated races, yet examples of these characteristics are not wanting among civilized nations. Just before the battle of Marathon, Phidippides went from Athens to Sparta to seek aid, running one hundred and fifty miles in thirty-six hours.

miles as a bearer of a note and answer.”¹ According to McGee, some couriers will run between a hundred and five and a hundred and thirty-five miles in twenty-four hours; and a case is mentioned of an Indian of the Southwest who carried a letter nearly eight hundred miles in five days.² The same excellent authority writes, among other exploits, of a Seri hunter, who alone chased, captured, and carried home a deer; another, who, by permission of the owner, jumped upon a horse running at full speed, and, while mounted, caught the head of the animal and twisted it in such a way as to throw him and break his neck.³

The Pueblo women are hardy, rather short, straight, and corpulent. Carrying a great deal of water in jars on their heads for very long distances is possibly the best explanation of their remarkable erectness. They are also good travelers, and make long journeys to obtain valuable clays, paints, and other material for service in their household industries. Just south of them, in Seri land, the women, on account of no settled homes and hence unceasing peregrinations, become the rivals of their husbands as pedestrians. McGee tells of a matron who, carrying a sick child about a year old, and doubtless spurred on by maternal anxiety for obtaining relief

¹ American Anthropologist, vol. x, p. 36.

² Id., vol. viii, p. 370.

³ Seventeenth Annual Report of the Bureau of Ethnology, p. 151.

for the sufferer, walked more than forty miles between dusk and dawn.¹

In spite of their many hardships and unfortunate sanitary conditions, long life seems to be one of the characteristics of the Pueblos. It is impossible, however, to tell how old they really are, for records of their ages are imperfectly kept, if kept at all; but to the casual observer the proportion of old men and women seems large. It must, nevertheless, be kept in mind that blazing sun and harsh, hot, and dry winds make them appear older than they are.

They are subject to but few serious diseases, and these are generally of a contagious nature, arising from an habitual disregard of cleanliness. When epidemics do come, they are usually very destructive to life, on account of the prevailing ignorance of hygienic laws and the slavish reliance of the people upon the exorcism of shamens.

It is said that the reports of keenness of the special senses of the aborigines have been greatly exaggerated by writers. Powell thinks that the sight, hearing, taste, and smell of the savages are blunt, and the perceptive faculties dull, in comparison with those of civilized man.² It is doubtless true that the organs of sense lack in range and delicacy, on account of lack of experience in the higher realms of culture. The eye has not been trained to a careful discrimina-

¹ First Annual Report of the Bureau of Ethnology, p. 20.

² Seventeenth Annual Report of the Bureau of Ethnology, p. 151.

tion of such shades and colors as are found in the art galleries of civilized nations, nor the ear to operatic music, nor the touch to the cleverness of the cultured artisan, nor the smell to that of the skillful urban druggist, nor the taste to that of the survivor of a thousand fashionable banquets. These are acquirements which are above and beyond what is demanded in the commonplace life of the Indian. In his own narrow sphere, however, he is far from being inept. He trains his eye to catch objects out on the plain, just as the sailor trains his eye to observe ships at sea. He is attracted by sounds which would entirely escape the ear of the unpractised white man.

The morals of the people are, on the whole, commendable. Regarding the Mokis, who of all the Pueblos have been least influenced by the whites, Mr. Scott says: "The men are domestic and kind, the women are loving and virtuous, the children are obedient, and return the affection bestowed upon them by their parents."¹ To use this statement without discrimination, with reference to all Pueblos and in accordance with civilized man's ideas of morality and ethics, would be misleading. The same standards can hardly be applied to both peoples. There are, however, many homely virtues, highly commended in the best circles of civilized society, which are recognized and cultivated among these simple people.

The children are taught habits of industry. They

¹ Eleventh Census Report: Indians, p. 194.

were accustomed to do their share of work in the fields in ancient times, and to-day the boy takes his turn in watching the corn lands or the herds. There is more or less division of labor. Tasks are assigned to individuals by the Governor, and announcements of these are made, day by day, by the crier from the housetops. It is not to be supposed that these people lead the strenuous life of the average civilized American citizen. They find much time in the course of the year for lounging and gossiping, but they are not shiftless.

The women are, on the whole, perhaps more industrious than the men. They gather clay; wash, mix, and mold it into desired forms; and then bake, polish, and decorate the vessels. They gather material from far and near, and weave it into baskets. They assist the men in preparing paraphernalia for the festivals. They cook the food and take care of their children and their homes.

The industry of these people is matched by their patience. Their long journeys for wood and water, their wearisome tasks in producing rude household implements, such as the rubbing of stones together to make metates; their tedious labor in carrying stones and mortar to the tops of cliffs for making dwellings and watch-towers, or in making with their blunt instruments, excavations for homes into the faces of the very cliffs themselves; their careful attention to the details in crop-raising; and the great amount of watching, and waiting, and toiling for paltry returns

in their common every-day pursuits,— all these combine to make their plodding lives embodiments of patience.

Again, they have been evidently always a peace-loving people. Their mode of life would foster the spirit of amity. They have preferred to cultivate their fields, to hunt the rabbit and the deer, and to engage in their harmless pastimes rather than to go upon the war-path. They have been obliged, however, to train themselves for combat with roving, thieving, and murderous enemies. That they proved themselves brave, when duty called them to the defense of their lands, homes, and kindred, is abundantly testified to by clouds of witnesses from the days of Coronado down. That they were ingenious and vigilant as well as brave, the choice of sites for their dwellings, the protective principle exemplified in the construction of their stone and adobe walls, and the skillful erection of watch-towers, bear evidence.

That much stress should be put upon submission to authority, especially parental authority, seems also a natural result of the conditions of the Southwest. The people are saturated with superstition. From generation to generation, dependence upon the mysterious forces of nature, and dread of surprises from enemies have been uppermost in the minds of the people. From his early days each child has been taught to know and feel the influences that have engaged and controlled the thoughts of his ancestors. He has become accustomed to innumerable precepts,

and stories replete with moral lessons. It is considered highly essential that he should have a wholesome respect for seniority, and a reverence for those supposed to be wiser than himself. To him their experiences are told, and from these experiences he is to learn right rules of conduct. Danger lurks everywhere, and in order to avoid it the child should be strictly obedient to the commands and cautions of the parents. Like all small organizations in the midst of insecurity and anxiety, the various members felt keenly their reliance upon one another, and so kindred ties were strong. Occasionally, as a caution against laxity in behavior on the part of the children, questionable methods have been employed. Older members of the village would disguise themselves in ugly masks and call at dwellings in which there were children, and frighten them by threats of punishment or death. This kind of discipline ranks with that of more pretentious people, who attempt to reach the same results by telling the children of the evil powers of ghosts, goblins, and witches.

In contrast to Pueblo ideas of parental authority, it is worthy of notice that, in many parts of aboriginal America, obedience has not been considered an essentially commendable characteristic of social life. Among some of the wilder tribes, a rebellious, quarrelsome disposition on the part of the sons has been encouraged rather than opposed. Chastisement for obstinacy has been considered detrimental to the growth of courage, and hence obstructive in the mak-

ing of a warrior. With many savages, quarrels are of almost daily occurrence, and brawls among the youths are constantly going on. Among some wild and roving tribes, not only of America but of other lands, either of the parents, but especially the mother, may be killed by the son on very slight provocation, and the murderer is not seriously molested. Old people who cannot endure the hardship of long tedious journeys, may with impunity be left behind by their children to die from exposure. This lack of affection on the part of the sons and daughters brings to mind the custom, among ancient civilized nations, of leaving unfortunate offspring to die in lonely places.

It is refreshing, therefore, to turn to the Pueblos, and to find, approximately, at least, the conditions described in the vigorous language of Lummis, who says of the pueblo of Isleta: "Here are children never spoiled, never disobedient, almost never quarrelsome; parents never neglectful and never harsh; and none who fail of respect to seniority — even as between boy and older boy."¹ Some have thought that there are evidences that the cliff-dwellers put to death the very aged. If this should be proved, it would doubtless be found that such things were done, not on account of looseness of kindred bonds, but on account of distress, particularly famine, which has frequently decimated the population, and caused the taking-off, voluntarily or otherwise, of the less

¹ The Land of Poco Tiempo, p. 43.

useful persons of the village in order to lessen the demand for food. This is a desperate remedy, but not unusual among primitive people in lands inadequate to supply necessary subsistence.

Before the influence of white men was felt, there was generally a wholesome regard for truth-telling. The children were taught this as one of the cardinal virtues. There was no hope of food or money from tourist or antiquarian as a reward for presenting something pleasing or startling, regardless of veracity. One must always keep in mind, however, that, where imagination and superstition play so great a part in the life of a people, there is always danger of confounding fact with fancy. Stories, which are mere creations of the brain, and which contain accounts of matters that never could have happened, are told with soberness and sincerity, and without any malicious intent.

In the domain of purely intellectual achievements, one could hardly expect great results in the primitive Southwest. Under conditions existing in such lands, there could be no Platos or Bacons. Complicated abstract thought cannot get far along without an adequate language to convey it. In technical education the children are bright in those subjects requiring quickness of perception and skill in imitation, but neither old nor young have advanced very far along the line of metaphysics. Logic is not one of their chief qualifications. A large part of their philosophy is childish, though oftentimes exceedingly

interesting. Their mythology is great in quantity and more or less ingenious, but not profound. The concrete and local, rather than the abstract and remote, interest them. Their memories have been cultivated by means of many songs and legends, handed down from age to age. The system of intellectual development is Oriental rather than modern American. Their spoken language has become well differentiated. Parts of speech are distinguishable. Their picture-writing is intended to convey some practical facts, but is of slight importance when compared with the systems of hieroglyphics which have been developed in the lands farther southward. The chirography, placed on skins and rocks, consists of almost childish pictures and a few symbols. Like all primitive Americans, they have long been proficient in sign-language. Some of their inventions are curious, almost ingenious, but not complex. A great diversity of quality appears in their arts. When white men first visited them, they had not yet devised the potter's wheel nor discovered a process of glazing — at least, glazing absolutely impervious — for their ware. In their handicraft they did not make use of such mechanical aids as the square and compass, or the plumb-line. They had no augers, planes, or pulleys, such as are familiar to us; though the work we do with these was accomplished, after a fashion, by means of ruder implements. There are many other phases of intellectual development which appear more closely connected with other topics, and which will be noticed later.

Taken as a whole, the Pueblo has achieved much in comparison with many other groups of his own race; but, isolated and fettered as he has been, the possibilities of reaching that world-civilization, which has grown up along the great water-courses, and on moist, fertile lands, have never been his.

CHAPTER VII

INDUSTRIES, ARTS, AND SCIENCES

THE topics to be considered in this chapter might have been taken up with equal propriety in the one immediately preceding, for education is a term almost indefinable, and virtually unlimited in scope. The most important teaching may be done elsewhere than under roofs, even in civilized society, and this is especially true in aboriginal communities. In native American life there are arts, a few of which are real accomplishments, others simply utilitarian, and still others necessary for very existence.

There come times in primitive man's slow movement toward the sunlight of civilization, when he looks beyond the narrow circle of the present and a commendable ambition begins to awaken within him. He wishes to make known his thoughts otherwise than by speech and gesture. He desires to throw his ideas into more permanent form. He is anxious that his posterity shall know something about his history, what deeds of valor he has performed, how highly he has been esteemed by his fellow men. He meditates, and says with Hiawatha: —

“Great men die and are forgotten,
Wise men speak; their words of wisdom

Perish in the ears that hear them,
Do not reach the generations
That, as yet unborn, are waiting
In the great, mysterious darkness
Of the speechless days that shall be !

“ On the grave-posts of our fathers
Are no signs, no figures painted;
Who are in those graves we know not,
Only know they are our fathers.
Of what kith they are and kindred,
From what old, ancestral Totem,
Be it Eagle, Bear, or Beaver,
They descended, this we know not,
Only know they are our fathers.”¹

Not like the ancient people of the valley of the Euphrates has the Indian, especially the Indian living north of Mexico, devised a system of cuneiform writing, and, stamping the characters on plastic clay slabs, laid them away to be read when scores of generations have passed away. The sun-baked earth of Pueblo land might suggest some such devices as the tablets of the Chaldeans, but the native inhabitant of the Southwest had not progressed quite far enough to take advantage of such expedients. A step of that kind was just beyond his comprehension and genius. He had advanced far enough, however, to have yearnings for leaving to posterity records relating to his day and generation; and in several ways his surroundings suggested how it might be done. About him are rocks for tablets, splinters of wood or bunches of wild grass for pencil or brush, and minerals or plant-juices for coloring. Here is the beginning

¹ Song of Hiawatha, xiv.

of graphic art, and is of much the same nature as that in vogue long before the Pyramids. He constructs his rude drawings of man, beast, or bird, to be interpreted by the passer-by. Sometimes, to insure permanency for his figures and symbols, he makes incisions on the rocks with pieces of bone or flint.

Almost everywhere over the United States this pictography may be found. On the faces of isolated boulders, on walls by the sides of streams, on jutting crags near pueblos, and on the ceilings of caves, the picture-writing appears. There are chronicles of famines, disasters, pestilences, and deaths. Not only records of things of great import are thus preserved, but matters of less interest are noticed. Recent discoveries show that many of the pictographs are for imparting information of general interest, like sign-boards at the cross-roads in civilized communities. Sometimes a spring, a ford, or a trail is indicated by means of them.¹ Many are for the purpose of pointing out graves, and recording something about the departed. Occasionally, rather abstruse ideas are represented. A few lines from Hiawatha illustrate this: —

“ For the earth he drew a straight line,
For the sky a bow above it;
White the space between for daytime,
Filled with little stars for night-time;
On the left a point for sunrise,

¹ Mallery: Fourth Annual Report of the Bureau of Ethnology, p. 17, et seq.

On the right a point for sunset,
 On the top a point for noontide,
 And for rain and cloudy weather
 Waving lines descending from it."¹

The rocks of the southwestern country contain many records of fact and fancy. Many of these writings, in order that they may be seen from a distance, are painted or chiseled far up on the faces of the bluffs comprising the walls of the numerous cañons of the country, and others on isolated boulders sometimes very remote from signs of habitations.

Many of them are archaic, and are evidently the work of the cliff-dwellers.

"Here still a lofty rock remains,
 On which the curious eye may trace
 (Now wasted half by wearing rains)
 The fancies of a ruder race."²

The Pueblos are fortunate in having so great variety of excellent minerals for paints, soft convenient sandstone for tablets, and unlimited quantities of flinty rocks or agatized wood for chisels.

We pass to the consideration of another important art of primitive life with a remark from Starr: "What a man eats depends very largely on where he lives; what he eats determines very largely his character; and the devices which are necessary to secure his food dictate and influence his arts and industries."³

¹ Song of Hiawatha, xiv.

² Freneau: The Indian Burying-Ground.

³ First Steps in Human Progress, p. 37.

The making of pottery is a very important achievement in human affairs. Morgan considers it the stepping-stone from savagery to barbarism.¹ Among the Pueblos we naturally expect the ceramic art to be noteworthy, and we are not disappointed. Potsherds in profusion are mingled with the old ruins. Several of the villages of to-day are especially distinguished for the production of peculiar or excellent varieties of ware. They are the Rookwood, the Grube, the Van Briggle manufactories of the Southwest. The quality of the production depends primarily upon the locality, for there is a great difference in the nature of the clay.

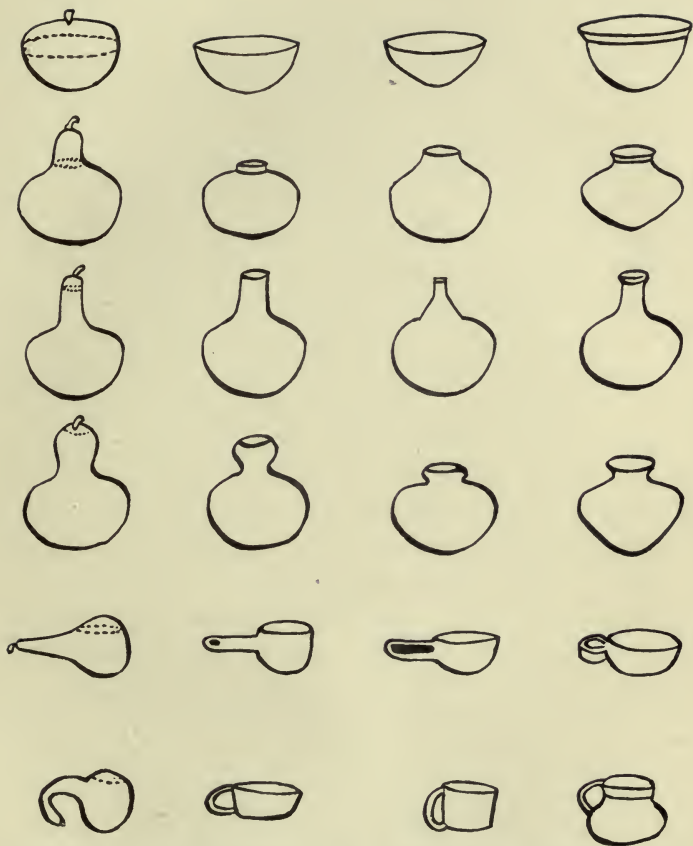
The inventions and improvements of the vessels themselves have grown out of the necessities of the times and the changes of conditions. Man cannot get along far in the direction of civilization before he has devised some sort of contrivance, larger than the human hand, to serve for holding and conveying foods, liquids, and other ordinary substances, of which he is ever in need. The necessity and the expedient to meet it may come about in a thousand ways. Imagine, for instance, an Indian mother bearing her child in her arms for many miles through the forest. Faint, tired, and stopping to rest, she breaks off a few tough twigs from a tree, twines them into a sort of improvised pouch, places the papoose within, slings the load upon her shoulders, and moves on with comparative comfort. The relief

¹ Ancient Society, chap. i.

thus experienced in carrying her burden suggests a more permanent device, and so improvements in its construction go on. Modifications are thought of to meet new emergencies and to acquire greater conveniences, until in the course of time there comes to be an almost infinite variety of shapes and sizes.

Cushing¹ traces the growth of pottery among the Pueblos in somewhat the following manner. When these people first came into the land, the semi-desert nature of the country made the question of carrying and preserving water of vital importance. The indications, traced through language, are that they first made use of tubes of wood or cane, which were employed during their nomadic stage. These were superseded by gourds, which were at hand and had many points of superiority. The gourds, however, were fragile, and, for the purpose of strengthening and preserving them, they were encased in wicker-work. These, in turn, would suggest water-tight baskets, which, on account of strength and convenience, would displace all former utensils. Clay came to be pressed upon the wattling from the inside and formed a heavy coating. For roasting seeds and kindred substances, live coals were placed within the vessel along with the material to be parched, and a whirling motion kept up for the purpose of heating the kernels evenly. Not only is the food thus roasted, but the clay lining by constant use is incidentally heated,

¹ Fourth Annual Report of the Bureau of Ethnology, p. 482, et seq.



EVOLUTION OF PUEBLO FORMS OF POTTERY FROM INDIGENOUS GOURDS

(After Holmes)

until it becomes hard and stable. The wooden network after a time becomes torn off or burned away, but the hard clay lining still preserves its shape. Here, then, is primitive pottery as a result of evolution. It is not far from this point of development to the shaping and roasting of clay vessels without the assistance of the wooden framework.

Let us follow the evolution of forms. The old shape is still obtained by drawing out a long rope of clay, varying in thickness to suit the character of the vessel to be made, and, beginning at one end of the rope, coiling it upon itself at the bottom of the basket and following up the sides until the top is reached, pressing the coils gently upon one another as the winding continues. The completed article is left in the basket until it dries and shrinks, when it is carefully removed and fired. It is found by experiment that by careful manipulation vessels can be made from these ropes of clay without using wicker-work for support; but the plaiting is still imitated by making creases upon the coils with the thumb-nail, or a piece of bone.

The next step is to mold a piece of plastic earth into a desired form without coiling. Freed from dependence upon basket models, there arises immediately a great variety of shapes, chiefly imitations taken from local natural objects. Shells, gourds, animals, or parts of animals, especially heads and feet; plants, or parts of plants, especially twigs, leaves, and flowers,— all these furnish suggestions for either

the complete vessel or for parts of it, such as spouts and handles; for all manner of ornaments painted upon it; for various designs pressed into it; or for raised or sunken figures molded upon it.

“In searching for the first suggestions of handles,” says Holmes, “we must certainly go back to the very beginnings of art, when men and women employed leaves or vines to carry their children or their food, or to suspend them for safety from the trees of the forest.”¹ From this simple utilitarian form, spring many others, suggested by vegetable, animal, or even mineral shapes, such as the crooked or straight necks of gourds; or the roots and stems of maize, cactus, and yucca; or the heads, necks, and feet of birds and lizards. Loops of strings, ordinary hoops and rings, have been also potent factors in bringing about the great variety of form which one finds in an ordinary collection of Pueblo ware.

Passing from the mere shape of the vessel to its decoration, one finds many designs, striking and interesting, even if all thought of beauty be thrown aside and the pattern be considered solely with reference to its origin and meaning. The scroll is supposed to have been imitated from shells finding their way into the country through barter with tribes living along the Pacific. The same design, however, might easily be suggested by whirlwinds and water-pools. The fauna of a district also supplies many models.

¹ Fourth Annual Report of the Bureau of Ethnology, p. 271.

Rude, sometimes highly conventionalized, and even artistic drawings of man, beast, or bird are found on both ancient and modern ware. On sacred vessels are decorations and symbols to represent sky, clouds, and rain, being especially significant on account of the aridity of the Pueblo country. Cushing, concerning the emblems to be found on the prayer-meal bowls of the Zuñis, says: "As the tadpole frequents the pools of springtime, he has been adopted as the symbol of spring rains; the dragon-fly hovers over pools in summer, hence typifies the rains of summer; and the frog, maturing in them later, symbolizes the rains of the later seasons; for all these pools are due to rainfall." ¹

The prevailing color of the ware also depends more or less upon locality. The predominating hue of the clay throughout the Southwest is yellow or yellowish brown, but it shades off by gradations into pure black or white. An inky blackness is purposely given to some of the vessels by smoke, which enters the pores when the articles are heated in the process of manufacturing. Sometimes a special kind of fuel is chosen for the purpose of imparting a desired shade. It has already been noticed that the country abounds in various minerals which are used for paints, and which, by mixing, give considerable variety of color.

In the manufacture of pottery the firing is a very

¹ Fourth Annual Report of the Bureau of Ethnology, p. 518.

important operation, and requires skill. The quality of the ware depends upon the process of heating, whether rapid or slow; upon the place of heating, whether in ashes, brush-heaps, or mud or stone-kilns; upon the kind of fuel, whether coal, animal refuse, resinous wood, or sage-brush.

Generally speaking, the Pueblos do not attach legs to their pieces of pottery, nor did the cliff-dwellers. The vessels stand upright enough, perhaps, without these, though not very firm. The floors of the homes, however, are not always level, and probably the old-time plan of construction is well enough suited to Pueblo life.

Having followed the development of pottery through its various stages, let us return to the basket-making, which, although it seems to have suggested pottery, has, however, developed on lines peculiarly its own.

For the primitive artist, basketry and pottery both have their advantages and limitations. The former is more enduring, requires, in producing it, much harder and more prolonged labor, and is more difficult to convert into artistic shapes, not offering so large and varied a field for designs. The latter is fragile, is much more quickly and easily produced, and, on account of its smooth surface, presents for ornamentation, boundless opportunities for the invention of various patterns. Both are equally influenced by physiographic conditions. "There is no work of woman's fingers," says Mason, "that furnishes a

better opportunity for the study of techno-geography, or the relationship existing between an industry and the region where it may have developed, than the textile art.”¹

Wherever, throughout aboriginal America, baskets have been made — and they have been made almost everywhere — they bear with them the stamp of the locality in which they have been produced. The various shapes, the numerous color designs, the kinds of weave, the differences in material,— all, or some, of these elements reveal the natural features and resources of the quarter of the earth in which they first appear.² Among basket-making materials of Alaska, birch bark and spruce roots are conspicuous; on the Aleutian Archipelago, willow twigs and bark; in Oregon and northern California, ferns, pine roots, sumac, and hazel twigs; in southern California, tule root, squaw-weed, unicorn plant, and yucca; among the Algonkins and Iroquois, birches and willows; in the land of the Athapaskan, hazel twigs, pine roots, and various grasses; in the sub-tropical country of the Maskoki, cane and native hemp; among the Sacs and Foxes, willow twigs, white-ash bark, and filaments of slippery-elm; in Central America, reeds, silk-grass, and bark of the Mahoe-tree.

In any of these sections there has always been a great variety of very beautiful baskets. This is true especially along the western coast, where abundance

¹ Woman's Share in Primitive Culture, p. 41.

² James: Indian Basketry, chap. vi.

of excellent material grows. From southern California to Alaska, the work is of a very high order. In other sections where the wood fibre is of inferior quality, or the energies of the people are habitually directed toward some other industry, the products are of poorer grade.

Among those who are designated strictly as Pueblo Indians, that is, those who live in adobe communal houses, basketry, while of some importance in almost all of the villages, and of much consequence in a few, could, however, as a whole, hardly be called an extensive industry. Sedentary people can more easily make pottery, and can use it successfully under conditions, which, on account of its fragility, would render it worthless in the rougher experiences of roving bands. It is not, however, a lost art in the Southwest, nor even a neglected one, when we take the whole country into consideration, for it has been practised with signal success by many of the Pueblos, and more especially by the several nomadic or semi-nomadic tribes or stocks, such as the Apaches, Pimas, Wallapais, Havasupais, and others. Some of these people produce baskets noted for strength and durability, others for remarkably symmetrical forms and artistic designs.

The variety of plant-life in the land of the Pueblos is limited on account of aridity; but much of the product is of excellent quality, and in the hands of the skillful women of that country, real artists, as many of them become, it is fashioned into beautiful

and valuable pieces. Various grasses, yucca leaves, twigs of cactus, cedar, and willow, are the staple products. The women go scores of miles, often on journeys lasting for several days, to gather choice material for their work. They climb the steep sides of the mountains, or travel out over the plains in the hot sun to reach localities abounding in plants having suitable boughs and roots for weaving, and containing mineral or vegetable dyes for ornamentation. Having secured these, they slowly bear home their clumsy but treasured burdens.

After the material has been gathered, there is still much to be done before the real basket-making begins. Sometimes the wood fibre is kept in water for months to make it soft and pliable. Again, it is torn into shreds or split into flat strips, and all the bark and pith removed. Again, it is washed, rubbed, scraped, twisted, crushed, and hackled, until it becomes as flexible as linen. It is buried in mud to make it black, or soaked in water to make it white, or steeped in juices or dyes to give it other desired colors. All this was done and well done before the industry was affected by the deteriorating influence of commercial dyes.

The kinds of weave depend upon the nature of the material at hand, the size of the baskets themselves, and the uses to which they are to be put. Some of the articles are very strong and rigid, others soft and flexible. Many are of coarse quality and therefore useful only for holding bulky articles, while

others are so finely woven that liquids can be carried in them.

The very fact that basket-making is a textile art — that in producing the articles the material must be braided, twisted, and woven — makes geometric designs especially appropriate for this kind of work. Squares, rectangles, and rhombs are conspicuous on baskets wherever they are manufactured. Generally speaking, indented and elbow-shaped figures are more easily made than curves and circles; still, by careful manipulation, the effect of circularity may be obtained with comparative ease, especially in larger designs, even if the units composing them are squares or rectangles. Nature provides innumerable models to be copied and conventionalized. The lightning, the crawling snake, or the winding river, suggests zig-zag or sinuous lines. The tops of trees, mountain peaks, cañons, and gorges, give hints for representations of depressions and eminences; and these have come to be used very effectually, especially as designs for borders. The long, slender, waving blades of corn, the branches and leaves of pines and cedars, the sprigs of cactus and greasewood, the various shapes of clouds, have suggested innumerable forms for fanciful creations. Some of these natural objects in the course of time become conventionalized almost beyond recognition. As in pottery designs, the whirlpools in swollen streams, or the constantly recurring whirlwinds of dust have been imitated in scroll-work with good effect.

Through long practice of the textile art, some very complicated and ingenious designs have arisen.

To procure coloring material for baskets — as for clay-ware — the Indian woman searches far and wide; gathers leaves, twigs, roots, barks, and berries; extracts saps and juices, selecting and mixing them in order to deepen and soften the various tints, until she has obtained the desired variety. She digs into the earth to obtain pigments. She keeps on hand a supply of native mordants to set the dyes in which the woody fibre is soaked.

The colors on baskets are also important from the standpoint of symbolism. The black, blue, green, yellow, red, and white are employed to tell their stories in emblematic language.

It may be somewhat singular, but there are certain primary colors which seem to appeal to mankind in general as fitting symbols for use in connection with certain rites and ceremonies. They have been employed from time immemorial, by savage and civilized alike, to express certain ideas and fancies. Apparently by a sort of intuition, they suggest at a glance some great truth. White is a sign of innocence and purity, black, of evil and sorrow. Red tells of war and bloodshed. Blue indicates the color of the sky, and hence the ethereal and spiritual. Green means strength and freshness.

In the Pueblo country, colors are extensively used, symbolically as well as ornamentally, on all kinds of utensils, in fact on all kinds of articles, not only

pottery and baskets, but objects made from gourds, skins, wood, bone, and stone. Yellow, for instance, is a favorite and very appropriate color for baskets used in the harvest dances.

In olden times the Pueblos were evidently the only makers of such textures as blankets, kilts, or belts, in their part of the country. Out of the cotton cultivated near their villages, they produced cloth, some of it coarse and unadorned, some of it bearing modest and appropriate designs. Frequently, other materials, such as rabbit's hair, yucca fibre, and feathers, were ingeniously mixed with the cotton, and woven with good effect into the fabrics. The mountains and plains furnished native dyes for blanket-coloring as well as for pottery and baskets. Twigs, roots, gums, ochre, and other materials were utilized to obtain desired stains and mordants.

Of all the ancient weavers of the Southwest, the Mokis were the most proficient. Among the Pueblos they are so to-day, with the Zuñis as rather close rivals. Since the coming of the white man, however, the whole weaving industry has been greatly modified. The new-comer imported flocks of sheep, hence woolen goods began to prevail. He imported cheap commercial dyes, and in many cases deterioration in color-notions followed, as it has followed in the decoration of baskets and clay-ware. The Navaho becoming more or less sedentary, becoming particularly a herder of sheep and a producer of wool, has been attracted to the industry of weaving, has learned

from the Mokis the art of making blankets, and has become so proficient and extensive a manufacturer that his goods are known all over the country, and even in foreign lands.

The textile industry of these people has been carefully studied, and reported upon, by such observers as Lummis,¹ Hollister,² and Matthews,³ the last of whom has given us a very minute account of the whole process, and to whom much of the information here presented is due.

In these days the Navahos generally use shears, manufactured by white men, to clip the fleece from the sheep. Formerly they pulled the wool off the animal, or cut and tore it away with their dull, rude implements. Contrary to the custom of the newcomers, they do not wash the wool while it is on the sheep's back, but take great pains to cleanse it after it is removed. It is carefully carded with wire-toothed combs obtained from the whites, and is then made into loose rolls preparatory to spinning.

The spindle is of very simple construction, consisting of a straight piece of wood some two or three feet in length and of about the diameter of one's finger, with one end tapering gradually down to a point, the other remaining more blunt. It is passed through the centre of a wooden disk, about

¹ Strange Corners of Our Country.

² The Navajo and His Blanket.

³ Third Annual Report of the Bureau of Ethnology, pp. 375-391.

four inches in diameter and an inch in width, to which it is made fast some six inches from the less pointed end. When in operation, the implement generally lies loosely at one side of the weaver, and the whole process of twirling it and of converting the wool into a thread is managed with the fingers. Through long practice, remarkable skill is acquired in making ready this raw material for the loom. In preparing the strong filament for the warp, the material is placed upon the spindle and taken off and respun four or five times. The woof is spun less often; and the texture of the blanket, of course, depends upon the number of repetitions in spinning.

The warp is prepared upon a temporary frame, consisting of two short slender poles laid parallel to each other on the ground, or perhaps upon four small flat stones, and separated by as much space as can conveniently be covered by the blanket when finished. To the ends of these poles, are bound, at the corners, two slender rods, running perpendicularly from one to the other and holding them in place.

The warp-thread, after one end of it has been fastened somewhere to the frame, is carried continuously back and forth, over and under the poles, crossing and recrossing, until it has covered enough of space along these poles to form a warp of desired width. The thread is then broken and made fast to the frame as at the beginning.

The next step for the one preparing the warp is

to tie into a knot three strong cords so as to form strands. Fastening to the pole these cords somewhere near the knot, she carries one of the strands around the thread comprising the outer edge of the warp; intertwines it with the other two strands, one of which she passes about the second warp-thread; intertwines this again with the other two; then passes the third strand about the third warp-thread, intertwines as before, and, again taking up strand number one, continues the process of winding and intertwining until she has passed entirely across the face of the warp. By this device each warp-thread becomes completely separated from the others, and is held securely in place by some one of the strands, all of which, by the process of intertwining, have together formed a sort of loosely twilled rope. At the opposite end of the warp the weaver employs the same kind of device for securing the threads. The wooden frame is now taken apart, rods are fastened in the sheds to keep them open, the warp is drawn off from the poles, and the whole appliance is ready for the loom.

The looms are of the same kind as those in use before the days of the Coronado Expedition. The frame is composed of several pieces of wood, held in place by thongs. Two posts driven firmly into the ground several feet apart, or better still, two slender trees growing a short distance from each other, with a rather heavy cross-beam four or five feet above the ground, connecting them, constitute the chief portion

of the framework. A pole of about the same length as that of the cross-beam is held in place several inches below it by means of a slack cord running spirally around the two, throughout their length. Still another pole is rather closely bound by loops to the latter from below; and to a cord, wound about this from end to end, are attached the upper loops of the warp. On or near the ground is another firmly secured cross-beam, to which are fastened, in much the same fashion as above, the loops of the lower warp-threads.

The upper shed is still kept open by a rod, which is not to be withdrawn until the blanket is practically finished. In the lower shed, the rod is retained only until a heald-rod is substituted. The latter, when in place, lies not within but along the outside of the shed, and forms the rigid portion of the apparatus to be used in bringing forward the alternating threads in the operation of filling in the woof. In preparing this heald-rod for operation, one end of a heald-string several feet in length is carried from the right edge of the warp completely through the lower shed, and the rest of the string remains out upon the ground. The weaver pulls just enough of the string out beyond the left edge of the shed to form a loop, and, holding the heald-rod horizontally, brings it just far enough from left to right to receive this first loop. She then pushes her finger out between the first and third thread, draws a portion of the heald-string toward her, twists it into another loop, carries the rod



NAVAJO BLANKET WEAVING, PUSHING DOWN THE BATTEN

(After Matthews)

a little to the right, over which she slips the newly made loop; and so, with the making of loops and the advancing of the rod, she continues the operation across the warp and finally fastens the string to the rod. It can now be easily imagined how, by slightly pulling the heald-rod, every other thread, *i. e.*, all the anterior threads of the lower shed, may be drawn forward at once to give room for the introduction of the cross-cords comprising the woof.

The tools used are few and simple.

The batten consists of a piece of hard smooth wood, some two or three feet in length, two or three inches in width, about a half-inch in thickness, and tapering down from the middle into an edge running completely around it.

The reed-fork is a flat piece of wood, about a foot in length and of much less than a hand's width, at one end of which is a tapering handle, and at the other a gradual modification into six or eight sharp, thin, wooden tines.

In this primitive weaving no shuttle is employed. The yarn is wound into balls and pushed along within the sheds by means of the fingers; or sometimes a stick takes the place of what in the looms of civilization would be a shuttle.

When everything is ready, the weaver squats on the ground in front of her rude loom and pulls forward the heald-rod, which opens the lower shed about an inch. Into this shed she pushes the batten, flatwise with the warp, and then turns it half over

so as to spread the anterior and posterior threads as far apart as possible. The cross-thread is then introduced, pushed down into place with the reed-fork, and finally beaten down firmly with the batten. If the warp is wider than the length of the batten, and the weft-thread, therefore, cannot be carried entirely across in a single operation — which is usually the case — the shed is again opened, the thread carried along, pushed down into place with the reed-fork, and the batten used as before. At the next step the heald-rod is allowed to hang loosely, the shed-rod is pushed down closely to it, the former posterior threads now become anterior, the second cross-thread is introduced, and the reed-fork and batten are used as with the previous thread. Thus the weaving goes on.

In making designs, there must be a change of thread whenever the pattern calls for a change in color. When the shift is made, neither thread is broken, but the second is skillfully wound once around the first so that there is no discontinuity in the weave. When the designs are very intricate, as many as twenty or thirty balls of yarn, each ingeniously enclosed in a loop to prevent unwinding, may be seen hanging on the web. Since a Navaho blanket is a single-ply fabric, the designs are alike on both sides.

The loom has no revolving cloth-beam; so, after the blanket has been woven to the height of some three or four feet, the weaver loosens the spiral cord

above and thus lowers the yarn-beam. She makes a fold in the web down near the ground, sews it very firmly all the way across, tightens the warp, and goes on with her weaving as before. It may be necessary to make three or four of these plaits before a long blanket can be finished.

The most tedious of all the work comes at the end. The rods and batten cannot be used on account of limited space; and so the yarn is slowly worked along by means of the fingers alone, or perhaps with the aid of a fragment of wood, and finally pushed into place with the reed-fork. The strong, three-stranded cords which have already been noticed, are utilized to give strength and service to the ends of the fabric, and equally stout worsted cords are intertwined with the cross-threads along the sides.

Such articles as belts, hair-bands, and sashes vary considerably from the blankets in their manufacture. The looms are far more simple, but the devices for adjusting the threads in the process of weaving are more complex. The designs are purposely not alike on both sides, and this result is brought about by increasing the heald-rods and, consequently, the number of sheds.

In comparison with civilized man, and even in comparison with others of his own race, the Pueblo did not attain great art in wood-craft. It was easier to make dwellings out of adobe clay than to hack down trees with stone axes, remove the branches, lug the timbers for long distances, and put them into place.

It was sufficiently difficult to furnish even the necessary poles for roof-foundations. In their homes there was practically no wooden furniture. There were no great inland lakes or rivers of sufficiently abundant water to foster the art of canoe-making. In their religious ceremonies only a few pieces of decorated wood were used as a part of the paraphernalia. Some carefully selected pieces of trees and shrubs were required in the production of such weapons as the bow and arrow, the spear, the war-club, and the boomerang. Wood was also put to more or less use in the construction of traps and snares for catching game. A few rude implements were fashioned from it for use in household occupations and on their farm lands.

Several useful implements were made of bone. Pieces of various forms and sizes were taken from the animals, rubbed into more desirable shapes upon gritty stones, and carefully polished. The natural strength and smoothness of this material, when converted into such implements as awls and scrapers, make them very valuable. Bone has been used considerably also in ornamentation, especially in personal decoration.

One is tempted to say that, after all, it is the articles of stone that are the most characteristic products of the limited industries of the Pueblos. In many respects these seem to symbolize the life and nature of the people. The age of culture of the aborigines of America in general takes its name from the name of

this material, out of which they fashioned so many things of beauty and service. Implements and weapons of stone are found as the typical creations of primitive life all over the world; and the Indians of the Southwest possess not only the ordinary representative articles of this grade of advancement, but they have borrowed or invented many others which have proved of great value in their ordinary pursuits of life, from the ingenious turquoise-drill to the slowly produced metate. Grooved stone axes and stone hammers were used by the cliff-dwellers as well as by the Pueblos, and they are to-day found in the dry caves, often with wooden handles still attached. Stones for grinding and polishing are also common and of many sizes. Mullers for mixing paints and pulverizing minerals, mortars and pestles for pounding and grinding seeds and grains, chisels for various purposes, gorgets for both ornament and protection,—these add very essentially to the aggregate of stone-ware of every village. Probably, in no other part of the country have such exquisite spear-heads and arrow-heads been made. The abundance of beautiful and appropriate material would encourage this. Here are the scores of square miles of petrified forests already noticed. From these beds of crystals as from other valuable rock-abounding localities of the Southwest, countless pieces of rock have been carried away to be made up into useful articles, especially articles of defense. By means of rude implements, fragments of variegated stone were

broken into approximate size, chipped, smoothed, polished, and fashioned into desired forms. Referring to arrow-making among the Pueblos, Peet says: "The arrow-heads are particularly noticeable on account of their delicacy, perfection, symmetry, diminutiveness, and exquisite coloring. We first find them varying from less than half an inch in length to three inches. The materials are of agate, jasper, chalcedony, flint, carnelian, quartz, sandstone, obsidian, silicified and agatized wood. Sometimes we find a beautiful transparent amber-colored chalcedony specimen; again, a flesh-colored arrow-head made of agatized wood; and another of pea-green tint, red jasper, flint of every shade and color."¹

In order to make the arrows more effective, the tips have often been besmeared with poison. The deadly preparations were made from juices of certain native plants, or perhaps more often from the venom of the many poisonous animals abounding in the country.

¹The Cliff-Dwellers and Pueblos, p. 305.

CHAPTER VIII

RELIGION

RELIGION as a system of faith and worship is evidently universal; though some eminent authorities have held the opposite opinion, among whom are Herbert Spencer¹ and Sir John Lubbock.² On this question J. Freeman Clarke writes: "As a matter of fact, however, no such instance [a tribe without religion] has been found, certainly not verified."³ Ratzel affirms that, "Ethnography knows no race devoid of religion, but only differences in the degree to which religious ideas are developed."⁴ Brinton, who has made a careful study of evidences, and who is certainly excellent authority on almost all matters pertaining to primitive life, uses these emphatic words: "The fact is, there has not been a single tribe, no matter how rude, known in history or visited by travelers, which has been shown to be destitute of religion under some form."⁵ It is probably safe, therefore, to say that religion exists in one form or another among all the races of earth,

¹ Principles of Sociology, vol. iii, chap. i, et al.

² Prehistoric Times (third edition), p. 576; Origin of Civilization, chap. iv.

³ Ten Great Religions, vol. ii, p. 17.

⁴ History of Mankind, vol. i, p. 40.

⁵ Religions of Primitive Peoples, p. 30.

though in many instances it is hardly more than mere superstition. It not only exists, it lies at the very heart of primitive life. It crops out in a thousand different and unexpected forms. Ratzel says: "Religion is at once philosophy, science, historic tradition, poetry."¹ "We may indeed say," writes Davidson, "that all primitive thought is religious and superstitious."² The savage looks out upon the universe and finds it full of mystery. He endeavors in his simple way to interpret the extraordinary things about him. What he cannot account for he looks upon with dread or veneration. Even civilized man, who can explain so much of natural phenomenon, is awed by the deeper mysteries which he cannot comprehend. Again and again, he stands helpless as a child in the midst of calamities and sorrows, which, with all his science, he has not been able to explain or avert. It is, therefore, not at all singular that the Indians in general, and those of the Rocky Mountains in particular, surrounded as they are by striking and majestic objects, the origin and significance of which they cannot understand, should be saturated with superstition. The lofty peaks, the dark caves, the narrow ravines, the steep precipices, the tall, lonely, and isolated rocks, the forests of mountain pines, the noisy, rugged, and impetuous streams, the unusual intensity of lights and shadows, the ancient ruins, the homes and graves of ancestors,—all co-operate

¹ History of Mankind, vol. i, p. 39.

² History of Education, p. 19.

to stir the imagination of the natives, to inspire them with awe, and to leave upon them impressions which deeply influence their daily life and conduct.

This experience is the same as has prevailed in all early religions. The natural objects that abound in a locality are likely, consciously or unconsciously, to receive reverential attention, especially if they are closely associated with the weighty affairs of life. Trees have been worshiped in almost every corner of the old world. "Primitive man," says Brinton, "was arboreal. A hollow tree was his home, its branches his place of refuge, its fruits his sustenance. Naturally the tree became associated with his earliest religious thoughts."¹ The sun, moon, stars, fire, and the elements generally have been revered by millions of people living between the Sahara Desert and the banks of the Indus. "So much has been written of solar myths and star-worship," further writes Brinton, "that every reader is aware of their practical universality among early nations."² Dogs, cats, bulls, and scores of other animals have figured in religious rites in many widely separated lands, and even through many grades of intellectual culture. A few lines from the famous Egyptian poem, "A Hymn to the Nile," may appropriately be admitted here: —

" Oh, inundation of Nile, offerings are
made to thee;

¹ Religions of Primitive Peoples, p. 150.

² Id., p. 138.

Oxen are slain to thee;
Great festivals are kept for thee;
Fowls are sacrificed to thee;
Beasts of the field are caught for thee;
Pure flames are offered to thee;
Offerings are made to every god;
As they are made unto Nile."¹

The religion of the Pueblos, considered in distinction from that of other peoples of the world, or from that of other branches of their own race, derives its chief interest from the nature of the country, the peculiarities of the environment. One must not forget the limited number of rivers and streams, and, out of this number, the few that maintain a perennial existence. One must think of the sparse population, getting food supplies from the narrow fringes of vegetable growth along these few water-courses. The lack of tilled and tillable land among the aborigines of the Southwest was really surprising. Morgan states that the sedentary Indians of New Mexico "cultivate about one acre out of every hundred thousand."²

Taking the year as a whole, the quantity of rainfall is very limited; and the supply of moisture in all forms is quickly absorbed by the thirsty earth. This physical feature constitutes the very marrow of the religion. The supply of food, which is always a problem among civilized nations, with all their facilities for obtaining it, becomes the paramount object of thought among the simple Pueblos, buffeted as they

¹ Translated by F. C. Cook.

² Houses and House Life, p. 134.

are by capricious nature. They cannot go out like Hiawatha, build the birch-bark canoe and fish, for there is no birch bark, there is no "shining big sea water," and there are hardly any fish; and, in fact, the few that are found are, in many places, safe from being caught on account of superstition, the idea being that the fish, in some mysterious way, are responsible for the existence of the water, rather than that the water is responsible for the existence of the fish. Game has evidently been scarce, and could not safely be relied upon. The people have, therefore, been narrowed down to drawing a precarious living from a reluctant soil. Corn, before the arrival of the white man, was, as has already been noticed, more than ninety per cent of their food. With starvation constantly staring them in the face, it is not surprising that the thoughts uppermost in their minds, the superstitions most prevalent among them, should cluster principally about the great question of daily sustenance. Therefore, instead of seeking more favorable lands, where food could be produced with less effort, but where at the same time they would be constantly exposed to attack from more powerful and hostile tribes, they evidently preferred to remain in these unattractive regions, where, with greater safety, they could use their ingenuity in gaining and retaining the favor of the elements and the elemental gods.

It has been noticed already that the religions of the world are strongly influenced by natural objects.

It may be said further that, while all things, even the mute and inanimate, are supposed by primitive man to be imbued with life, and every nook and corner of the earth to be tenanted by imperceptible deities, the material things in motion, the phenomena about him appearing and disappearing, constantly changing in shape, size, or color, particularly appeal to him. He watches with interest and wonder the various manifestations of creation, which are clearly understood by civilized man and hardly attract notice. A small cloud gathers on the horizon, grows into enormous size in a few moments, sweeps over his head, flies along the tops of the mountains out into the plains and disappears. Again, the whole heavens become overcast, and daylight is materially lessened. From the dark clouds darts the lightning, and there comes a rumbling sound, followed at once by a deafening, terrifying roar; and soon afterward, on those self-same clouds, is hung for a short interval a bow of indescribable splendor. At certain intervals the earth becomes enveloped in darkness, and a million sparkling orbs come into view only to disappear in the morning light. At the far north, waves and streaks of light move back and forth like lantern-flashes thrown upon the canvas. In the morning the eastern sky is painted in scarlet, and in the west a bright glow accompanies the death of the day. The moon travels through the sky, constantly changing in size. Sometimes for a few hours a black body passes gradually over it, suggesting that this animated

thing of beauty is being swallowed by a monster. Whirlwinds of dust suddenly spring into existence, rapidly increase in velocity, pass up into the air, and dissolve into nothingness. The dreadful cyclone appears, carrying destruction with it. A meteor darts through the sky and melts away into air. The winds moan and the trees sway. The native is deeply impressed with all these, but there is one object in particular before which he stands in superstitious awe. It is the sun. Nor is this surprising. Like a living thing, it sweeps across the sky every day, diffusing light, pouring out heat, rising and setting at different points along the horizon month after month, and by some mysterious power stimulating life in plants and ripening grains for the harvest. How favoringly did the ancient Egyptians, even in the palmy days of a well-developed civilization, look to the sun, that wondrous and unfailing orb, which covered the rich, alluvial banks of their venerated river with a thrifty vegetation, and filled the land with plenty!

Among the American aborigines the sun has been a specially prominent object of worship. It is hardly an exaggeration to say that the solar myth has been universal among them. As we would naturally suppose, the Indians of the Southwest look to it with peculiar reverence; for it means much to them. "The Mokis," it is said, "believe in a great spirit, who lives in the sun, and who gives them light and heat. With them there is male and female in the idea of

deity; the earth is the female, and all living things are the issue." ¹

Another myth of very wide extent is that of the thunder bird. Reports of it come from regions about Hudson Bay and the border lands of the Arctic Ocean, from most sections of the United States, including Alaska, and especially the regions about the Great Lakes and the vast plains west of the Mississippi River, from Mexico and Central America. On the prairies and plains the absence of striking natural objects and the flat and monotonous configuration of the country doubtless contributed greatly toward making this myth of so much importance in that region. In the Rocky Mountains generally, where deep forests, dark cañons, and snow-capped mountain peaks keep the imagination keenly alive, this preternatural object intensely affected the life and thought of the lonely and isolated tenants. In the Southwest, the sedentary tribes, in addition to such stimuli, are still more deeply affected; since they feel that this capricious bird may powerfully affect their food supply.

The fundamental conception of this myth is that there flies through the heavens a bird, which on account of its immense size darkens the sky, the flapping of whose wings causes the thunder, the winking of whose eyes creates lightning, the shaking of whose feathers scatters the rain, and the velocity

¹ Scott: Eleventh Census Report. Indians, p. 193.

of whose body produces the wind. Fair weather signifies that the bird is in good humor; bad weather, that he is displeased.

The general notion of this winged creature is essentially the same wherever found, but localities frequently disclose differences in detail. Some tribes represent thunder as proceeding from the throat, some think lightning to be the tongue, darting out to catch food or to destroy enemies.

There are many traditions relating to the bird. Among them are found ingenious accounts of his great wisdom, power, love, and hate; his relationship to other birds; his attitude toward human beings, individual and tribal. The stories show great diversity in composition. Some disclose beautiful and pleasing conceptions, worthy of being woven into a Greek mythology, while others are simply vulgar.

Representatives of the bird are numerous in the field of aboriginal decorative art, appearing on skins, bead-work, basketry, wood, and stone. Here, too, the figures are sometimes harsh and monstrous, reminding us of some of the crude productions of the banks of the Nile or the Euphrates; and again they are unique and ingenious.

The thunder bird originated in the attempt of primitive man to explain clouds, rain, thunder, lightning, and wind; and nothing would be more suggestive to him than to look for the cause of these phenomena among the denizens of the air. A big black bird, therefore, seems to satisfy the imagination

of the native, and answers fairly well his inquiries regarding the phenomena of storms.

Another of the brute creation which has figured very conspicuously in aboriginal cults is the snake. "Of all animals," says Brinton, "the serpent is the most mysterious. No wonder it possessed the fancy of the observant child of nature. Alone of all creatures it swiftly progresses without feet, fins, or wings."¹ Lubbock writes of the existence of serpent-worship in Egypt, India, Phœnicia, Babylonia, Greece, Italy (slightly), Persia, Cashmere, Cambodia, Thibet, China (somewhat), Ceylon, Guinea, and Abyssinia. Without attempting to cover the whole ground in America, he refers to the worship of this animal by the Aztecs, Peruvians, Natches, Caribs, Manitarris, and Mandans.²

The serpent enters largely into the religious ceremonies of the Pueblos. Among the Mokis, there is "Balilokon, the great water snake, the spirit of the element of water, and they see him in the rains and snows, the rivers and springs, the sap in the trees, and the blood in the body."³ Analogy is a strong element in the crude reasonings and inferences of the Pueblos, as it is among all primitive people. Resemblances in form indicate to their minds resemblances in attributes. To their thinking, the zig-zag trail of the lightning through the skies must be associated

¹ *The Myths of the New World*, p. 129.

² *Origin of Civilization and Primitive Condition of Man*, p. 176.

³ Scott: *Eleventh Census Report. Indians*, p. 193.

somehow with the tortuous rattlesnake on the land. Besides, there is another striking resemblance, as J. Walter Fewkes adds, they both kill when they strike. Again, along with the lightning, come showers; and so there seems to be a mysterious bond joining snake, lightning, and rain.

There is another important factor of religious and social life, which cannot be passed over without a rather extended notice, and which may be fittingly introduced for consideration with a remark from Christopher Cranch, the eminent scholar and translator: "When we come to think profoundly of it, we find that we cannot move a step in the region of ideas without the aid of symbolism. Every thought, however abstract, rises clothed in an investment of symbol. A material image attends it, close as a shadow to substance; and it is impossible to receive it into the mind without its attendant."¹ This is almost as sweeping as Emerson's expression: "The world is emblematic."² If a man in a civilized community should attempt to tabulate the symbolic objects he sees on any ordinary day of his life, he would be astonished at the length of his list. It would be difficult, probably impossible, to name any material thing in the animal, vegetable, or mineral kingdom, that persons have not used sometime and somewhere with symbolic signification. The flags of the great nations, the cross among Christians, the sceptre to

¹ The *Galaxy*, vol. xvi, p. 375.

² *Nature, Addresses and Lectures*, p. 38.

denote authority, the sword as an emblem of war, the lamp as a sign of knowledge,— these in civilized lands are constantly before us. Among animals the lion typifies strength, the lamb innocence, the donkey obstinacy, the dog sagacity, the dove constancy, and so on down through the list. In the vegetable world the tree signifies knowledge and life, the olive branch peace, the palm martyrdom; and, in simply naming these, scores of other botanic symbols come to mind. Flowers, wherever they grow, tell to the people their stories in emblematic language. Iron is a symbol of strength, granite of firmness, and so on. Lovers of jewelry are never tired of studying the language of gems. Every color of the rainbow is used symbolically.

Written language itself is an expedient for conveying thought by means of symbols. The letters comprising the words are hieroglyphics, which, through long lapses of time and in the hands of many peoples, have become smoothed, simplified, and conventionalized. The strange polymorphic characters, cut on the rocks of ancient Egypt or sent to-day on a package of laundry from the Chinaman, represent more or less closely objects from common life. Better examples still, because nearer to the heart of nature, are the crude scrawls left by the American Indian on the rocks and trees of his native land. So the characters on the printed page, interpreting the thoughts of Shakespeare or Plato, are simply pictures, or ideographs, once made by savages, but modified, simplified, and systemized by civilized man.

But the very ideas themselves suggest symbols. Emerson says: "Every word which is used to express a moral or intellectual fact, if traced to its root, is found to be borrowed from some material appearance. Right means straight; wrong means twisted; Spirit primarily means wind; transgression, the crossing of a line; supercilious, the raising of the eyebrow. We say the heart to express emotion, the head to denote thought. . . . Light and darkness are our familiar expressions for knowledge and ignorance; and heat for love. Visible distance behind and before us is respectively our image of memory and hope." ¹

These symbols have gradually come into existence along with the growth of nations and the development of institutions. Some originated away back in the unrecorded morning of time. Others have been adopted through historical associations. Others still have gained their popularity through real or fanciful resemblances.

Primitive life is full of symbolism. The American aborigines are strongly influenced by it in all the important phases of their life. Births, marriages, and deaths bring the practice of it prominently to the surface. It runs through all their art. From the monstrosities on the huge totem poles of Alaska, to the complicated figures on the monoliths of Yucatan, one may find all varieties of objects to illustrate aboriginal symbolism. In the Southwest the animals and plants with which the natives are familiar, the

¹ Nature, Addresses and Lectures, pp. 31, 32.

weapons they use, notably the bow and arrow, their various utensils, especially their baskets and jars, are constant reminders of the extended use of emblematic devices.

Some of the animals which have been used very extensively, and the representations of which are oftentimes notably distorted or embellished in order to depict more vividly various religious conceptions, are the serpent, deer, bear, eagle, raven, coyote, rabbit, owl, tadpole, toad, lizard, butterfly, and beetle. Inanimate objects which appeal particularly to the Pueblos are clouds, lightning, whirlwinds, snow, rain, mountain peaks, and gullies. Many plants which furnish food and clothing such as corn and cotton, and many others which are used as medicines or condiments, are extensively drawn upon. Crosses, arches, and various ingeniously arranged strokes and lines are used without limit to typify things abstract and concrete. Arches are used very frequently to represent sky, and occasionally clouds. Winds are represented by the cross, lightnings by zig-zags running in any direction, and falling rain by straight, parallel lines. Smoke and feathers are used as symbols for clouds. The Jerusalem cross denotes a body of still water, and a winding line a river. In fact civilized man can but vaguely realize the extensive use of symbols to these men, who had not yet developed an alphabet. When, for closer observation, we narrow our view of the field of symbolism, we are still more impressed with its powerful influence.

No one can fail to notice the prominence that is given to certain numerals in civilized society. The number one has been recognized from time immemorial as a symbol of unity, harmony, and universality. Pythagoras called it the good principle. The great universe itself with its parts kept in place by an all-pervading law suggests Pope's couplet: —

“ All are but parts of one stupendous whole,
Whose body nature is and God the soul.”

Two is the symbol of contrast, comparison, and opposition. It is suggested by that duality that runs through nature: light and darkness, cold and heat, male and female; by the human body with its double brain, two eyes, two ears, two arms, two feet; by human attributes, such as joy and sorrow, hope and fear, truth and falsehood, wisdom and folly.

The number three is, in many respects, the most noted of all. It figures very conspicuously in the higher religions and mythologies. The great world poems, especially the *Divine Comedy* and *Paradise Lost*, abound in references to it. The former of these is even constructed on triads, and groups and multiples of triads. As Lowell in his essay on Dante points out: “ The poem consists of three parts, Hell, Purgatory, and Paradise. Each part is divided into thirty-three cantos, in allusion to the years of the Savior's life; for though Hell contains thirty-four, the first canto is merely introductory. In the form

of the verse (triple rhyme) we may find an emblem of the Trinity, and in the three divisions, of the three-fold state of man,— sin, grace, and beatitude. Symbolic meanings reveal themselves, or make themselves suspected everywhere, as in the architecture of the Middle Ages.”

Oliver Wendell Holmes in the *Autocrat of the Breakfast Table*, after making some remarks regarding the tendency of persons to run their adjectives together in triads, ends with these words: “It is, I suspect, an instinctive and involuntary effort of the mind to present a thought or image with the three dimensions, which belong to every solid, an unconscious handling of an idea as if it had length, breadth, and thickness.”

Doubtless this symbol satisfies our sense of completeness. It is a mind symbol. It is well illustrated in the syllogism itself.

Again, since this number extends like a chain of three links so completely over the natural divisions of space, time, and other relations of nature, it is not at all singular that so much prominence should be given to it. Time is divided into past, present, and future; space consists of the distance behind us, the point where we stand, and the distance ahead, also the plain at our feet, the space above, and the space below. Various mythologies, such as the Hindu, Egyptian, and Greek, and many religions, especially the Christian, furnish abundant illustrations of this number as a symbol.

Another numeral which almost rivals three as a symbol is seven. Brinton is authority for the statement that this number occurs in the Hebrew scriptures over three hundred and sixty times.¹ Aside from its limitless use in the great church organizations, art, history, literature, arithmancy, astrology and other kinds of fortune-telling, and even sciences have contributed to make this number symbolically popular. The seven colors of the rainbow, the seven sages of Greece, the seven ages of man, the seven planets, the seven lamps of architecture, the seven heavens, the seven days of the week, and scores of others come readily to mind.

Various reasons are given for the widespread use of this symbol, but evidently many elements, some traceable far back into prehistoric times, are required to make a sufficient explanation. Brinton thinks that it is a development of the numbers three and four, one being material, the other psychical.²

There are several other numerals such as five, nine, thirteen, seventeen, forty, seventy, and so on, all interesting as symbols, but made up mostly from combinations and multiples of more simple numbers.

Let us turn to another numeral, and in doing so, we are carried into a radically different atmosphere. We come face to face with the numerical symbol,

¹ *Myths of the New World*, p. 83.

² *American Anthropologist*, vol. vii, p. 168.

that predominates in the early stages of society. In Hiawatha, Longfellow uses these words:—

“ Four days is the spirit’s journey
To the land of ghosts and shadows,
Four its lonely night encampments;
Four times must their fires be lighted.
Therefore, when the dead are buried,
Let a fire, as night approaches,
Four times on the grave be kindled.
That the soul upon its journey
May not lack the cheerful firelight,
May not grope about in darkness.”¹

Catlin referring to the mystic number four among the Mandans says: “ The Okipa invariably lasts four days; four men are selected by the first man to cleanse out and prepare the mystic lodge for the occasion; one of the men is called from the north part of the village, another from the east, a third from the south, and a fourth from the west. The four sacks of water, in the forms of large tortoises, resting on the floor of the lodge, seem to typify the four cardinal points. The four buffalo skulls and as many human skulls on the floor of the lodge, the four couples of dancers in the buffalo dance and the four intervening dances in the same dance, deserve our study. The buffalo dance in front of the mystic lodge, repeated on the four days, is danced four times on the first day, eight times on the second, twelve times on the third, and sixteen times on the fourth. There are four sacrifices of black and blue cloths erected over the entrance of the mystic lodge. The

¹ Song of Hiawatha, xix.

visits of the Evil Spirit were paid to four of the buffalo in the buffalo dance. In every instance the young man who submitted to torture in the Okipa had four splints, or skewers, run through the flesh on his leg, four through his arms, and four through his body.”¹

In the folk stories compiled by Schoolcraft, Lummis, Cushing, and others, this number is constantly cropping out. It pervades the myths of the whole western world. Four days, four questions, four articles, four dances, four rites, four times the bear and antelope meet, four times the yellow-corn maidens see the eagle,—these and similar expressions are omnipresent in legend and tradition.

No one has given this subject more careful attention than Brinton, and his words regarding the origin of this much-used numeral have great weight. He says: “The measures of terrestrial direction have been the same in all ages and countries, though the accuracy with which they have been located varies with the mathematical instruction of the people. They are the four cardinal points, North, South, East, and West. That these four points should always have been selected depends on the conformation of the human body and its necessary relations to its terrestrial environment. The anterior and posterior planes of the body, the right and left hands, suggest the fourfold relation of space, which is

¹ Quoted by Dorsey in the Eleventh Annual Report of the Bureau of Ethnology, p. 513.

borne out by the celestial points defined by the rising and the setting sun, and by the revolution of the starry heavens around the fixed pole-star. A wanderer in a trackless desert with no guides but these, no wonder that the primitive savage took constant note of their bearings, and as he grew in wisdom, was governed by them in his weightiest understandings. This we see, the world over, in the religions, arts, the social life, and the forms of government of men. Long after man emerged from the condition of savagery their influence remained. The ancient monarchies of Egypt, Syria, China, Mesopotamia in the Old World, and in the New those of Peru, Araucania, the Muyscas, the Tlascalans, and others were organized in the form of tetrarchies, divided in accordance with, and in some instances the divisions named after, the cardinal points. Their chief cities were frequently quartered by streets running north, south, east, and west. The chief officers of the government being four in number, the whole social organization assumed quadruplicate form. The official title of the Inca of Peru and of the Emperor of China was 'lord of the four quarters of the earth,' the terrestrial plane being conceived as a vast level with four sides and four corners."¹

So the fourfold relation of the human body to the universe seems to be a reasonable explanation of this numerical symbol. The emblematic use of the figure is so widespread, and so completely transcends

¹ Iconographic Encyclopedia, vol. i, p. 113.

the employment of all other numerals in primitive life, that the question of chance or coincidence can hardly be entertained.

Wherever the American has lived, numberless designs, constructed on a quadrangular plan, have been found. The figure called the swastika has attracted an unusual amount of attention and comment. This is a symbol that, in modified form, may appear as an ordinary cross, a maltese cross, or as other figures; but the one requisite seems to be that from the centre shall reach outward, equal distances from one another, four arms. The arms may be bent as elbows or half-circles, or have various ornaments attached to them or scattered about among them. The popular conception, however, is a cross, the four arms of which are of equal length, and are bent back at right angles all in the same relative direction. Some writers have tried to locate the place of origin of the American aborigines by tracing similarities between this design and those of various nations of Europe and Asia. The resemblances, however, appear coincidental, and probably grow out of the fact, already pointed out, that the recognition and adoration of the four cardinal points have been world-wide.

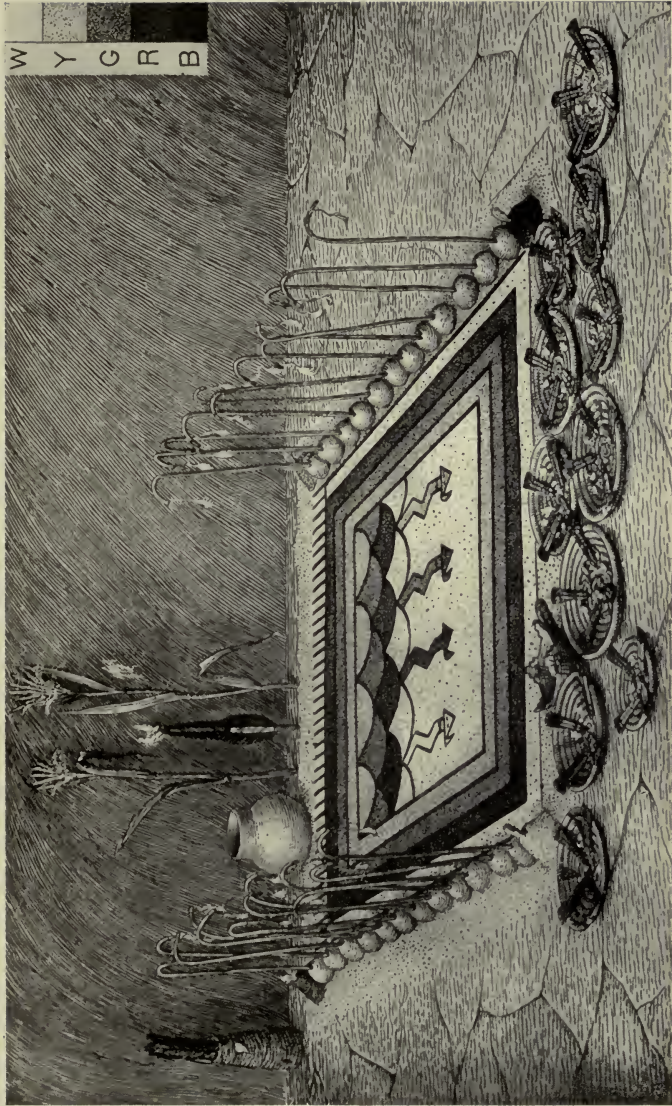
Missionaries, who have gone among the aborigines, have often been delighted with the manner in which the barbarians have kindly taken to the cross when presented to them. Many beautiful theories have been advanced in explanation of that fact. The interest on the part of the aborigines doubtless lay

simply in the approval of a four-pointed figure, with which they had been familiar, and to which they had paid homage, time out of mind.

The number is observable in many of their more savage ceremonies. The Aztecs celebrated their chief festival four times a year, and four priests solemnized its rites. "They commenced," says Brinton, "by invoking and offering incense to the sky and the four cardinal points; they conducted the human victim four times around the temple, then tore out his heart, and, catching the blood in four vases, scattered it in the same directions."¹

It is almost needless to state that a number so significant in primitive life has predominated in the land of the Pueblos. It would be a numeral of material value to them because they are included in the great family of primitive men; but the number is of special consideration with them because they feel so keenly their dependence upon the forces of nature. The winds that blow from the four corners of the earth bring showers which water the fields and produce the crops. Indeed, it may be said in general that the reverence paid to the four cardinal points doubtless arises from the fact that the winds come from four directions. The savage, as we have noticed, is deeply impressed with moving objects. The sun, the moon, the clouds, the waters, the winds, stir; hence they must be alive. They must contain a spirit. The winds particularly impress him. They are close

¹ The Myths of the New World, pp. 89, 90.



ANTELOPE ALTAR IN SERPENT CEREMONIAL
(After Fewkes)

at hand. He feels them. He hears them whistle and roar. They destroy many objects he cherishes. They bring clouds, and rain, and whirlwinds, and thunder, and dreaded lightning. So he closely associates the wind with the direction from which it comes. In fact it is said that among many tribes there is but one word for the cardinal point and the wind coming from the direction of it.

Other numbers are also sacred among the American aborigines. The number seven is sacred among the Zuñis, and is derived from the contemplation of man's relation to seven important points in the universe; namely, the point at which he stands, the four cardinal points, the zenith, and the nadir. Back in early Spanish-American history, this group of Indians became known as occupants of the "Seven Cities of Cibola," on account of their living or having lived, in seven adobe villages standing not far from one another on the western border of New Mexico. Many of their myths and sociological systems are founded on this numeral or multiples of it. There are, or at least, have been, nineteen clans or gens among them which have been arranged to fit this number. Placing three clans in a group, six divisions are formed, one for the north, south, east, west, zenith, and nadir respectively, and a single clan for the centre. Each clan is assigned to that particular division, and each division to that particular region, real or imaginary, which its totemic name suggests as most appropriate. For example, the toad

clan, the water clan, and the rattlesnake clan very fittingly form the group for the lower world, or nadir, because we associate these with things at or beneath our feet; while the sun clan, the sky clan, and the eagle clan form a triad for the zenith, or upper region of air, with which quarter we are accustomed to associate them.

The people of this pueblo also assign to each of these realms what they consider a characteristic color. That for the north is yellow, like the morning light of Hyperborean winter; that for the east white, like the approach of dawn; that for the south red, like the landscape of fiery summer; that to the west blue, like the great Pacific far out beyond them; that above variegated, like sunlight scattered among the clouds; that below black, like the darkness of caves; and that in the centre patchwork, or mosaic, including all.

Among the Moki four is the predominating number symbol, but six, referring to the four points of the compass, the zenith, and nadir, is conspicuous in their ceremonies. "Four and seven are sacred numbers among the Cherokees." ¹

¹ Starr: American Indians, p. 84.

CHAPTER IX

DANCES AND FESTIVALS

THE dance is in many respects the most noted institution of primitive people. It is their church and theatre—one may almost add, their hospital and military academy. It is a prayer and a drama at the same time. To the civilized, it may appear rational or foolish, interesting or dull, beautiful or vulgar; but to people in the lower stages of culture it is full of meaning. It may be a representation of the various plays, movements, and tricks of wild animals, the progress and vicissitudes of love, the exciting scenes of the chase, or the tragedies of war. “Thus among the Mandan Indians,” says Tylor, “when the hunters failed to find the buffalos on which the tribe depended for food, every man brought out of his lodge the mask made of a buffalo’s head and horns, with the tail hanging down behind, which he kept for such an emergency, and they all set to dance buffalo. Ten or fifteen masked dancers at a time formed the ring, drumming and rattling, chanting and yelling; when one was tired out he went through the pantomime of being shot with bow and arrow, skinned, and cut up; while another, who stood ready with his buffalo-head on, took his place in the dance. So it would go

on, without stopping day or night, sometimes for two or three weeks, till at last these persevering efforts to bring the buffalo succeeded, and a herd came in sight on the prairie." ¹

Among the Pueblos dancing holds an exceedingly important place. One may trace in certain performances something akin to rude mystery play. Conflicts between light and darkness, cold and heat, seem to be represented. Benefactors and malefactors of earth and skies meet in fierce combats; and, after a series of struggles, one side or the other comes off victorious. It requires no great effort of the imagination to find in these representations the rudiments of an Iliad, though of course wanting in everything approaching Homeric embellishment.

Some sort of music accompanies the dance. Melodies and harmonies among the Pueblos have never reached a high stage of development. These Indians have not devised any complicated instruments, not even from the suggestive twang of the bowstring, which Tylor ² (with due reverence from us to Thomas Moore) claims to be the origin of the harp. Their music-producing instruments have been confined to such productions as the rattling gourd, the tortoise shell with pendant deer toes, or the *tompé*, a rude monotonous sort of drum. These are usually accompanied with singing. As a vocalist the Indian is at his best when he dances. Those well acquainted

¹ Anthropology, p. 297.

² Id., p. 294.

with the Pueblos bear witness that, while there are many songs among them, there is but little singing except at ceremonies.

The songs are monotonous, but more or less rhythmical. There is only one part to each. The Indian has not been trained to chords and harmonies. He cannot comprehend the music of an orchestra. To him the strains and accompaniments of the numerous instruments are only jargon. He sings to no definite pitch. He merges one note into the next, so that his singing seems a sort of slipping from syllable to syllable. There is a kind of discordant rhythmic swing to the performance, crude indeed, but weird enough to be fascinating. In fact it is often more than that. In many of the festivals, there are chants, which, accompanied by certain motions of the head, arms, or whole body, and the purport of which being known, are truly solemn and reverential.

The Pueblos have many dances. There is not a month, hardly a week, during the whole year when a festival is not held at one or more of the villages. The names, as they are known to the English-speaking people, indicate somewhat their nature, or at least hint at what the performers may have in mind when the ceremonial is in progress. Corn dances, turkey dances, snake dances, and sun dances suggest what each represents.

Among the various ceremonials of the Southwest, there is one which has attracted unusual attention.

It has enlisted the thought and study of some of the brightest minds in the ethnological field. It is a rite worthy of extended consideration, and it cannot be duly comprehended without more or less acquaintance with the environmental relations.

Of all the Pueblos the Mokis have been least influenced by civilization. They live in northeastern Arizona, on a section of country called the province of Tusayan, remarkable for heat and drouth, even in a land of sterility. On all sides there is so widespread desolation that this physical condition alone would tend to keep off friends or foes. The natives with comparative ease, warded off Spanish rule. Even civilized American customs have not yet seriously encroached upon their long-continued practices. White priests succeeded in gaining but a slight hold upon them, hence their religion has been practically unmolested.

The people live in villages built upon three rocky mesas, rising above the surrounding country to the height of seven or eight hundred feet, and extending in a southwesterly direction. From an extended table-land at the north, these spurs reach out not unlike huge stone fingers, or peninsulas partly buried in an ocean of sand. Two of them are about three miles in length, while the one farthest west is somewhat shorter. The middle mesa lies about half-way between the other two, and in a direct line is about seven miles from each. Following the trails, however, makes the distances much greater.

The villages on the eastern mesa are three in number, and are named Tewa, Sichumnavi, and Walpi respectively. Those on the middle mesa are also three in number, and are called Mishongnavi, Shipaulavi, and Shimopavi. There is but one on the western mesa, and this is called Oraibi. The population of the last named, however, is much larger than that of any of the others, and has been so ever since anything definite has been known about these people. The total number of inhabitants of the villages has varied considerably since first heard of, but during the last forty years has remained about two thousand.

The tops of the mesas are comparatively flat, and vary much in width. At the point on which Walpi stands, the distance across is about two hundred feet, and a little farther north it tapers down to about eight. In other places directly across each mesa the width varies from one hundred to several hundred feet.

From the villages a person can look for forty or fifty miles out into a region of waste which is relieved here and there only by little patches of cottonwood or juniper. The small amount of accessible wood and water is more valuable to them than a gold mine. Both of these necessities of life are obtained only by long journeys. Here and there, wherever they find areas of land, never so small but presenting the appearance of moisture at the surface, they attempt to raise crops. Out into the open country they drive

their flocks each day to hunt stray bits of food, and back they drive them at night into the *corrals*, built in the recesses of the rocks of the mesas on which the villages stand.

One can hardly imagine what a failure of the even scanty annual supply of rain means to these people. They are constantly in dread of shortage. The thought hangs over them, and influences their daily life to an extraordinary degree. Their experiences have taught them that lack of rain means suffering to all and death to many. "In September, 1780, Governor Anza gave the Moqui population as 798. No rain had fallen for three years, and in that time the Moqui deaths were given at 6,698."¹

The Mokis evidently have been always an agricultural people. Game could never have been plentiful in their country. The few rabbits that abound could be at best but a small contribution to the food supply. The sterility of the land would necessitate a continual scarcity of the larger wild animals. The problem then, constantly before the inhabitants, has been how and where to get enough from these uninviting lands for subsistence. They have had practically but this one source of supply. They have realized that capricious nature has often dealt harshly with them, and is likely to do so again.

Their dependence almost solely upon the vegetable kingdom has forced them to become acquainted with every herb and bush growing within a radius of

¹ Donaldson: Pueblo Indians. Extra Census Bulletin, p. 15.

scores of miles. The rainfall here per annum is less than ten inches — lighter than that of many a single storm in other parts of the western continent. Winds are heavy, and often the flying sand cuts the plants into shreds, compelling the rude farmer to erect wind-breaks. Frosts begin to come in September, and linger late in the spring. The general elevation of the country is about six thousand feet, hence the nights are cool on account of easy radiation. Corn does not mature till far into the fall. Scarcity of food makes the people provident. They store up their grain for time of need. Before the whites came they cultivated corn, beans, squashes, and cotton. Civilized man has introduced for their benefit wheat and certain fruits. They walk two hundred miles for salt. Some one tells of a Moki who traveled four hundred miles to get a certain bark of a tree to use for dyeing his moccasins. They go far away over to the San Francisco mountains for pine boughs. They gather the wild tobacco that grows out along the Little Colorado River.

Walter Hough¹ furnishes some valuable information regarding the various uses of plants among these people. The list gives us a hint as to their familiarity with the scanty but all important vegetable world of northeastern Arizona, and how they utilize to the utmost whatever of worth the lands produce.

There are in this region about one hundred and fifty species of indigenous plants, of which one hun-

¹ American Anthropologist, vol. x, p. 33, et seq.

dred and forty at least are pressed into service. Thirty-five of these plants they use wholly or in part as foods, pure and simple, such as berries, fruits, roots, leaves, stems, flowers, juices, and so on. Four are common in house-building, such as heavy wood for rafters, and certain grasses for roofs. Nine are used for dress and decoration, such as seeds for beads, and ornamental plants for the hair. Nine are for domestic purposes, such as firewood and snow-brooms; and others supply special and unusual needs, such as yucca for soap, hops for yeast, gourds for dippers and funnels, and sticky leaves for catching flies. Fifteen are appropriated to the arts, furnishing as they do splints for baskets, juices for stains, and gums for cements. Twelve are put to use in the field of agriculture and forage, including grass for animals, brush for wind-breaks, sandsheds, and so on. Twenty-nine enter into the list of medicines, such as are supposed to furnish relief or cures for headaches, fevers, skin diseases, rheumatism, snake-bites and other poisons. Parts of various plants are ground to powder and made into plasters; others are soaked and boiled and the liquid drunk, as in cases of emetics; others are bound upon the person, as in cases of wounds and sprains. Eighteen are set aside for religious ceremonials, and are used as prayer-sticks and plumes, or are ground up for sacred meal or powders. Some are considered consecrated plants, and are burned or smoked when dances are in progress. Ten are on the folk-lore list and include the

class of plants adopted as clan names, and also those supposed to cause sleep, produce charms, and bring about good luck. A few with some peculiarities, for instance snapping-pods, are used in children's games and amusements. Many are turned to account in various other ways, aside from the primary use just mentioned. Thus the necessities of their hard conditions—stinted as they are in the supply of vegetation, as in many other things—force them to become adepts in the science of plant-life. "It is a greater credit," says Glanville, "to know the ways of captivating Nature and making her subserve our purposes, than to have learned all the intrigues of policy."

The Mokis are a notably religious, or more strictly, a superstitious people, even in this land of superstition. Their precarious life encourages this. Their several dances through the year are generally of a religious nature.

The August festival, which usually takes place somewhere between the fifteenth and the twenty-fifth of that month, is, on the whole, the most noted ceremonial, not only of the Mokis but of all the people of the country of the Southwest. The rites are by far the most elaborate of their kind; and it is fortunate that close observers, careful students of science, and talented writers like Voth, Fewkes, Mindeleff, Bourke, Baxter, Dorsey, Lummis, Scott, and Matthews have given to the world so much valuable information on the subject, through their faithful reports and conservative comments.

Snake ceremonials are held at five of the seven villages. Each holds a dance of this kind biennially, hence two come on even and three on odd years. Those of the even years are held at Oraibi and Sichumnavi, those of the odd at Walpi, Mishongnavi, and Shipaulavi. The complete performance lasts some eight, nine, twelve, sixteen, or twenty days, perhaps generally speaking twelve. The time for beginning the rites is determined by a body of priests who, for several days have been watching the sun as it has been moving southward along the horizon, and taking note of the length of the shadows thrown upon some specified object.

The preliminaries open with a meeting of the priests in the *kiva*, where first the pipe is passed around and clouds of smoke blown into the air toward the four cardinal points. After certain other invocations, the business at hand is discussed, the time for the beginning of the ceremonial is agreed upon, and a crier is instructed to announce the decision from the house-top on the following morning at sunrise. The one thus instructed remains up all night, or rises at the break of dawn, passes out into the field, sprinkles meal and drops prayer-plumes at certain secluded spots and along the pathways. The prayer-sticks are called *bahos*. They are peg-like pieces of wood, two or three inches in length, and a half-inch or such a matter in thickness, with feathers tied to the upper or blunt end of them. The herald, on his return, goes to the roof, and, when the

disk of the sun is completely above the horizon, loudly proclaims the coming event. Runners are sent out from the village a half-dozen miles toward the four points of the compass, to deposit prayer-sticks at shrines. Day by day for four days, these fetiches are brought nearer and nearer and finally deposited at the foot of the mesa. This performance indicates the manner in which the showers come from the different quarters of the heavens.

For four days parties of a certain secret order, presumably those of the Snake clan, go out over the plains gathering serpents into long buckskin bags. They look about in warm secluded spots to find the reptiles basking in the sun. They poke sticks into holes in the ground where they often take refuge. They examine the soft sands for fresh trails. They inspect the bunches of grease-wood and cacti, the shadows of which are so much sought by the smaller animals of the plain. When a snake is found, the hunter waves a feather wand over it. The result is that the reptile is disturbed for a moment. If a rattlesnake, it coils itself into a striking attitude but soon tries to escape. When attempting to crawl away, it is caught around the neck and dexterously deposited in the bag. In their search, the parties go out in the direction of a different cardinal point on each of the four days. Whenever they come to the few outlying springs, they plant near the water more bahos, as symbols of prayer to the divinities to keep the springs from drying up. The number of serpents

that they are able to catch during this time varies from about forty to a hundred or more, a half of which generally are rattlesnakes. The others are mostly bull-snakes and racers. "In the 1891 dance over one hundred snakes were used. Of these about sixty-five were rattlesnakes."¹ When the work of the day is over the reptile-hunters meet at an appointed spot some distance from the village and speed back in single file with their unattractive loads of coiled flesh, which they finally turn over to the attendants of the kiva. The kivas, or *estufas*, as they are more frequently called in other pueblos, are the wholly or partially underground ceremonial chambers, of which every village has from one to a dozen or more.

The next observance, which lasts for four days, is the erection of the Antelope altar and the ceremonials within the kiva. The two organizations having the dance in charge are the Antelope and the Snake orders, two strictly secret societies whose doings are known only to the initiated. A few men of the Caucasian race, however, by initiation and other artifices, have succeeded in witnessing these doings. While the ceremonies themselves are known only to the select few, the Antelope altars, of which there is but one erected at each village, are left from day to day as erected and are sometimes not over carefully guarded; hence, with prudence on the part of the intruder, they may frequently be seen. In fact

¹ Lummis: *Some Strange Corners of Our Country*, p. 54.

drawings and photographs of many of them have been obtained.

The Antelope altar is erected on the floor in the Antelope kiva. A square space, measuring about four feet across, is covered with white sand. The border is composed of four bands of sands, colored respectively yellow, green, red, and white. These are separated by narrow lines of black. At one side of the square within the border are four rows of partially circular figures of sand, each of the rows having a different color and all arranged to correspond in sequence with the four colors on the border. The first row contains four semicircles, the four straight edges of which lie along one of the four sides of the border. The figures are made just large enough to fill the space along this one side. The second row consists of three semicircles with a quadrant at each end. Two more rows like the ones already constructed, except as to color, complete the pattern, which, when finished, forms a pleasing array of orderly pelecoid figures. Within the remaining space, four zig-zag lines two or three inches in width, each bearing one of the colors already mentioned, run two-thirds of the way across the field out from the four rows of colored figures already described and directly perpendicular to them. The projecting end of each zig-zag consists of a head-like triangle with two spots resembling eyes, also a sort of spike, or horn, reaching out to one side, with a representation of a band or a series of them running around the neck. Outside the border directly

across from where the semicircles are, projects a row of short, black, thickly drawn, perpendicular lines.

One needs hardly be told that the rows of semi-circular figures symbolize clouds, the zig-zags lightning, and the black lines rain.

Along two sides of the square are rows of perhaps eight or twelve sticks, each of which is about a foot in length. Each is made to stand by having one end pressed into a small clay pedestal. Sometimes the wood is painted with the colors already noticed. Sometimes all, or several of these, are straight; at other times the upper ends are bent over into a half-circle. Fewkes, who has made a careful study of these altars and to whom the public is much indebted for valuable information regarding them, says: "The straight sticks probably represent arrows, and possibly, when curved at the end, primitive implements of war, allied to bows, for the propulsion of arrow-like weapons."¹

In a jar back of the altar, may stand a cornstalk, entwined with gourd vines. Sometimes four gourds enclosed in loose network are placed along another side of the altar, with ears of corn scattered among them. Often four, eight, or twelve baskets, plaques, trays, or jars, are ranged along the outside of the square. Near one corner stands the sacred medicine bowl, decorated with figures of frogs, snakes, tadpoles, and numerous other water and rain symbols.

¹ Nineteenth Annual Report of the Bureau of Ethnology, p. 968.

Sometimes meal is scattered about so as to form various designs about the altar. At other times baskets with prayer-sticks are placed here and there. Again, parts of the costumes of the dancers may be seen mingled with other paraphernalia in the background. In fact the details are noticeably different, varying not only in the several villages, but varying at the same pueblo from year to year, as has already been remarked; but, the essentials, such as the sand and sand figures, the colors, and the conspicuity of the number four and its multiples, are apparently indispensable.

The ninth day is the climax of the ceremonial. Before daybreak there are observances in the kivas. Traditional songs are rendered by the Antelope priests, and trays of bahos are consecrated.

Soon after daylight, groups of Indians may be seen coming out of the hatchways and down the ladders leading from their strange homes, and seating themselves on the rocks overlooking the corn fields, which lie far out on the plains. At sunrise, there is to be the four-mile race among the Antelope men, who have already gone from the ceremonies within the kiva directly down to the fields. A person with sharp eyes can just discern, out in the vicinity of the small patches of green corn lands, fifteen or twenty moving objects, mere specks, which gradually draw together in a line. As these dusky-brown runners begin the race, the fact is made known by a sort of cheer from the forms muffled in blankets

on the projecting rocks. In about fifteen minutes the swiftest of the racers appears on the brink of the mesa and the rest are not far behind. Each carries in his hand one or more stalks of corn which he has brought up from the fields. Indian priests, standing on the rocks along the pathway, scatter sacred meal upon the contestants as they pass. When the race is finished and the competitors have all assembled on the mesa in front of the pueblo, a squad of younger Indians of both sexes simultaneously rush down from their various homes, and strive to gain possession of the cornstalks still remaining in the hands of the runners. After this scramble, the winner of the race carries sacred meal down to the corn field, scatters it about, returns to the mesa, and the first exercises of the day are over.

During the forenoon and early afternoon, there are many things of a mysterious nature going on in the Antelope and Snake kivas. Members of the two societies are passing constantly and quietly up and down the ladders, and in and out of their dim chambers, on secret missions. These kivas, however, are carefully guarded. No one except a member of the order is allowed even to look down the hatchway. A member of the society marches back and forth alongside the mysterious sanctuary, like a policeman on duty, and warns away all intruders. The members of the Snake order consume hours in bathing their heads, painting themselves, and putting on regalia in preparation for the chief event of the day.

The serpents, when brought from the fields to the kiva, have been transferred from the buckskin bags, in which they were placed when caught, to four large clay canteens, such as are common among the Pueblos for carrying water. There is an opening at the neck of each of these as in an ordinary jug; but, for convenience in getting the snakes out when needed, another hole is made near the bottom. To keep the reptiles from crawling out, both openings are stuffed more or less closely with grass, wood, or corncobs.

Immediately after noon a long, weird ceremony takes place in the Snake kiva. The floor is sprinkled with sand and meal. Liquids are prepared. The members of the order go through with various incantations. The canteens containing the serpents are uncorked. By pushing sticks and feathers through one orifice and thus stirring up the reptiles, they are made to crawl out of the other into bags, which are then laid on the floor. The priests, crowded closely together, seat themselves on boards or stone seats which have been placed on three sides of a square sand-floor. The wall of the kiva forms the boundary of the fourth. Symbols of rain-clouds and other objects pertaining to humidity are drawn on the sand. A cross is also drawn with arms pointing toward the cardinal points, and on this, at the junction of the arms, a bowl of liquid is set. Several ceremonies follow, and then the snakes are transferred from the bags to the liquid. After they are washed, they are placed on the sand-floor to dry. There is

much squirming, but the creatures are kept within prescribed limits by the priests who use their snake-whips freely. Boys are employed also to return any strays. Finally, the reptiles are gathered into a bag to be used in the public ceremonial later in the afternoon.

The snake-washing is to indicate bodily purification, "and probably sprang from a belief in a totemic relationship between reptiles and the Snake clan."¹ One of the members takes the liquid after the ceremony and pours it out in different directions, or at four different quarters of the kiva, in recognition of the cardinal points. The bowls, jars, and other accessories that have been used, are placed away for future service.

In preparation for the crowning event, a space of ground, preferably rock-floor, comprising a few square rods, is swept clean. At one side of this is built a sort of bower of trees, generally cottonwood, of eight or ten feet in height, with tops drawn together and lower ends reaching outward so as to enclose a circular space of five or six feet in diameter. An opening about two feet square is left on one side of the covert, and before this is hung a piece of hide or cloth.

In front of the bower — called by the Indians a *kisi* — a hole is dug into the ground, and over this is placed a board which produces a hollow sound when

¹Fewkes: Nineteenth Annual Report of the Bureau of Ethnology, p. 973.

stepped upon. This is symbolic of the entrance to the other world; and later, when the dancers stamp upon it, the purpose is to call the attention of their brethren below to the ceremonial about to take place.

The dance begins about an hour before sunset. A bag containing the serpents has already been carried to the bower, and placed within.

Everything is now in readiness for the performers. These comprise the members of the two orders already referred to, viz., the Antelope and the Snake clans. Each may vary in number all the way from ten to fifty. The usual number is about twenty. The legend of the dance is a story of the coming of the Mokis to their present home. "The Antelope gens were the first to arrive, and were guided to their present location by the Snake women. The Snake order was instituted to commemorate this event."¹ The dancers are carefully arrayed for the occasion. Both orders wear kilts; and from the waist behind are dependent fox or coyote skins, reaching nearly to the ground. The long black hair of the performers hangs loosely about their faces and down their backs, and is more or less ornamented with feathers, bright pieces of twine, and other gew-gaws. Their feet are enclosed in moccasins. They wear thick anklets made of colored worsted. Each dancer carries around his neck one or more strings of beautiful and valuable beads from which is suspended generally, a handsome haliotis shell. Painted brace-

¹ Cosmos Mindeleff: Science, vol. vii, p. 509.

lets of bark are on their wrists. Sometimes armlets are worn just above the elbows, and conspicuous bandoliers are suspended from the shoulders.

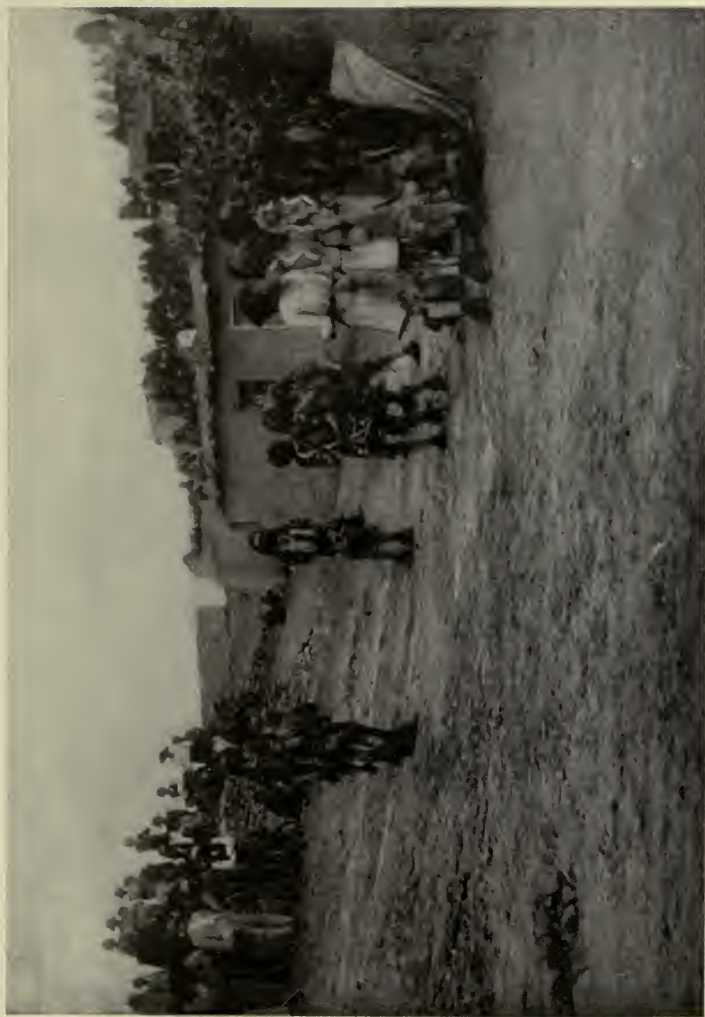
While the two orders use many articles of dress in common, there is a great difference in their general make-up. The costume colors of the Antelopes are much brighter. Their kilts are likely to contain designs of a flashy nature, while those of the Snake society are of a sombre cast. Their bodies also are painted red; and along their shoulders, backs, and arms, run zig-zag stripes of white; while the bodies of the Snake order are usually of a darker color, often even black, with splashes of red on their breasts and backs. The faces of the Snake order are always painted black, with white from the roots of the nose back to the ears and downward over the jaws to the neck. Bound to the right leg of each Antelope man, is a rather small tortoise shell, to which are attached antelope hoofs, which make a clanking, monotonous sound. Each man of this order also carries a painted rattle, consisting of a short cylinder-shaped drum with handle attached to the centre, and presenting, when looked upon from the side, the shape of an Egyptian cross. This rude instrument is made by stretching a piece of buckskin over two disks, kept some distance apart, and by placing, within the skin and between the disks, very small pebbles. The noise made by this little mechanical device is very similar to the hissing of the rattlesnake. The Snake men carry in their hands whips, and bags of sacred meal.

The leader of the Snake society whirls a buzzing-stick — such as we frequently see boys using — consisting of a thin flat piece of wood, an inch or so in width and a foot in length, attached to a string, by which it is swung over the head.

The Antelope men are the first to appear within the court. They march four times around in a circle, and take positions alongside the kisi, facing outward from it. The Snake men then enter, marching in the same way as did the members of the other society, and scatter sacred meal near the bower. Each man, as he comes along, stamps on the thick board already described. As has been noticed, this is to attract the attention of the gods to the zeal and faithfulness of the performers. The stamping, like the detour, is repeated four times. The Snake men then form in a line about six feet from the Antelope men and face them. The Antelope men lifting and dropping their feet in perfect time, thus producing dull blunt sounds from the tortoise shells tied to their legs, and simultaneously shaking their suggestive hissing rattles; the Snake men with arms linked and bodies swaying this way and that, giving utterance to low, deep chants; the painted decoration and strange garments of the performers; the time of day; the rhythm and cadence of the barbaric incantations; the curiosity, expectancy, and half-dread on the part of the motley crowd of spectators; the unquestionable earnestness and sincerity of the participants; the rude, primitive environments,— all combine to leave an

impression on the mind of the spectator that cannot fade away.

A moment later the Snake men have broken from their line and formed into squads of three, each consisting of a dancer, a wand-carrier, or hugger, and a gatherer. The Antelope men still remain in line. One squad after another marches around in front of the kisi. A serpent is handed by the keeper to a dancer, who has previously placed meal in his mouth. Seizing the reptile he takes it between his lips a few inches back of the head. The hugger places his left arm over the shoulder of the dancer, and, with his right, waves his feather wand before the eyes of the snake to attract its attention and keep it from burying its poisonous fangs into the face of his companion. The two pass around the court pursuing the same course as that previously taken by the two orders. The gatherer moves along near by, keeping careful watch in order to pick up the serpent in case it should wriggle out of the mouth of the dancer. Other squads follow, and soon there is a line of these performers moving round and round, the snakes twisting and wriggling and throwing their heads about in the air, the wands rapidly rotating and gyrating, the various shells and rattles producing a most doleful noise, while the spectators hold their breath in suspense, or, when some unusually strange and startling thing occurs, give vent to their feelings with exclamations of wonder and alarm. When the snake becomes ungovernable, the dancer lets it drop



SNAKE MEN AT ORAIBI CEREMONIAL, 1904

from his mouth upon the ground, and it is picked up by the gatherer. When one serpent has fallen from the mouth of the dancer, he with his hugger marches around at once to the kisi for another. This is continued until all the animals are carried. The gatherer, as well as the hugger, carries a wand, and, if the snake which has been dropped to the ground coils to strike, he waves the wand above the maddened creature until it coils to run away, when he catches it around the neck and carries it with him. The gatherers carry bags of sacred meal, and scatter portions of the contents upon the animals before seizing them. When the performers are going round and round with their strange talismans, the Snake women stand just outside the line of march and throw sacred meal on each as he passes. As the serpents accumulate in the hands of the gatherer so that he cannot conveniently handle them, he passes them over to the Antelope men, who hold them during the remainder of the ceremony.

The final act of this strange drama occurs a little later, when the chief Snake priest draws a sacred meal-circle some four or five feet in diameter and, within it, six radiating lines representing the four cardinal points, the zenith, and the nadir. With a rush the reptiles are piled within the ring. As they crawl and squirm about within the enclosed space, they form a comparatively level heap sometimes several inches in height. "Such a wriggling, hissing mass of flesh," says Baxter, "I never saw, and my blood turned

cold as I watched the men thrust their naked arms into the heap and drag out as many snakes as their hands would hold, rushing with them out of the village down to the plains below, there to set them free.”¹

These ceremonies have lasted for a half-hour or more, and now in the fading twilight the dancers return to the pueblo. A liquid has been prepared in a half-dozen large bowls and placed at one side of the Snake kiva. When the performers return, one by one, from their errands of carrying away the serpents, they stoop down on their hands and knees and drink of this strong emetic. The result is violent vomiting; and this, on the whole is, to the observer, the most disagreeable feature of the entire ritual. It is a process of purification, and possibly an antidote for snake-bites.

There is feasting after the long continuous fast which the Snake men have undergone, dancing and games follow for a few days, when the protracted ceremonial comes to an end.

It is said that very frequently performers are bitten; but on account of preparation for such a contingency, through diet and antidote, no serious results seem to follow. Nothing is done with the snakes to make them less dangerous in handling, such as giving them drugs or removing the fangs. “During the dance between four and five P.M., a rattlesnake struck one of the dancers on the right

¹The American Antiquarian, vol. xvii, p. 206.

ear and held on. The Antelope man became frightened and ran away. The dancer becoming angry, grabbed the snake, which was a large one, tore it from his ear and threw it on the ground, but the bitten ear did not swell. The snake, thus released, coiled and struck at a Navajo, who was standing near the edge of the mesa, which so frightened the man that he drew back and ran off, and the snake bounded back of the sacred rock and got among some Indian women, who were mortally afraid and ran away in fright; then he escaped. If the snake had been doctored, and was not venomous, they would not have been afraid of it.”¹ The process of gathering and handling the serpents previous to the afternoon ceremonies doubtless has the effect of stupefying them more or less.

In the attempt at description of this complicated ceremonial, only what have seemed essentials have been noticed, and to avoid too much wearisome detail even many typical features have been omitted. It is by no means an endeavor to set forth with exactness what may be seen at any one of the pueblos at which these dances are held, but simply to notice the prominent features which, from personal observation and from report, seem characteristic. There is considerable variation in minor points — variation in the construction of the altars, in the costumes, in the number of days set apart for the

¹ Peter Moran: Quoted in Pueblo Indians, Extra Census Bulletin, p. 70.

complete ceremonial, in the number of performers, and in many of the little peculiarities appearing in the preparation and consummation of the whole drama.

It is a more uncanny and intense dance than are those usually found in the land of the Pueblos. The isolation of the Mokis, the exceptional configuration of their country, and the unrelenting struggle for food,—all contribute to deepen the significance of the cult.

The whole affair is a long and complex supplication for rain, in which there is also a mixture of other rites, especially those appertaining to the sun and corn. Some think there are also traces of ancestor-worship. There is probably in it also an element of thanksgiving as well as petition. The main purpose, however, unquestionably is to appeal to the supernatural powers for rain to continue the growth and bring about the ripening of the corn.

The winds and rains come from the four points of the heavens; hence there is the constant observance of the number four, exemplified in the days of praying and fasting, in the repetition of the dances, in the use of various insignia, and in the final act of releasing the serpents in the direction of the four corners of the earth. The short flat buzzing-stick, when swung about the head, makes a noise very similar to that of rain driven by the wind. The lavish use of meal as a concomitant to corn-culture is also easily interpreted. The symbolic association

of feathers with clouds is common in the Southwest. The resemblance of smoke to clouds is also very suggestive, and so there is much smoking and blowing of smoke toward the cardinal points. Perhaps placing the snakes in the mouth and thus giving them the opportunity of striking, but at the same time keeping them from striking by means of the feather wands symbolizes the lightning-stroke and the warding of it off by the higher powers.¹ The chants of the Snake men resemble the moaning of the winds. The small rattles of the Antelope men remind one of the hissing of rattlesnakes, and the soft pattering of the rain. The race at sunrise is evidently a ceremony associated with both rain and sun, for as Fewkes says: "Like ancient Aryans, the Tusayan Indians pray to the rising sun for blessings, but the meaning of the word 'blessing' is always rain, that the farms may be watered and the crops grow to maturity. The worship of the sun, therefore, is of great importance; it pervades all the ritual, but it is always with one intent — the overpowering need of the agriculturist for rain in a desert environment."²

Although the Moki Snake Dance has attracted more attention than any other ceremonial of the Southwest, yet serpents have been used in religious observances at other pueblos. Coronado³ found them

¹ Peet: *American Antiquarian*, vol. xvi, p. 355.

² *Smithsonian Report*, 1895, p. 689.

³ "Aconstumbraban a criar muy grandes culebras y tenian las en beneracion." *Relaçon de la Jornada de Cobola-Castañeda*.

thus venerated at various places, when he made his famous journey up from Mexico. Hodge reports the use of them up to a recent date, in a half-dozen villages of the Pueblo country.¹ Mrs. Stephenson testifies to the conversion of them to similar purposes to-day at Sia.²

The Moki Snake Dance has been selected as a sample of the barbarous cults of the Southwest, because it is on the whole the most decidedly unique. Many other ceremonials which are equally interesting, if not so elaborate and strenuous, are held not only in the Moki country at other times of the year, but at other pueblos. At Cochiti, Sia, San Domingo, Santa Ana, Sandia, Isleta, Santa Clara, San Juan, and Picoris, the principal dances are held during the summer months, and at nearly all the others in the late spring or early fall. Many of them show the influences of the theology of civilized man. There is a strange mixture of Christian religion and barbarian cult. Still, the two elements can be fairly well distinguished. The proximity of the pueblos of the Rio Grande to civilization has robbed many of the dances of much of their old-time solemnity. Because the festivals are visited by so many whites, there is a strong temptation to emphasize the recreative part of the program. Yet, behind all innovations and modern accessories, there

¹ American Anthropologist, vol. ix, p. 133.

² Eleventh Annual Report of the Bureau of Ethnology, p. 69, et seq.

may be easily found the pervading influences of the desert environment.

The inevitable apprehension that accompanies life on a land of scanty vegetation, of frequently rainless seasons, of failing streams, of famine and death, crops out in all their ceremonials. As an example, the San Domingo village is one of the largest along the banks of the Rio Grande, and has excellent advantages for irrigation. Their dependence upon the gods of the sky, therefore, may be considered as reduced to the minimum. Their most noted ceremonial, however, is the *Tablita* or *Corn Dance*. It is a prayer for rain. The chants of the chorus are supplications to the skies. Their costumes are decorated with images of clouds, rain, lightning, and serpents. A portion of the chorus runs thus:—

“Now come rain! Now come rain!
Fall upon the mountains; sink into the ground.
By and by the springs are made
Deep beneath the hills, etc.”¹

A rude sort of poetry, of which the foregoing is a fair sample, has been a usual concomitant of primitive man's festivals. Music, dance, and verse have all evidently grown up on the same stalk. From its very incipiency, each of these has doubtless been the assistant and complement of the others. The sounds, sights, and activities of nature might reasonably account for the genesis of them all in the mind

¹ Poore: Eleventh Census Report, Indians, p. 438.

of early, imitative, and childlike man. The earth-pervading rhythm, of which Herbert Spencer has written so interestingly, must have been to each a very suggestive stimulus.

One of the chief elements of early poetry seems to have been a striking parallelism, running sometimes through many lines. Hebrew scriptures illustrate this:—

“I will bless the Lord at all times;
His praise shall be continually in my mouth.”¹

In primitive American poetry there is much parallelism, but perhaps its chief characteristic lies one step back in the order of development—that is in mere repetition. Brinton writes: “The same verse may be repeated over and over again; or the wording of the verses may be changed, but each may be accompanied by a burden or refrain, which is repeated by the singer or the chorus. There are the two fundamental characteristics of aboriginal poetry, which are found everywhere on the American continent. The refrain is usually interjectional and meaningless; and the verses are often repeated without alteration, four or five times over.”² Mooney in his able article on the Ghost-Dance Religion, gives many excellent examples of songs illustrating this; and these productions are similar to those found in the land of the Pueblos and in other regions of North America. A sample is taken at random. The writer

¹ First Principles, part ii, chap. x.

² Essays of An Americanist, p. 285.

says: "It is sung to a plaintive tune, sometimes with tears rolling down the cheeks of the dancers as the words would bring up thoughts of their present miserable and dependent condition. It may be considered the Indian paraphrase of the Lord's prayer."

"Father, have pity on me,
Father, have pity on me;
I am crying for thirst,
I am crying for thirst;
All is gone.—I have nothing to eat,
All is gone.—I have nothing to eat."¹

¹ Fourteenth Annual Report of the Bureau of Ethnology, part ii, p. 977.

CHAPTER X

CONCLUSION

LE F T to himself, the American Indian was truly a child of nature. Wherever found he reflected his surroundings. His customs, manners, codes of ethics, ideals, and ambitions,—all mirrored his relationship to the rude and hostile world about him. Half understood by those in higher grades of culture—who on account of those superior attainments have been unable to place themselves in a position to see matters at hand as he saw them—he has, again and again, been unavoidably the victim of misapprehension and a sufferer from radically wrong impressions.

As a warrior, he has been singularly misconceived. The aborigines were not accustomed to large armies like those of civilized nations. To say nothing about the superior skill in military operations necessary for handling great masses of men, which, of course, these people lacked, the nature of the country itself, its trackless forests, bridgeless rivers, rainless and barren regions, and countless natural obstacles in the way of concentrating sufficient food supplies,— these and many other difficulties rendered the organization and transportation of vast armies impossible.

The very organization of an Indian war-party

and the conditions under which it existed in its usual primitive form gave to it a peculiar character. It generally sprang into existence to meet an emergency and disappeared no less suddenly when its object had been accomplished. The war dance was the ceremony of enlistment. There were no formal oaths of loyalty. There was no prescribed penalty for the warrior who deserted his comrades, or even turned against them by becoming an ally of the enemy. His inclination to serve was his only bond. All the prominent formalities and complicated devices, so familiar in military circles of civilized nations for the preservation and efficiency of an army, were not a part of the regulations of the soldiery of these unlettered people. The chief was chosen for the single expedition at hand; and, when the occasion calling for his services had passed, he retired to occupy himself in the same pursuits as those engaged in by his temporary subordinates. He gravitated to become simply the companion and equal of those he had once led to battle. Of course the personality of the leader largely determined the stability and potency of the band he led.¹ Under a strong magnetic chieftain, a handful of savage warriors has often accomplished wonderful things; under a weak vacillating one many a promising aggregation of able fighters has needlessly

¹ Regarding the Iroquois, Colden in his quaint language says: "Their Leaders and Captains . . . obtain their Authority, by the general Opinion of their Courage and Conduct, and lose it by a failure in those Virtues." — History of the Five Nations: Introduction.

suffered defeat. On many occasions, the restless, impulsive nature of the individual warriors has jeopardized a well-planned enterprise. Love of independence was one of the chief traits of the race. Such a tendency was in the very air. The early settlers from the European nations were not long in this country before the spirit of liberty — in many cases the spirit of lawlessness — got into their blood. Why should not the far less restrained warrior of the woods chafe under restrictions — even under the leadership of a member of his own race? Many are the instances in which insubordination, combined with strong passions and erratic natures, has worked serious mischief among the red men. Not accustomed to follow out a line of related thought to its inevitable and ultimate conclusion, or to anticipate what a certain course of action would necessarily lead to, an Indian was in constant danger of committing, on the spur of the moment, some crime which would bring upon himself and his whole tribe a series of misfortunes, perhaps complete destruction. Even the life of a great leader like a Philip or a Pontiac was not immune from revengeful, passionate, or bribe-taking members of his own race.

The nature of the country, therefore, and the necessarily imperfect organization of bands of warriors made great military campaigns, especially among the nomadic tribes, practically impossible. We do not forget the forces that met Cortez and Pizarro, nor the occasional singleness of purpose

in the sorties of semi-nomadic tribes like those of the Iroquois; but, generally speaking, the best fighting was done by small bands and with little pre-arrangement of action. The Indian on such occasions, as Parkman says, "becomes a truly formidable enemy. Fired with the hope of winning scalps, he is stanch as a bloodhound. No hardship can divert him from his purpose, and no danger subdue his patient and cautious courage." ¹

In such fighting there is of course none of that pomp and glamour which accompany the immense armies of great civilized nations. Since the attacks were of the nature of hand-to-hand combats, there was no avoiding the ugly features that must always accompany that kind of hostility. Personal wrongs, individual hatred, long-standing feuds, tribal grievances, revenge, plunder, and the abnormally developed craving for strife and blood were the most noticeable factors that entered into savage warfare. The methods have been characterized as deceitful, cowardly, and inhuman. It is true that we may recall many instances of fighting which appear disgusting and shocking to sensitive, civilized people; but it is nevertheless worthy of notice that the white man learned and appropriated many arts and tricks of border combat from his less pretentious red foe. The French, from the very first, showed a strong disposition to amalgamate with the Indians and to learn from them the technicalities of barbarian fight-

¹The Conspiracy of Pontiac. Tenth Edition, vol. i, p. 193.

ing. The fur trade naturally threw the two races into close contact and tended to foster companionship. The bushrangers gradually accustomed themselves to hunt, to eat, and to live, with the wild tribes scattered along the St. Lawrence, the Great Lakes, the Ohio with its tributaries, and the upper waters of the Mississippi. They dwelt in wigwams and took Indian squaws for wives. They adopted the manners and customs of the aborigines with whom their fortunes were closely linked. They painted their faces, tied feathers in their hair, donned buckskin clothing, slept on bison robes and bear skins, joined in the war dance, and gathered scalps from the heads of the enemy in true Indian fashion. Not only these French vagrants became rivals of the natives in savagery, but even high officials of the same blood stooped to practices excessively revolting. "Frontenac caused an Iroquois prisoner to be burnt alive to strike terror into his countrymen; and Louvigny, French commandant at Michillimackinac, in 1695, tortured an Iroquois ambassador to death, that he might break off a negotiation between that people and the Wyandots." ¹

The English, unlike their Spanish and French neighbors, held aloof from mingling freely with their dusky brothers. They met them coolly on matters of pure business, bravely confronted them in battle when occasion called for it, or with more or less condescension even approached them in a benev-

¹ Parkman: *The Conspiracy of Pontiac*, vol. i, p. 75.

olent spirit for the purpose of spiritually enlightening them. Still those unromantic home-makers, while realizing the inferiority of their instructors, took many lessons from them, and on many occasions put the teachings into practice. There was a radical modification of the application of military tactics to the struggle for frontier Anglo-Saxon possession in America between the time of the lamentable fate of Braddock's army on the one hand, and that of the campaign of Sullivan in the Wyoming Valley on the other. The experiences of Sullivan's men prevented them from falling into ambuscade, as Braddock's army had done, and the march of the white victors from the banks of the Susquehanna up through western New York, was of the nature of an Indian invasion. "In this devastating raid," says Drake, "not less than forty Indian towns were burned, and our countrymen showed themselves no less savage than were the people they attacked."¹

Among the many disgraceful episodes arising out of numerous controversies with the Cherokees before their removal, was the one in 1760 at Ninety-six, when hostages were murdered by the whites — a kind of proceeding against an enemy, which has been considered the culmination of dishonorable conduct since the very dawn of civilization — and the bodies of the dead-avenging braves were thrown to the dogs, after their scalps had

¹ Indian History for Young Folks, p. 312.

been torn off and displayed on the tops of the bastions.¹

The art of war on the part of the Indian was an evolution. It grew out of his experiences. He had not studied rules laid down in books. He was not familiar with great military movements. He was ignorant of Macedonian phalanxes or of Napoleonic strategy; but he knew how the eagle is accustomed to swoop upon its prey, and how the panther lies in wait to pounce upon its victim. Nice points in diplomacy were not readily suggested to him through the great operations of nature; nor, among his teachers, the denizens of air, land, and water, was arbitration a popular method of settling disputes. Caution, alertness, priority of movement, swiftness of thought and act, and the seizing of advantages without deeply considered distinctions of ethical relationship, were the chief characteristics of barbarian warfare. If the savage practised treachery, he could find plenty of examples on every hand to justify his action. If he gave no warning to the enemy he was about to slay, neither did the lightning give warning to him, and his kindred, nor even to the innocent brutes about him.

The warrior was a volunteer, never a hireling. Fighting was doubtless his chief glory, and was with him a matter of taste, duty, or expediency. Rather than anything else, it might be called his profession; yet he was not inclined to take foolhardy risks. He

¹ Bancroft's History of the United States. Centenary Edition, vol. iii, p. 234.

was oftentimes branded as a coward by his white foes, because to him cunning and treachery seemed to answer the purposes of courage and veracity. He easily understood that his scalp, if kept on his head, was of more value to himself and his tribe than if dangling from the belt of an enemy. Secretiveness, therefore, was one of his cardinal virtues. He took advantage of suggestive auxiliaries. Like the speechless creatures, great and small, on every hand, he comprehended the value of environment as a protection against enemies. He became an adept in the art of self-concealment. The zebras and leopards of the flecked forests of Africa, the peculiarly marked butterflies of the East Indies, or the garden pests of America, all with their strikingly adaptive coloration, were not better shielded by protective resemblances than was the American Indian, when he chose such means of security. He would stretch himself alongside an advantageously colored rock or log and remain motionless for hours at a time; or, in the Pueblo country, he would roll himself in his blanket overspread with reddish-brown dust and thus make himself unobservable, not only to the ordinary passerby, but even to a vigilant enemy. Often he would thus secrete himself, not for self-protection merely, but to await an opportune moment for avenging some unforgotten wrong.

The custom of adopting strangers of their own race into a tribe was very widespread among the aborigines. Since the race, as a rule, was engaged

in continual warfare there was a very serious drain upon human life. If, after a fight, the number of captives was large, some would probably be put to death, and the remainder distributed among the victors. On account of possible revolts, it was necessary to limit the number of adoptions. Often it happened that, through a series of years, a tribe, engaged in successive combats, would become so disorganized and reduced in strength, it would easily fall a prey to some more powerful tribe; and the members would be distributed among the various clans and families of the conquerors, by a rude process of naturalization. A considerable number of wanderers and outcasts also helped from time to time to swell the depleted ranks. On account of easy assimilation, children and child-bearing women were considered especially desirable acquisitions, notably in parts of the country where an increase of human mouths did not too much hazard the food supply.

It has been customary for ethnologists and political economists to divide mankind in the Old World into three divisions, or stages of culture, considered from the standpoint of food-quest.

The first class depends upon game, and the members of it are hunters. Here the food supply is always irregular and uncertain — to-day a feast, to-morrow a famine. The hunters are obliged to seek, to follow, and to capture, the wild animals. Their life thus becomes more or less nomadic and hazardous. When game is the only source of food supply, there

can be no large and fixed clusters of men, no complicated social organizations. A great extent of country is required to support even a scanty population.

The second class consists of those depending for their food upon flocks and herds. They too are unsettled. The animals must wander far and wide in search of suitable grasses; and, on account of this semi-nomadism, the population must be always scattered, and restricted in numbers.

The third and highest class consists of agriculturists. The cultivation of the soil increases the food supply immeasurably, and allows a far denser population than either of the other occupations. Husbandry is a herald of civilization. It requires skill, method, invention, and forethought; and there must be an increase of intelligence to meet the expansion of the industry and to overcome new difficulties in the way of promoting it. As the population grows denser, there comes to be more and more interdependence. The social groups become larger. Domestic life has a higher significance. Society and government become more complicated. Labor begins to differentiate. Starvation is less frequent. Human life is more secure. The arts of peace arise, and there is very discernible progress in all directions.

An attempt to classify the aborigines of the New World so as to fit closely these stages of culture is unsatisfactory. All the Indians were more or less hunters, some were successful agriculturists, or, more strictly, horticulturists; but, in their primitive con-

dition, there were no tribes that could appropriately be called herdsmen. The deep forests, abounding in large fur-bearing animals, tended to make and keep the tribes above and around the Great Lakes, for instance, skillful Nimrods, while rude implements and natural difficulties in the way of clearing and cultivating the land tended to the same end. The lack of suitable domestic animals in every part of the New World handicapped the native as an agriculturist. The absence of such animals forbade the development of those traits of character which spontaneously grew out of the life of the herdsman.

It is observable in all stages of society that a single characteristic of soil or climate, or the preponderance of a single kind of animal, vegetable, or mineral, may color the whole social and industrial life of a district or country.

The bison on the western plains made the Indian of that immense area emphatically a hunter. It did more. It brought out and developed certain physical and mental characteristics, naturally growing out of that region and the mode of life upon it. There was a remarkably close dependence of those scattered red tribes upon the numerous herds that ranged from the crests of the Rockies to the foot of the Alleghanies, and especially was this true of the tribes on the treeless portions. Much more than simply the food question entered into the relationship. The bison was almost an object of worship, and well it might be. It first of all furnished flesh for sustenance. The

rump and shoulders of the animal were tender and nourishing for roasts; and, when cut into strips and cured, were especially well adapted for rations on long journeys. Sometimes other parts of the flesh were thoroughly dried by the heat of sun or fire, then pounded into powder and mixed with fat, wild berries, choke-cherries, or perhaps other ingredients, and finally pressed into cakes or packed into skin sacks and stored away for use in days of need. This mixture was known as "pemmican." The tongue, marrow, brains, and liver were considered special delicacies, but in times of scarcity almost every part of the animal was consumed. The hide of the bison was appropriated for bedding, clothing, wigwams, and shields. The sinews made excellent thread for sewing garments and tent coverings, and excellent strings for bows. The bones and horns were converted into tools, furniture, and arrow-points; the hoofs were boiled to produce glue; the dried chips were used for fuel; and the long hair about the head and neck was twisted into ropes and strings. If, in addition, this animal had been a meritorious beast of burden, it might have revolutionized the whole mode of life of that entire region.

What the bison was to the Indian of the North American interior, the palm-tree was to the red man of the South American tropics. It was used by the natives in scores of noticeable ways. The wood was cut or broken into various lengths for poles, beams, and rafters to compose the framework of their rude

homes; and leaves of the plant were spread overhead to form the roofs. Furniture, more or less uncouth but useful, was also made from the trunk of the tree, which further furnished material for simple musical instruments, for various implements in domestic service, for several weapons used in war or in the chase, and for innumerable ornaments and gew-gaws to be worn on the person or arranged about the household.

The fresh leaves, which are said to be very wholesome, were variously utilized for food. From the body of the tree, gums and oils could be obtained, kept for a long time, and eaten in case of scarcity of ordinary foods. Nutritious substances were obtained also from the fleshy fruit of several species. From various parts of the tree were manufactured wholesome drinks. The juices were often converted into wines, intoxicating liquors, and vinegar. From certain species sugar was extensively manufactured. Milk, similar to that of the cocoanut, was easily obtained and widely drunk for nourishment. From many trees, oily kernels were gathered, and then roasted, pulverized, and used for coffee. From the roots were manufactured various kinds of medicines.

The wood and leaves of many palm-trees were excellent for splitting, breaking, and beating into fibre, out of which cloth of various degrees of texture was woven. From the same material also were made hats, mats, baskets, brooms, and many other articles of utility and ornament. Several varieties of well-

wrought cordage were ingeniously braided from this same fibre.

With very little labor the big broad leaves could be converted into fans, sunshades, and umbrellas; and, from the stalk of these leaves, could be taken a substance so light and porous that it answered the purpose of cork.

A waxy exudation forms on the trunks of the trees, and this has been utilized very extensively by the natives for illuminating purposes. Out of it they can make candles for use on the highways, in their hovels, at their dances, and elsewhere.

Again, seemingly as if to meet the whole round of requirements of the natives, there are certain species of palm-tree which are slender climbers, growing several hundred feet in length; and these have been used by the natives, time out of mind, for constructing swings and hammocks, and especially for building suspension bridges as means for crossing over swift streams, deep chasms, and dangerous places in general.

Thus food, clothing, and shelter, the three great necessities of the human race,— these, along with scores of other convenient and desirable accessories, were furnished, from this single great plant, to the natives inhabiting one of the most extensive and interesting regions of the world. The widespread influence of bamboo, to-day, is not more conspicuously revealed in the industrial and social life of the natives and tribes of southeastern Asia than has been that of

the palm-tree, from time immemorial, among the aborigines of the Orinoco and Amazon basins.

As already noticed, a prominent kind of animal, vegetable, or mineral may control and fashion the whole industrial life of a community. Examples are found all over the world in localities comprising gold fields, lumber camps, fishing ports, and other busy centres, within each of which flourishes some naturally prevailing industry. The thoughts, interests, and ambitions of the people of any of such limited areas are deeply rooted in their principal bread-winning occupation. Since this is so, even among civilized people, where intercommunication tends to make them homogenous and cosmopolitan, how much more noticeable is it among savages, isolated, slavishly dependent upon the spontaneous products of nature, and circumscribed by a thousand domineering agencies.

As it is evident that deep physical contrasts between two lands bring out sharp contrasts between the people occupying them, so it is obvious that a leading feature or peculiarity, common to two countries, tends to bring out similar traits and customs among the people of both, even though they may lie under climatically opposite skies. For instance, one would hardly look for anything in common among the occupants of the land of the Pueblos and those of the land of the Eskimos; yet, while dissimilarities prevail, there are certain peculiarities of these regions that foster strikingly similar characteristics among

the inhabitants. It is needless to state that compared with each other they are lands of sharp physical extremes. The one is a narrow fringe of seashore, reaching from the Aleutian Island on the west, around to Greenland and Baffin's Bay on the east, several thousand miles in length, and deeply indented by numerous arms of the Arctic Ocean; the other, as we have noticed, is a large and more or less rounded tract of inland, sub-tropical country, composed largely of sand-fields and ranges of mountains. The Pueblos can make a living only by clinging to the banks of their few streams, where they can engage in rude agricultural pursuits; the Eskimos, only by stringing themselves along the shore, and capturing whatever the frozen ocean and bleak coasts will yield. In both lands the physical features are strikingly exceptional. In both, the population is scanty. In both, there is natural isolation. In both, the inhabitants are ever on the verge of starvation. In the remote Eskimo country, the year does not consist of clearly defined seasons, but of one day, as it were. Here is a region of waste, over which the low sun incessantly shines for months at a time. Though it passes only a short distance up the sky at any period, yet its slanting rays, unceasingly pouring in upon that quarter of the globe for thousands of hours upon a stretch, bring about many changes, even in those abnormal, snow-crueted regions. As an effect of this steady sunlight, fixed or floating mountains of ice snap and split into enormous blocks, which, with

startling crashes, tumble over and over, and finally break into a thousand glassy fragments on the frozen land at the base, or plunge with deafening roar into the open sea. One is nearly blinded by the glare and sparkle that is reflected from the dazzling phantasmagoria. Cold, piercing fogs appear now and then, and settle along the cheerless shore, until they are dissipated by the rough winds which arise and blow over these measureless wilds.

As the sun drops below the horizon, there come weeks of ever deepening twilight, merging finally into a long tedious period of darkness and gloom. Desolation and loneliness are thus intensely increased. The deep abysses seem then more terrible, the ice-peaks and precipices more spectral and dangerous. At times the aurora borealis bursts out upon the cold Arctic sky, and its rays and bars of blue, red, yellow, white, and purple, sweeping and darting hither and thither, lend to the whole scene a weird and enchanting effect. The never setting moon may be watched through all its various phases without the disturbance of a single interval of daylight.

These excessively cold and barren regions cannot fail to bring forth in the course of time an abnormal order of men — men whose whole mode of life must exhibit many glaring contrasts to people living approximately near the North American tropical border.

In comparing Pueblo with Eskimo, one notices a striking antithesis not only in clothing, food, and

shelter, the three great essentials, but even in the thousand little incidentals of common life. The Pueblo is first of all an agriculturist; the Eskimo, a hunter of aquatic animals. Concerning a branch of the latter people Reclus says: "The walrus and the seal render the same services to the Inoit as the cocoa-tree to the Polynesian, and the kangaroo and xanthorrhœa (grass-tree) to the Australian. They feed and clothe him; he applies them to his person inside and out; they warm him and light him, deck his hut without and within. With their hides he constructs his boats and skiffs — *kayaks*, *umiaks*, *baidarkas*; with their intestines he manufactures his overalls; with their bones he fashions all sorts of arms and utensils; walrus-ivory constitutes his principal medium of exchange."¹

These people have two modes of locomotion, equally unique. The first, as expressed in the foregoing quotation, is by means of boats, of which they have two or three kinds. On some of their frail crafts, made principally of bone and sealskin, and capable of holding only a single person at a time, they dart about with astonishing alacrity, among the cakes of ice of those dangerous northern seas, and kill their game. To those who live inland, and even to those who use the boats a portion of the year, the motor power of transportation is brute, not human, muscle. "The dog," says Reclus, "is to the Esquimaux what the reindeer is to the Lapp and the

¹ Primitive Folk, p. 16.

Samoyede, the camel to the Taureg, and the horse to the Bedouin and the Tartar — namely, the great means of locomotion, the inseparable companion, and, in case of direst necessity, the final meal.”¹

It is noticeable also how in this land of niggardly remuneration, the people utilize material which in more favored lands is considered of little or no value. Nothing goes to waste. A piece of driftwood is worth a fortune to the finder. “With equal industry and skill,” says Hartwig, “the Esquimaux put to use almost every part of the land and marine animals which they chase. Knives, spear-points, and fish-hooks are made of the horns and bones of the deer. The ribs of the whale are used in roofing huts or in the construction of sledges where drift timber is scarce. Strong cords are made from strips of seal-skin hide, and the sinews of musk-oxen and deer furnish bow-strings, or cord to make nets and snares. In default of driftwood, the bones of the whale are employed for the construction of their sledges, in pieces fitted to each other with neatness and firmly sewed together.”² At the risk of tediousness and repetition, let us notice also, a sentence from Ratzel, bearing upon the various uses of the last-named substance: “Lance and weapon-heads, hammers, staves and sceptres, drills a foot long for making fire, pipes, knife-sheaths, various small articles like knife-handles, mouthpieces, fish-hooks, floats, instruments

¹ Primitive Folk, p. 13.

² The Polar and Tropical Worlds, p. 294.

for smoothing leather, awls, combs, shuttles for weaving nets, everything, in short, is made of bone.”¹

In this far northern region, the homes are mostly small, dome-shaped structures built of snow, and are no less uniquely constructed than are the clay-built ones of Pueblo land. There is the same disregard of sanitary conditions. The members of a family are simply herded in a small room without doors or windows, with decaying meats and fish, filthy clothing, and offensive wastes on every side. The freezing air of the North, however, like the dry air of the Southwest, comes in as a scavenger and life-protector.

Again, the thick furs and waterproof pelts worn by these Arctic seafarers naturally differ from the cotton fabrics and feather-cloth of the Pueblos no less than does the climate of the one region differ from that of the other. In fact contrasts in material things, great and small, are observable to an almost unlimited extent, and each contributes its share in giving to the whole social life of the region a clearly observable individuality.

There is also a noticeable difference even in the physique and physiognomy of the two branches of aborigines. The outward appearance of the people of the Southwest has already been noticed at length; and while there are more or less differences between the sedentary and nomadic groups of that territory, it is perhaps sufficient to add that, generally

¹ History of Mankind, vol. ii, p. 120.

speaking, the people are of nearly average height, erect, broad-chested, have a deep-brown skin, well-cut features, and soft black hair. The Eskimo is thus described by Reclus: "The big trunk on short legs, the remarkably small extremities, the paw-like fingers, the flabby flesh; skull essentially dolichocephalous; head large, cheek-bones prominent, face broad, full and chubby; hair black, long, harsh, and stiff; snub-nose. A traveler pleasantly remarks that a Roman-nosed race could not hold their own in these latitudes. The protuberance furnished with olfactory apparatus would too often be frozen and fall off; a flat nose is less exposed." ¹

Despite the great array of contrasts between these regions, there are equally interesting similarities. Fate has made the two peoples companions in adversity. They have both been thrown upon exceptionally hostile lands. Kept evidently by stronger hordes within those unattractive corners of the earth, they have become accustomed to harsh dealings, and have adapted themselves as best they could to the discordant conditions that nature has imposed upon them.

Both are noted alike for strength and endurance. An Eskimo will carry in a day a burden weighing a half-hundred pounds over a distance of forty miles, and, as we have seen, a Seri in northern Mexico will chase down a wild deer and convey it on his shoulders several miles into camp. With both, the struggle for sustenance is of first consideration.

¹ Primitive Folk, pp. 11, 12.

Everything available for nourishment is utilized. Scanty as is the population in each region, there is always deep concern lest even a slight increase may jeopardize life by reducing the food supply to the starvation limit. With reference to the Pueblos this applies especially to prehistoric times. A multiplicity of births is regarded with apprehension. Concerning the inhabitants of the far North, Reclus says: "Malthusianism, the last word of official economics, the last word also of declining nationalities, is largely practised by these primitive races, who allow each woman but two or three living children, and kill either boy or girl who commits the crime of being born in addition. The mother herself fills the office of executioner, strangling the infant or exposing it in one of those crevices that abound between the stationary ice on shore and the floating ice to seaward."¹

The sick and aged are often similarly treated. Reports of homicides come from many quarters. Realizing that the lessening of the number of mouths augments the stock of provisions for the ones remaining, these unfortunates very frequently offer their own lives. If they fail to realize that they are becoming a burden, they are asked to shorten their days for the good of the community, and their consent is easily gained. The whole matter has to be looked upon largely as a cool business proposition. The removal is accomplished by various methods such as exposure,

¹ Primitive Folk, p. 34.

neglect, desertion, strangulation, blood-letting, and starvation. Among the cliff-dwellings of the Southwest, a skull with a piece of rock imbedded in it is very frequently found, while the whole corpse is laid away with care; and many think that the feeble and aged were thus disposed of by their own kindred, not as a matter of enmity, but of necessity. Certainly death at the hands of the members of the family on account of scarcity of sustenance was a widespread custom in aboriginal America. In many extreme cases victims of this kind of homicide were even consumed as food.

Homicide occurs, of course, for many other reasons. Jealousy, anger, insanity, and a score of other such human frailties make up the long list. The country of the Eskimo, like that of the Pueblo, abounds in superstition, and many are the victims that follow in its wake. Witchcraft and sorcery are demons that too often carry away the aged and eccentric in both the Arctic and the southwestern lands, as they have done even in modern times among the civilized. Thus while death comes as a result of many agencies, some familiar and some not familiar to civilized man, the predominating cause may be considered as, directly or indirectly, a scarcity of food.

So these two interesting branches of aboriginal Americans have thus lived on in their widely separated spheres, each "baffled and beaten and blown about" by the unrelenting storms of adversity, but patiently conforming themselves to their lot and get-

ting the most that they could out of their inexorably harsh surroundings. BANCROFT LIBRARY

In this hurried survey of Pueblo life, only what seemed the most striking features of land and people have been noticed. The presentation is a sketch, not a photograph. Many material facts have been merely touched upon, others entirely omitted. There has been, first of all, an attempt to catch a likeness of the Pueblo as he appeared on his native soil, encompassed by those powers of nature which were part and parcel of the sphere in which he moved. It is perhaps worth while to give a passing glance at a few of the peculiarities and incongruities that contact with a European civilization has evolved. Many an Indian of the Southwest has become a sort of double personage.¹ He is a result of the conditions of the stone age clashing with advanced civilization. There are two grades of culture in evidence and so irreconcilable that they hardly blend at any point. They are strangely, almost ludicrously, mismated. The situation is like that of a child of the kindergarten thrust suddenly into the high school. He is bewildered. There is a series of gradations that he has missed. The red man adopts the ways of his superior without understanding the purport of the change. He soon forgets, or disregards, inconsistencies. Present needs occupy most of his thoughts, and utility governs most of his actions. In his amazement at

¹ Bandelier: Investigations in the Southwest, part i, p. 222.
Lummis: The Land of Poco Tiempo, p. 44, et seq.

what the white man says and does, he assumes a sort of neutral, or perhaps more strictly a double, position, and appropriates whatever promises to him individual gain. He goes to communion one day and to snake-worshipping ceremonies the next. He observes one code of laws, which has grown out of the simple life of his people, and he obeys another code which has fallen upon him through submission to civilized man. He gives you, without serious inconvenience, a sample of his own native language in one breath, and a scrap of corrupted Spanish or Anglo-Saxon in the next. With equal affability he responds to his original Indian name or to the one given him at baptism. He lets a priest perform a marriage ceremony for him, and as an evidence of liberality of spirit he marries in his own way a half-hour later. He appears in a strange mixture of dress. The moccasins may be of buckskin, tanned, cut, and sewed by his own hand, the pantaloons woven in some English or American loom, his hair tied on the sides of his head with ribbons from France, arranged in such a way as to hold the turkey feathers plucked from his own domestic fowl, his upper garments made of yucca fibre ornamented with rabbit fur, both of which materials are native products, and this whole costume perhaps crowned with a silk hat of pre-revolutionary times. He grinds his grain between two stones as did his ancestors centuries ago, and he eats it along with the flesh of goats, which the white man has put into his possession. Side by side stand the iron kettle from

the civilized man's foundry and the earthen jar made from clay gathered in the vicinity of his adobe house. Lummis, writing of the Pueblos of Isleta in particular, says: "It is another phase of social contradiction, this human hyphen between the present and the utmost past, who lights a pleasure cigarette with an Ohio match and his medicine smoke from the prehistoric fire-drill; who hunts with the Winchester and executes with the obsidian-tipped arrow; who goes to mass in the great adobe church his patient fathers builded for a new faith, and thence to his feathered prayer-sticks in a mountain cave." ¹ Into the old legends and myths in many pueblos, modifications have been admitted to suit new material and new ideas, imported from civilization. They may be likened to the windows and doors that have found their way into the adobe walls of the Pueblo homes. Steel arrow-heads, cut from articles manufactured by the whites, have supplanted to a great extent the stone ones. Even the dances and other ceremonies, the various articles of domestic use, and most of the adobe villages themselves, are known by imported names or perhaps by a double terminology.

Whatever may be the faults or foibles of the Pueblo, or of the Indian in general, whatever his aspirations, his incongruities, his strength, or his weakness, as a type of man he is destined to disappear under the irresistible influences of a mightier race. His social life becomes enfeebled by attempts

¹The Land of Poco Tiempo, pp. 44, 45.

to put into practice half-understood conventionalities borrowed from the new-comer. His tribe is decimated through changes in ways of living. His kindred are swept off without mercy by the spread of new diseases. Even if this were not so, even if he took kindly to his new mode of living and suffered no hardship therefrom, his disappearance as a representative of a distinct race would be no less certain. It is not a question of whether the remnants of his people, cooped up as they are on the reservations, are increasing or decreasing. It is simply the obvious fact that his whole life becomes transformed, if not degenerated, whenever it touches the life of the white man. Forgetting for a moment the likelihood of his becoming a vagabond or a monster, under the influence of cajolery, whiskey, bribery, and a score of other instrumentalities put to use by the Caucasian conqueror, we find him losing his individuality under circumstances even far more favorable. The Indian riding on a mowing-machine or selling goods behind a counter is an Indian no longer. His personality is gone; his racial characteristics are smothered, his tendencies, good and bad, are directed into new and artificial channels. He is simply an imitator, a servitor of another race. As a hewer of wood and drawer of water, he may incite our sympathy and attract the philanthropic or economic side of our nature, but he does not gain our admiration. To the ethnologist he becomes a thing of but little value. In certain respects, some real benefits may come to him as a result of the

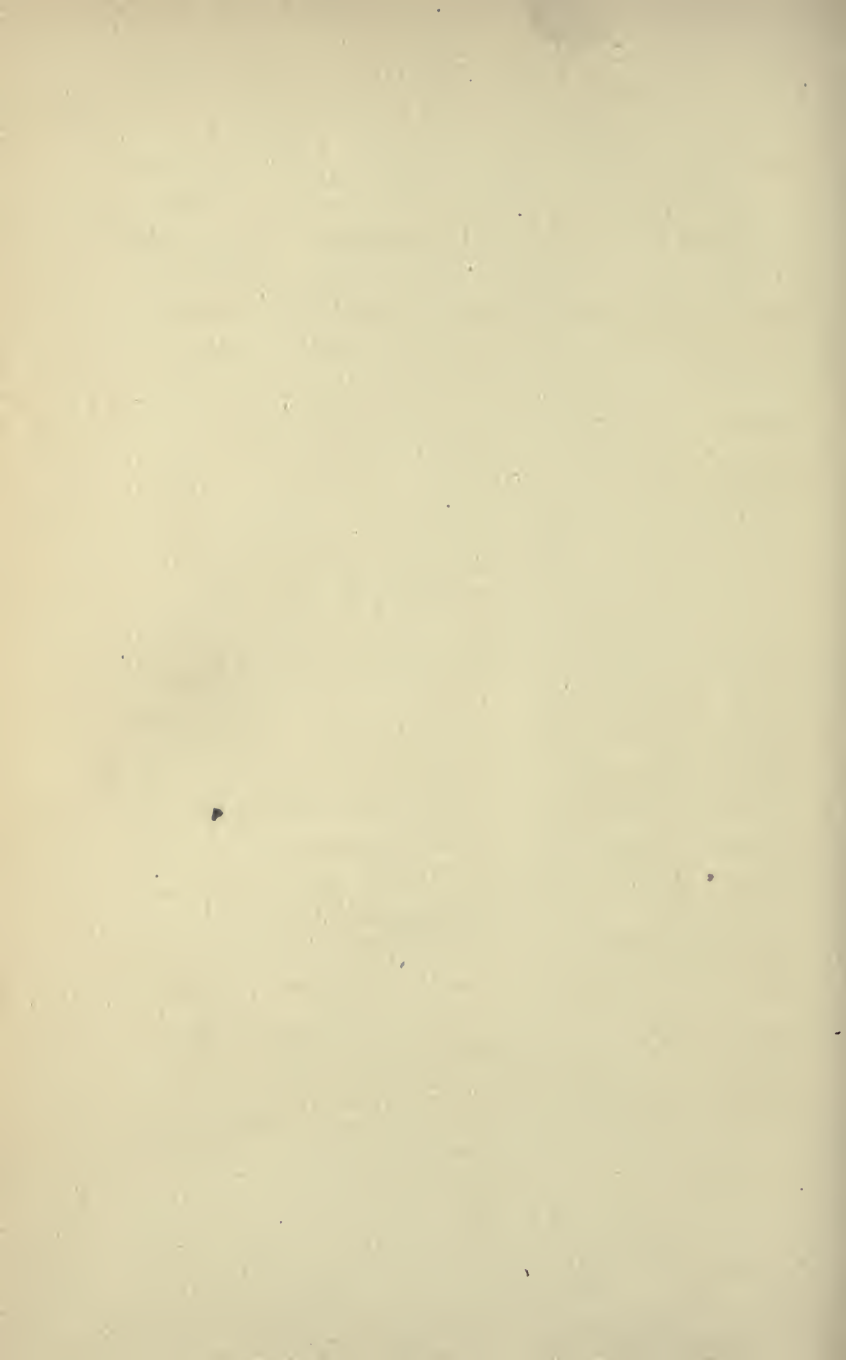
changed condition; but we instinctively feel that this is not the man who chased Cortez over the causeway out of Mexico City on the "dismal night," or who defended with speech and war-club his land and kindred on the shores of the great northern lakes.

The Indian will live, but not as an active, vital force. His existence will come to be a memory in place of a reality. Tradition will keep alive the sad story of his career. His vicissitudes will lend a strange wild charm to song and romance in the far-distant ages to come. Historian and ethnologist will turn backward to gather up the fragments of that aboriginal life, so interesting, so fluctuating, so misunderstood, so misrepresented.

He will live, but perhaps most of all through the names that cling to the patches of the country he once called his own. Driven westward from river to river, from mountain to mountain, from fertile valley to sterile plain, with the thick forests that once teemed with game for his sustenance disappearing behind him under the stroke of the woodman's ax, he still leaves, as a rich heritage to his civilized successor, not only the land so dear to him, but, with it, the becoming epithets he has so aptly applied to the thousands of inanimate objects he so loved and venerated. The names are fraught with deepest meaning. They are valuable helpmates in our search for historical and geographical data. They bring up old associations. They bear witness to certain characteristics of the objects themselves. We feel in them a sense of har-

mony. There is no endless and senseless repetition of Brownvilles and Smithtowns. From the word, Mississippi, "father of waters," down to the aboriginal name of the sparkling rivulet that winds about the humble cabin of the frontiersman, attention is given to fitness of terminology. Take at random any section of our country, large or small, and that characteristic is always in evidence. How significant, for instance, are the meanings of the words attached to the score of larger rivers that bear Indian names, found between the Penobscot and the Pascagoula — those noble historic rivers flowing outward through the narrow coast from the foot of the Appalachian Mountain system into the Atlantic and the Gulf of Mexico. It is worth noticing that four out of the five Great Lakes are known by appellations bestowed upon them by tribes living along their shores. In spite of the tendency of the white man to affix his own name or the names of his idols to the political divisions of the country, it is a striking fact that more than half of the states he has created, to say nothing of thousands of counties and townships, bear aboriginal names; and these have become so thoroughly incorporated into the poems, novels, histories, and public documents of the République that they can never be eradicated. Those musical and euphonious epithets charm or sadden us with their descriptive suggestions, quaint imagery, and heart-touching associations. Massachusetts discloses "blue hills"; Connecticut, "long river"; Tennessee, "river of the big bend";

Missouri, "muddy river"; Kansas, "smoky water"; Wyoming, "great plains"; and Utah, "mountain home." Dakota tells of "a confederacy," Kentucky, of "a dark and bloody ground," and so on down the list. Through their nomenclature, a thousand natural objects of local interest — a thousand unassuming hills, glens, ravines, islands, brooks, and springs — tell to men of alien blood and culture stories of heroic endurance, of successful or ill-starred enterprises, of desperate encounters, of suffering, starvation, and death. The sheltered nooks in which were held the councils of the tribes, the plots of ground upon which were gathered the warriors of the dance, the secluded retreats which became the repositories of the dead are to-day overrun by the bleating sheep and bellowing cattle of the white man,— all as if in mockery of the native eloquence, the dramatic ceremonials, and the heart-rending lamentations of the departed people. Yet the names so long ago given to those beloved and sacred nooks and corners of our country remain, as if to remind future generations of the sad unavoidable mutations of time and the insecurity of human homes and possessions.



PRINCIPAL AUTHORS CITED

- Bancroft, George History of the United States.
 Bancroft, H. H. Native Races.
 Bandelier, A. F. Southwestern Historical Contributions.
 Delight Makers.
 Baxter, Sylvester American Antiquarian, vol. xvii.
 Harper's Magazine, vol. lxxv.
 Bluntschli, J. C. Theory of the State.
 Brinton, D. G. American Anthropologist, vol. vii.
 American Race.
 Eleventh Census Report—Indians.
 Essays of an Americanist.
 Iconographic Encyclopedia.
 Myths of the New World.
 Races and Peoples.
 Religions of Primitive People.
 Buckle, H. T. History of Civilization in England.
 Brooks, E. S. Story of the American Indian.
 Bryce, James American Commonwealth.
 Clarke, J. Freeman Ten Great Religions.
 Colden, Cadwallader . . History of the Five Indian Nations.
 Comte, Auguste Positive Philosophy.
 Cranch, C. P. Galaxy, vol. xvi.
 Cushing, F. H. Fourth Annual Report of the Bureau of Ethnology.
 Davidson, Thomas History of Education.
 Deniker, J. Races of Man.
 Donaldson, Thomas . . . Census Bulletin, 1890—Pueblo Indians.
 Dorsey, G. A. Eleventh Annual Report of the Bureau of Ethnology.
 Drake, F. S. Indian History for Young Folks.
 Draper, J. W. Civil War in America.
 Intellectual Development of Europe.
 Drummond, Henry Ascent of Man.

266 PRINCIPAL AUTHORS CITED

- Emerson, Ralph Waldo Nature, Addresses, and Lectures.
 Farrand, L. Basis of American History.
 Fewkes, J. Walter American Anthropologist, n. s.,
 vol. viii.
 Nineteenth Annual Report of the
 Bureau of Ethnology.
 Smithsonian Report, 1895.
 Fiske, John Discovery of America.
 Foster, J. W. Mississippi Valley.
 Guyot, Arnold Earth and Man.
 Hartwig, G. Polar and Tropical Worlds.
 Hewett, E. L. American Anthropologist, n. s.,
 vol. vii.
 Hodge, F. W. American Anthropologist, vols.
 vi. and ix.
 Hollister, U. S. Navajo and His Blanket.
 Holmes, W. H. Fourth Annual Report of the Bu-
 reau of Ethnology.
 Hough, Walter American Anthropologist, vol. x.
 Hubbard, G. G. Smithsonian Report, 1895.
 James, George Wharton Indian Basketry.
 Laurie, S. S. Pre-Christian Education.
 Longfellow, H. W. Song of Hiawatha.
 Lubbock, John Origin of Civilization and Primi-
 tive Condition of Man.
 Prehistoric Times.
 Lummis, C. F. Land of Poco Tiempo.
 Man Who Married the Moon.
 Some Strange Corners of Our
 Country.
 Mallery, Garrick Fourth Annual Report of the Bu-
 reau of Ethnology.
 Mason, O. T. Woman's Share in Primitive Cul-
 ture.
 Matthews, Washington Third Annual Report of the Bu-
 reau of Ethnology.
 McGee, W J American Anthropologist, vol. viii.
 Seventeenth Annual Report of
 the Bureau of Ethnology.
 McMaster, J. B. History of the People of the
 United States.
 Mindeleff, Cosmos Science, vol. vii.
 Montesquieu, Charles de
 Secondat Spirit of Laws.

- Montgomery, D. H. . . . Student's American History.
- Mooney, James Fourteenth Annual Report of the
Bureau of Ethnology.
- Moran, Peter Census Bulletin, 1890 — P u e b l o
Indians.
- Morgan, Lewis H. Ancient Society.
Houses and House Life.
- Parkman, Francis Conspiracy of Pontiac.
Pedagogical Seminar, January, 1898.
- Peet, S. D. American Antiquarian, vol. xvi.
Cliff Dwellers and Pueblos.
- Poore, H. R. Eleventh C e n s u s R e p o r t — I n -
dians.
- Powell, J. W. First Annual Report of the Bu-
reau of Ethnology.
Shaler's United States History of
America.
- Prescott, W. H. Conquest of Mexico.
- Proctor, Edna Dean Song of the Ancient People.
- Ratzel, F. History of Mankind.
- Reclus, Élie Primitive Folk.
- Robinson, Louis Wild Traits of Tame Animals.
- Samson, G. W. Elements of Art Criticism.
- Scott, Julian Eleventh C e n s u s R e p o r t — I n -
dians.
- Scudder, H. E. School History of the U n i t e d
States.
- Shaler, N. S. Nature and Man in America.
North American Review, vol.
clxii.
Story of Our Continent.
- Spencer, F. C. Education of the Pueblo Child.
- Spencer, Herbert First Principles.
Principles of Sociology.
- Starr, Frederick First Steps in Human Progress.
American Indians.
- Stevenson, Matilda C. . . Eleventh Annual Report of the
Bureau of Ethnology.
- Tacitus, C. Cornelius . . . Germania.
- Toqueville, Alexis de . . Democracy in America.
- Tylor, E. B. Anthropology.
- Wallace, A. R. Natural Selection a n d T r o p i c a l
Nature.

- Weismann, August . . . Effect of External Influences upon Development.
- Winship, S. P. Fourteenth Annual Report of the Bureau of Ethnology.
- Winsor, Justin Narrative and Critical History of America.

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