

ANCIENT SOCIETY

CHAPTER I

ETHNICAL PERIODS

The latest investigations respecting the early condition of the human race are tending to the conclusion that mankind commenced their career at the bottom of the scale and worked their way up from savagery to civilization through the slow accumulations of experimental knowledge.

2- As it is undeniable that portions of the human family have existed in a state of savagery, other portions in a state of barbarism, and still other portions in a state of civilization, it seems equally so that these three distinct conditions are connected with each other in a natural as well as necessary sequence of progress. Moreover, that this sequence has been historically true of the entire human family, up to the status attained by each branch respectively, is rendered probable by the conditions under which all progress occurs, and by the known advancement of several branches of the family through two or more of these conditions.

1- An attempt will be made in the following pages to bring forward additional evidence of the rudeness of the early condition of mankind, of the gradual evolution of their mental and moral powers through experience, and of their protracted struggle with opposing obstacles while winning their way to civilization. It will be drawn, in

3- part, from the great sequence of inventions and discoveries which stretches along the entire pathway of human progress; but chiefly from domestic institutions, which express the growth of certain ideas and passions.

As we re-ascend along the several lines of progress toward the primitive ages of mankind, and eliminate one after the other, in the order in which they appeared, inventions and discoveries on the one hand, and institutions on the other, we are enabled to perceive that the former stand to each other in progressive, and the latter in unfolding relations. While the former class have had a connection, more or less direct, the latter have been developed from a few primary germs of thought. Modern institutions plant their roots in the period of barbarism, into which their germs were transmitted from the previous period of savagery. They have had a lineal descent through the ages, with the streams of the blood, as well as a logical development.

Two independent lines of investigations thus invite our attention. — The one leads through inventions and discoveries, and the other through primary institutions. With the knowledge gained therefrom, we may hope to indicate the principal stages of human development. The proofs to be adduced will be drawn chiefly from domestic institutions; the references to achievements more strictly intellectual being general as well as subordinate.

The facts indicate the gradual formation and subsequent development of certain ideas, passions, and aspirations. Those which hold the most prominent positions may be generalized as growths of the particular ideas with which they severally stand connected. Apart from inventions and discoveries they are the following:

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| (→) I. Subsistence, | V. Religion, |
| → II. Government, | VI. House Life and Architecture, |
| → III. Language, | |
| → IV. The Family, | → VII. Property. |

First. Subsistence has been increased and perfected by a series of successive arts, introduced at long intervals of time, and connected more or less directly with inventions and discoveries.

Second. The germ of government must be sought in the organization into gentes in the Status of savagery; and followed down, through the advancing forms of this institution, to the establishment of political society.

Third. Human speech seems to have been developed from the rudest and simplest forms of expression. Gesture or sign language, as intimated by Lucretius, must have preceded articulate language, as thought preceded speech. The monosyllabical preceded the syllabical, as the latter did that of concrete words. Human intelligence, unconscious of design, evolved articulate language by utilizing the vocal sounds. This great subject, a department of knowledge by itself, does not fall within the scope of the present investigation.

Fourth. With respect to the family, the stages of its growth are embodied in systems of consanguinity and affinity, and in usages relating to marriage, by means of which, collectively, the family can be definitely traced through several successive forms.

Fifth. The growth of religious ideas is environed with such intrinsic difficulties that it may never receive a perfectly satisfactory exposition. Religion deals so largely with the imaginative and emotional nature, and consequently with such uncertain elements of knowledge, that all primitive religions are grotesque and to some extent unintelligible. This subject also falls without the plan of this work excepting as it may prompt incidental suggestions.

Sixth. House architecture, which connects itself with the form of the family and the plan of domestic life, affords a tolerably complete illustration of progress from savagery to civilization. Its growth can be traced from the hut of the savage, through the communal houses of the barbarians, to the house of the single family of civilized nations, with all the successive links by which one extreme is connected with the other. This subject will be noticed incidentally.

Lastly. The idea of property was slowly formed in the human mind, remaining nascent and feeble through immense periods of time. Springing into life in sav-

agery, it required all the experience of this period and of the subsequent period of barbarism to develop the germ, and to prepare the human brain for the acceptance of its controlling influence. Its dominance as a passion over all other passions marks the commencement of civilization. It not only led mankind to overcome the obstacles which delayed civilization, but to establish political society on the basis of territory and of property. A critical knowledge of the evolution of the idea of property would embody, in some respects, the most remarkable portion of the mental history of mankind.

(4-) It will be my object to present some evidence of human progress along these several lines, and through successive ethnical periods, as it is revealed by inventions and discoveries, and by the growth of the ideas of government, of the family, and of property.

5- It may be here premised that all forms of government are reducible to two general plans, using the word plan in its scientific sense. In their bases the two are fundamentally distinct. (1) The first, in the order of time, is founded upon persons, and upon relations purely personal, and may be distinguished as a society (*societas*). The gens is the unit of this organization; giving as the successive stages of integration, in the archaic period, the gens, the phratry, the tribe, and the confederacy of tribes, which constituted a people or nation (*populus*). At a later period a coalescence of tribes in the same area into a nation took the place of a confederacy of tribes occupying independent areas. Such, through prolonged ages, after the gens appeared, was the substantially universal organization of ancient society; and it remained among the Greeks and Romans after civilization supervened. (2) The second is founded upon territory and upon property, and may be distinguished as a state (*civitas*). The township or ward, circumscribed by metes and bounds, with the property it contains, is the basis or unit of the latter, and political society is the result. Political society is organized upon territorial areas, and deals with property as well as with persons through territorial relations. The successive stages of integration are the

(15-) township or ward, which is the unit of organization; the county or province, which is an aggregation of townships or wards; and the national domain or territory, which is an aggregation of counties or provinces; the people of each of which are organized into a body politic. It taxed the Greeks and Romans to the extent of their capacities, after they had gained civilization, to invent the deme or township and the city ward; and thus inaugurate the second great plan of government, which remains among civilized nations to the present hour. In ancient society this territorial plan was unknown. When it came in it fixed the boundary line between ancient and modern society, as the distinction will be recognized in these pages.

(18-) It may be further observed that the domestic institutions of the barbarous, and even of the savage ancestors of mankind, are still exemplified in portions of the human family with such completeness that, with the exception of the strictly primitive period, the several stages of this progress are tolerably well preserved. They are seen in the organization of society upon the basis of sex, then upon the basis of kin, and finally upon the basis of territory; through the successive forms of marriage and of the family, with the systems of consanguinity thereby created; through house life and architecture; and through progress in usages with respect to the ownership and inheritance of property.

7- The theory of human degradation to explain the existence of savages and of barbarians is no longer tenable. It came in as a corollary from the Mosaic cosmogony, and was acquiesced in from a supposed necessity which no longer exists. As a theory, it is not only incapable of explaining the existence of savages, but it is without support in the facts of human experience.

The remote ancestors of the Aryan nations presumptively passed through an experience similar to that of existing barbarous and savage tribes. Though the experience of these nations embodies all the information necessary to illustrate the periods of civilization, both ancient and modern, together with a part of that in the Later

period of barbarism, their anterior experience must be deduced, in the main, from the traceable connection between the elements of their existing institutions and inventions, and similar elements still preserved in those of savage and barbarous tribes.

8- It may be remarked finally that the experience of mankind has run in nearly uniform channels; that human necessities in similar conditions have been substantially the same; and that the operations of the mental principle have been uniform in virtue of the specific identity of the brain of all the races of mankind. This, however, is but a part of the explanation of uniformity in results. The germs of the principal institutions and arts of life were developed while man was still a savage. To a very great extent the experience of the subsequent periods of barbarism and of civilization have been expended in the further development of these original conceptions. Wherever a connection can be traced on different continents between a present institution and a common germ, the derivation of the people themselves from a common original stock is implied.

The discussion of these several classes of facts will be facilitated by the establishment of a certain number of Ethnical Periods; each representing a distinct condition of society, and distinguishable by a mode of life peculiar to itself. The terms "Age of Stone," "of Bronze," and "of Iron," introduced by Danish archæologists, have been extremely useful for certain purposes, and will remain so for the classification of objects of ancient art; but the progress of knowledge has rendered other and different subdivisions necessary. Stone implements were not entirely laid aside with the introduction of tools of iron, nor of those of bronze. The invention of the process of smelting iron ore created an ethnical epoch, yet we could scarcely date another from the production of bronze. Moreover, since the period of stone implements overlaps those of bronze and of iron, and since that of bronze also overlaps that of iron, they are not capable of a circumscription that would leave each independent and distinct.

9- It is probable that the successive arts of subsistence which arose at long intervals will ultimately, from the great influence they must have exercised upon the condition of mankind, afford the most satisfactory bases for these divisions. But investigation has not been carried far enough in this direction to yield the necessary information. With our present knowledge the main result can be attained by selecting such other inventions or discoveries as will afford sufficient tests of progress to characterize the commencement of successive ethnical periods. Even though accepted as provisional, these periods will be found convenient and useful. Each of those about to be proposed will be found to cover a distinct culture, and to represent a particular mode of life. 7.0

(10-) The period of savagery, of the early part of which very little is known, may be divided, provisionally, into three subperiods. These may be named respectively the *Older*, the *Middle*, and the *Later* period of savagery; and the condition of society in each, respectively, may be distinguished as the *Lower*, the *Middle*, and the *Upper Status* of savagery.

In like manner, the period of barbarism divides naturally into three sub-periods, which will be called, respectively, the *Older*, the *Middle*, and the *Later* period of barbarism; and the condition of society in each, respectively, will be distinguished as the *Lower*, the *Middle*, and the *Upper Status* of barbarism.

11- It is difficult, if not impossible, to find such tests of progress to mark the commencement of these several periods as will be found absolute in their application, and without exceptions upon all the continents. Neither is it necessary, for the purpose in hand, that exceptions should not exist. It will be sufficient if the principal tribes of mankind can be classified, according to the degree of their relative progress, into conditions which can be recognized as distinct.

I. *Lower Status of Savagery.*

This period commenced with the infancy of the human race, and may be said to have ended with the acquisition of a fish subsistence and of a knowledge of the use

of fire. Mankind were then living in their original restricted habitat, and subsisting upon fruits and nuts. The commencement of articulate speech belongs to this period. No exemplification of tribes of mankind in this condition remained to the historical period.

II. *Middle Status of Savagery.*

It commenced with the acquisition of a fish subsistence and a knowledge of the use of fire, and ended with the invention of the bow and arrow. Mankind, while in this condition, spread from their original habitat over the greater portion of the earth's surface. Among tribes still existing it will leave in the Middle Status of savagery, for example, the Australians and the greater part of the Polynesians when discovered. It will be sufficient to give one or more exemplifications of each status.

III. *Upper Status of Savagery.*

It commenced with the invention of the bow and arrow, and ended with the invention of the art of pottery. It leaves in the Upper Status of Savagery the Athapascan tribes of the Hudson's Bay Territory, the tribes of the valley of the Columbia, and certain coast tribes of North and South America; but with relation to the time of their discovery. This closes the period of Savagery.

IV. *Lower Status of Barbarism.*

The invention or practice of the art of pottery, all things considered, is probably the most effective and conclusive test that can be selected to fix a boundary line, necessarily arbitrary, between savagery and barbarism. The distinctness of the two conditions has long been recognized, but no criterion of progress out of the former into the latter has hitherto been brought forward. All such tribes, then, as never attained to the art of pottery will be classed as savages, and those possessing this art but who never attained a phonetic alphabet and the use of writing will be classed as barbarians.

The first sub-period of barbarism commenced with the manufacture of pottery, whether by original invention or adoption. In finding its termination, and the commencement of the Middle Status, a difficulty is encoun-

tered in the unequal endowments of the two hemispheres, which began to be influential upon human affairs after the period of savagery had passed. It may be met, however, by the adoption of equivalents. In the Eastern hemisphere, the domestication of animals, and the Western, the cultivation of maize and plants by irrigation, together with the use of adobe-brick and stone in house building have been selected as sufficient evidence of progress to work a transition out of the Lower and into the Middle Status of barbarism. It leaves, for example, in the Lower Status, the Indian tribes of the United States east of the Missouri River, and such tribes of Europe and Asia as practiced the art of pottery, but were without domestic animals.

V. *Middle Status of Barbarism.*

It commenced with the domestication of animals in the Eastern hemisphere, and in the Western with cultivation by irrigation and with the use of adobe-brick and stone in architecture, as shown. Its termination may be fixed with the invention of the process of smelting iron ore. This places in the Middle Status, for example, the Village Indians of New Mexico, Mexico, Central America and Peru, and such tribes in the Eastern hemisphere as possessed domestic animals, but were without a knowledge of iron. The ancient Britons, although familiar with the use of iron, fairly belong in this connection. The vicinity of more advanced continental tribes had advanced the arts of life among them far beyond the state of development of their domestic institutions.

VI. *Upper Status of Barbarism.*

It commenced with the manufacture of iron, and ended with the invention of a phonetic alphabet, and the use of writing in literary composition. Here civilization begins. This leaves in the Upper Status, for example, the Grecian tribes of the Homeric age, the Italian tribes shortly before the founding of Rome, and the Germanic tribes of the time of Cæsar.

VII. *Status of Civilization.*

It commenced, as stated, with the use of a phonetic alphabet and the production of literary records, and

divides into *Ancient* and *Modern*. As an equivalent, hieroglyphical writing upon stone may be admitted.

RECAPITULATION.

Periods.	Conditions.
I. Older Period of Savagery,	I. Lower Status of Savagery,
II. Middle Period of Savagery,	II. Middle Status of Savagery,
III. Later Period of Savagery,	III. Upper Status of Savagery,
IV. Older Period of Barbarism,	IV. Lower Status of Barbarism,
V. Middle Period of Barbarism,	V. Middle Status of Barbarism,
VI. Later Period of Barbarism,	VI. Upper Status of Barbarism,
	VII. Status of Civilization.
I. Lower Status of Savagery,	From the Infancy of the Human Race to the commencement of the next Period.
II. Middle Status of Savagery,	From the acquisition of a fish subsistence and a knowledge of the use of fire, to etc.
III. Upper Status of Savagery,	From the Invention of the Bow and Arrow, to etc.
IV. Lower Status of Barbarism,	From the Invention of the Art of Pottery, to etc.
V. Middle Status of Barbarism,	From the Domestication of animals on the Eastern hemisphere, and in the Western from the cultivation of maize and plants by Irrigation, with the use of adobe-brick and stone, to etc.
VI. Upper Status of Barbarism,	From the Invention of the process of Smelting Iron Ore, with the use of Iron tools, to etc.
VII. Status of Civilization,	From the Invention of a Phonetic Alphabet, with the use of writing, to the present time.

Each of these periods has a distinct culture and exhibits a mode of life more or less special and peculiar to

1- itself. This specialization of ethnical periods renders it possible to treat a particular society according to its condition of relative advancement, and to make it a subject of independent study and discussion. It does not affect the main result that different tribes and nations on the same continent, and even of the same linguistic family, are in different conditions at the same time, since for our purpose the condition of each is the material fact, the time being immaterial. "states"

(10-) "periods" Since the use of pottery is less significant than that of domestic animals, of iron, or of a phonetic alphabet, employed to mark the commencement of subsequent ethnical periods, the reasons for its adoption should be stated. The manufacture of pottery presupposes village life, and considerable progress in the simple arts.¹ Flint and stone implements are older than pottery, remains of the former having been found in ancient repositories in numerous instances unaccompanied by the latter. A succession of inventions of greater need and adapted to a lower condition must have occurred before the want of pottery would be felt. The commencement of village life, with some degree of control over subsistence, wooden vessels and utensils, finger weaving with filaments of bark, basket making, and the bow and arrow make their appearance before the art of pottery. The Village Indians who were in the Middle Status of barbarism, such as the Zuffians the Aztecs and the Cholulans, manufactured pottery in large quantities and in many forms of considerable excellence; the partially Village Indians of the United States, who were in the Lower Status of barbarism, such as the Iroquois, the Choctas, and the Cherokees, made it in smaller quantities and in a limited num-

¹ Mr. Edwin B. Tylor observes that Goquet "first propounded, in the last century, the notion that the way in which pottery came to be made, was that people daubed such combustible vessels as these with clay to protect them from fire, till they found that clay alone would answer the purpose, and thus the art of pottery came into the world."—"Early History of Mankind," p. 273. Goquet relates of Capt. Gonneville who visited the south-east coast of South America in 1503, that he found "their household utensils of wood, even their boiling pots, but plastered with a kind of clay, a good finger thick, which prevented the fire from burning them."—ib. 273.

ber of forms; but the Non-horticultural Indians, who were in the Status of savagery, such as the Athapascans, the tribes of California and of the valley of the Columbia, were ignorant of its use.¹ In Lubbock's *Pre-Historic Times*, in Tylor's *Early History of Mankind*, and in Peschel's *Races of Man*, the particulars respecting this art, and the extent of its distribution, have been collected with remarkable breadth of research. It was unknown in Polynesia (with the exception of the Islands of the Tongans and Fijians), in Australia, in California, and in the Hudson's Bay Territory. Mr. Tylor remarks that "the art of weaving was unknown in most of the Islands away from Asia," and that "in most of the South Sea Islands there was no knowledge of pottery."² The Rev. Lorimer Fison, an English missionary residing in Australia, informed the author in answer to inquiries, that "the Australians had no woven fabrics, no pottery, and were ignorant of the bow and arrow." This last fact was also true in general of the Polynesians. The introduction of the ceramic art produced a new epoch in human progress in the direction of an improved living and increased domestic conveniences. While flint and stone implements—which came in earlier and required long periods of time to develop all their uses—gave the canoe, wooden vessels and utensils, and ultimately timber and plank in house architecture,³ pottery gave a durable vessel for boiling food, which before that had been rudely accomplished in baskets coated with clay, and in

¹ Pottery has been found in aboriginal mounds in Oregon within a few years past.—Foster's "Pre-Historic Races of the United States," I, 152. The first vessels of pottery among the Aborigines of the United States seem to have been made in baskets of rushes or willows used as moulds which were burned off after the vessel hardened.—Jones's "Antiquities of the Southern Indians," p. 461. Prof. Rau's article on "Pottery," "Smithsonian Report," 1866, p. 352.

² "Early History of Mankind," p. 181; "Pre-Historic Times," pp. 437, 441, 462, 477, 533, 542.

³ Lewis and Clarke (1805) found plank in use in houses among the tribes of the Columbia River.—"Travels," Longman's Ed., 1814, p. 503. Mr. John Keast Lord found "cedar plank chipped from the solid tree with chisels and hatchets made of stone," in Indian houses on Vancouver's Island.—"Naturalist in British Columbia," I, 169.

ground cavities lined with skin, the boiling being effected with heated stones.¹

Whether the pottery of the aborigines was hardened by fire or cured by the simple process of drying, has been made a question. Prof. E. T. Cox, of Indianapolis, has shown by comparing the analyses of ancient pottery and hydraulic cements, "that so far as chemical constituents are concerned it (the pottery) agrees very well with the composition of hydraulic stones." He remarks further, that "all the pottery belonging to the mound-builders' age, which I have seen, is composed of alluvial clay and sand, or a mixture of the former with pulverized freshwater shells. A paste made of such a mixture possesses in a high degree the properties of hydraulic Puzzuolani and Portland cement, so that vessels formed of it hardened without being burned, as is customary with modern pottery. The fragments of shells served the purpose of gravel or fragments of stone as at present used in connection with hydraulic lime for the manufacture of artificial stone." The composition of Indian pottery in analogy with that of hydraulic cement suggests the difficulties in the way of inventing the art, and tends also to explain the lateness of its introduction in the course of human experience. Notwithstanding the ingenious suggestion of Prof. Cox, it is probable that pottery was hardened by artificial heat. In some cases the fact is directly attested. Thus Adair, speaking of the Gulf Tribes, remarks that "they make earthen pots of very different sizes, so as to contain from two to ten gallons, large pitchers to carry water, bowls, dishes, platters, basins, and a prodigious number of other vessels of such antiquated forms as would be tedious to describe, and impossible to name. Their method of glazing them is, they

¹ Tylor's "Early History of Mankind," p. 265, "et seq."

² "Geological Survey of Indiana," 1873, p. 119. He gives the following analysis: Ancient Pottery, "Bone Bank," Posey Co., Indiana.

Moisture at 212° F.,	1.00	Peroxide of Iron,	5.50
Silica,	36.00	Sulphuric Acid,	.20
Carbonate of Lime,	25.50	Organic Matter (alka-	
Carbonate of Magnesia,	3.02	lies and loss),	23.60
Alumina,	5.00		
			100.00

place them over a large fire of smoky pitch-pine, which makes them smooth, black and firm."¹

14- Another advantage of fixing definite ethnical periods is the direction of special investigation to those tribes and nations which afford the best exemplification of each status, with the view of making each both standard and illustrative. Some tribes and families have been left in geographical isolation to work out the problems of progress by original mental effort; and have, consequently, retained their arts and institutions pure and homogeneous; while those of other tribes and nations have been adulterated through external influence. Thus, while Africa was and is an ethnical chaos of savagery and barbarism, Australia and Polynesia were in savagery, pure and simple, with the arts and institutions belonging to that condition. In like manner, the Indian family of America, unlike any other existing family, exemplified the condition of mankind in three successive ethnical periods. In the undisturbed possession of a great continent, of common descent, and with homogeneous institutions, they illustrated, when discovered, each of these conditions, and especially those of the Lower and of the Middle Status of barbarism, more elaborately and completely than any other portion of mankind. The far northern Indians and some of the coast tribes of North and South America were in the Upper Status of savagery; the partially Village Indians east of the Mississippi were in the Lower Status of barbarism, and the Village Indians of North and South America were in the Middle Status. Such an opportunity to recover full and minute information of the course of human experience and progress in developing their arts and institutions through these successive conditions has not been offered within the historical period. It must be added that it has been indifferently improved. Our greatest deficiencies relate to the last period named.

15- Differences in the ¹³⁰ culture of the same period in the

¹ "History of the American Indians," Lond. ed., 1775, p. 424. The Iroquois affirm that in ancient times their forefathers cured their pottery before a fire.

Eastern and Western hemispheres undoubtedly existed in consequence of the unequal endowments of the continents; but the condition of society in the corresponding status must have been, in the main, substantially similar.

The ancestors of the Grecian, Roman, and German tribes passed through the stages we have indicated, in the midst of the last of which the light of history fell upon them. Their differentiation from the undistinguishable mass of barbarians did not occur, probably, earlier than the commencement of the Middle Period of barbarism. The experience of these tribes has been lost, with the exception of so much as is represented by the institutions, inventions and discoveries which they had brought with them, and possessed when they first came under historical observation. The Grecian and Latin tribes of the Homeric and Romulian periods afford the highest exemplification of the Upper Status of barbarism. Their institutions were likewise pure and homogeneous, and their experience stands directly connected with the final achievement of civilization.

(12-) Commencing, then, with the Australians and Polynesians, following with the American Indian tribes, and concluding with the Roman and Grecian, who afford the highest exemplifications respectively of the six great stages of human progress, the sum of their united experiences may be supposed fairly to represent that of the human family from the Middle Status of savagery to the end of ancient civilization. Consequently, the Aryan nations will find the type of the condition of their remote ancestors, when in savagery, in that of the Australians and Polynesians; when in the Lower Status of barbarism in that of the partially Village Indians of America; and when in the Middle Status in that of the Village Indians, with which their own experience in the Upper Status directly connects. So essentially identical are the arts, institutions and mode of life in the same status upon all the continents, that the archaic form of the principal domestic institutions of the Greeks and Romans must even now be sought in the corresponding institutions of the American aborigines, as will be shown in the course

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14- of this volume. This fact forms a part of the accumulating evidence tending to show that the principal institutions of mankind have been developed from a few primary germs of thought; and that the course and manner of their development was predetermined, as well as restricted within narrow limits of divergence, by the natural logic of the human mind and the necessary limitations of its powers. Progress has been found to be substantially the same in kind in tribes and nations inhabiting different and even disconnected continents, while in the same status, with deviations from uniformity in particular instances produced by special causes. The argument when extended tends to establish the unity of origin of mankind.

18- In studying the condition of tribes and nations in these several ethnical periods we are dealing, substantially, with the ancient history and condition of our own remote ancestors.

CHAPTER II

ARTS OF SUBSISTENCE

The important fact that mankind commenced at the bottom of the scale and worked up, is revealed in an expressive manner by their successive arts of subsistence. Upon their (skill) in this direction, the whole question of human supremacy on the earth depended. Mankind are the only beings who may be said to have gained an absolute control over the production of food; which at the outset they did not possess above other animals. Without enlarging the basis of subsistence, mankind could not have propagated themselves into other areas not possessing the same kinds of food, and ultimately over the whole surface of the earth; and lastly, without obtaining an absolute control over both its variety and amount, they could not have multiplied into populous nations. It is accordingly probable that the great epochs of human progress have been identified, more or less directly, with the enlargement of the sources of subsistence.

We are able to distinguish five of these sources of human food, created by what may be called as many successive arts, one superadded to the other, and brought out at long separated intervals of time. The first two originated in the period of savagery, and the last three, in the period of barbarism. They are the following, stated in the order of their appearance:

I. *Natural Subsistence upon Fruits and Roots on a Restricted Habitat.*

This proposition carries us back to the strictly primitive period of mankind, when few in numbers, simple in subsistence, and occupying limited areas, they were just entering upon their new career. There is neither an art, nor an institution, that can be referred to this period; and but one invention, that of language, which can be connected with an epoch so remote. The kind of subsistence indicated assumes a tropical or subtropical climate. In such a climate, by common consent, the habitat of primitive man has been placed. In fruit and nut-bearing forests under a tropical sun, we are accustomed, and with reason, to regard our progenitors as having commenced their existence.

The races of animals preceded the race of mankind, in the order of time. We are warranted in supposing that they were in the plenitude of their strength and numbers when the human race first appeared. The classical poets pictured the tribes of mankind dwelling in groves, in caves and in forests, for the possession of which they disputed with wild beasts¹ — while they sustained themselves with the spontaneous fruits of the earth. If mankind commenced their career without experience, without weapons, and surrounded with ferocious animals, it is not improbable that they were at least partially, tree-livers, as a means of protection and security.

The maintenance of life, through the constant acquisition of food, is the great burden imposed upon existence in all species of animals. As we descend in the scale of structural organization, subsistence becomes more and more simple at each stage, until the mystery finally vanishes. But, in the ascending scale, it becomes increasingly difficult until the highest structural form, that of man, is reached, when it attains the maximum. Intelligence from henceforth becomes a more prominent factor. Animal food, in all probability, entered from a very early period into human consumption; but whether it was actively sought when mankind were essentially frugivorous in practice, though omnivorous in structural

¹ "Lucr. De Re. Nat.," lib. v, 951.

organization, must remain a matter of conjecture. This mode of sustenance belongs to the strictly primitive period.

II. *Fish Subsistence.*

In fish must be recognized the first kind of artificial food, because it was not fully available without cooking. Fire was first utilized, not unlikely, for this purpose. Fish were universal in distribution, unlimited in supply, and the only kind of food at all times attainable. The cereals in the primitive period were still unknown, if in fact they existed, and the hunt for game was too precarious ever to have formed an exclusive means of human support. Upon this species of food mankind became independent of climate and of locality; and by following the shores of the seas and lakes, and the courses of the rivers could, while in the savage state, spread themselves over the greater portion of the earth's surface. Of the fact of these migrations there is abundant evidence in the remains of flint and stone implements of the Status of Savagery found upon all the continents. In reliance upon fruits and spontaneous subsistence a removal from the original habitat would have been impossible.

Between the introduction of fish, followed by the wide migrations named, and the cultivation of farinaceous food, the interval of time was immense. It covers a large part of the period of savagery. But during this interval there was an important increase in the variety and amount of food. Such, for example, as the bread roots cooked in ground ovens, and in the permanent addition of game through improved weapons, and especially through the bow and arrow. This remarkable invention, which came in after the spear war club, and gave the first deadly weapon for the hunt, appeared late in savagery. It has been used to mark the commencement of

¹ As a combination of forces it is so abstruse that it not unlikely owed its origin to accident. The elasticity and toughness of certain kinds of wood, the tension of a cord of sinew or vegetable fibre by means of a bent bow, and finally their combination to propel an arrow by human muscle, are not very

its Upper Status. It must have given a powerful upward influence to ancient society, standing in the same relation to the period of savagery, as the iron sword to the period of barbarism, and fire-arms to the period of civilization.

From the precarious nature of all these sources of food, outside of the great fish areas, cannibalism became the dire resort of mankind. The ancient universality of this practice is being gradually demonstrated.

III. *Farinaceous Subsistence through Cultivation.*

We now leave Savagery and enter the lower Status of barbarism. The cultivation of cereals and plants was unknown in the Western hemisphere except among the tribes who had emerged from savagery; and it seems to have been unknown in the Eastern hemisphere until after the tribes of Asia and Europe had passed through the Lower, and had drawn near to the close of the Middle Status of barbarism. It gives us the singular fact that the American aborigines in the Lower Status of barbarism were in possession of horticulture one entire ethnical period earlier than the inhabitants of the Eastern hemisphere. It was a consequence of the unequal endowments of the two hemispheres; the Eastern possessing all the animals adapted to domestication, save one, and a majority of the cereals; while the Western had only one cereal fit for cultivation, but that the best. It tended to prolong the older period of barbarism in the former, to shorten it in the latter; and with the advantage of condition in this period in favor of the American aborigines. But when the most advanced tribes in the Eastern hemisphere, at the commencement of the Middle Period of barbarism, had domesticated animals which gave them meat and milk, their condition, without a knowledge of the cereals, was much superior to that of the American aborigines in the corresponding period, with maize and plants, but without domestic animals. The differentia-

obvious suggestions to the mind of a savage. As elsewhere noticed, the bow and arrow are unknown to the Polynesians in general, and to the Australians. From this fact alone it is shown that mankind were well advanced in the savage state when the bow and arrow made their first appearance.

tion of the Semitic and Aryan families from the mass of barbarians seems to have commenced with the domestication of animals.

That the discovery and cultivation of the cereals by the Aryan family was subsequent to the domestication of animals is shown by the fact, that there are common terms for these animals in the several dialects of the Aryan language, and no common terms for the cereals or cultivated plants. Mommsen, after showing that the domestic animals have the same names in the Sanskrit, Greek, and Latin (which Max Müller afterwards extended to the remaining Aryan dialects¹) thus proving that they were known and presumptively domesticated before the separation of these nations from each other, proceeds as follows: "On the other hand, we have as yet no certain proofs of the existence of agriculture at this period. Language rather favors the negative view. Of the Latin-Greek names of grain none occur in the Sanskrit with the single exception of *zea*, which philologically represents the Sanskrit *yavas*, but denotes in Indian, barley; in Greek, *spelt*. It must indeed be granted that this diversity in the names of cultivated plants, which so strongly contrasts with the essential agreement in the appellations of domestic animals, does not absolutely preclude the supposition of a common original agriculture. The cultivation of rice among the Indians, that of wheat and spelt among the Greeks, and that of rye and oats among the Germans and Celts, may all be traceable to a common system of original tillage."² This last conclusion is forced. Horticulture preceded field culture, as the garden (*hortos*) preceded the field (*ager*); and although the latter implies boundaries, the former signifies directly an "inclosed space." Tillage, however, must have been older than the inclosed garden; the natural order being first, tillage of patches of open alluvial land, second of inclosed spaces or gardens, and third, of the field by means of the plow drawn by animal

¹ "Chips from a German Workshop," Comp. Table, II, p. 42.

² "History of Rome," Scribner's ed., 1871, I, p. 38.

power. Whether the cultivation of such plants as the pea, bean, turnip, parsnip, beet, squash and melon, one or more of them, preceded the cultivation of the cereals, we have at present no means of knowing. Some of these have common terms in Greek and Latin; but I am assured by our eminent philologist, Prof. W. D. Whitney, that neither of them has a common term in Greek or Latin and Sanskrit.

Horticulture seems to have originated more in the necessities of the domestic animals than in those of mankind. In the Western hemisphere it commenced with maize. This new era, although not synchronous in the two hemispheres, had immense influence upon the destiny of mankind. There are reasons for believing that it requires ages to establish the art of cultivation, and render farinaceous food a principal reliance. Since in America it led to localization and to village life, it tended, especially among the Village Indians, to take the place of fish and game. From the cereals and cultivated plants, moreover, mankind obtained their first impression of the possibility of an abundance of food.

The acquisition of farinaceous food in America and of domestic animals in Asia and Europe, were the means of delivering the advanced tribes, thus provided, from the scourge of cannibalism, which as elsewhere stated, there are reasons for believing was practiced universally throughout the period of savagery upon captured enemies, and, in time of famine, upon friends and kindred. Cannibalism in war, practiced by war parties in the field, survived among the American aborigines, not only in the Lower, but also in the Middle Status of barbarism, as, for example, among the Iroquois and the Aztecs; but the general practice had disappeared. This forcibly illustrates the great importance which is exercised by a permanent increase of food in ameliorating the condition of mankind.

IV. *Meat and Milk Subsistence.*

The absence of animals adapted to domestication in

the Western hemisphere, excepting the llama,¹ and the specific differences in the cereals of the two hemispheres exercised an important influence upon the relative advancement of their inhabitants. While this inequality of endowments was immaterial to mankind in the period of savagery, and not marked in its effects in the Lower Status of barbarism, it made an essential difference with that portion who had attained to the Middle Status. The domestication of animals provided a permanent meat and milk subsistence which tended to differentiate the tribes which possessed them from the mass of other barbarians. In the Western hemisphere, meat was restricted to the precarious supplies of game. This limitation upon an essential species of food was unfavorable to the Village Indians; and doubtless sufficiently explains the inferior size of the brain among them in comparison with that of Indians in the Lower Status of barbarism. In the Eastern hemisphere, the domestication of animals enabled the thrifty and industrious to secure for themselves a permanent supply of animal food, including milk; the healthful and invigorating influence of which upon the race, and especially upon children, was undoubtedly remarkable. It is at least supposable that the Aryan and Semitic families owe their pre-eminent endowments to the great scale upon which, as far back as our knowledge extends, they have identified themselves with the maintenance in numbers of the domestic animals. In fact, they incorporated them, flesh, milk, and muscle into their plan of life. No other family of mankind have done this to an equal extent, and the Aryan have done it to a greater extent than the Semitic.

The domestication of animals gradually introduced a new mode of life, the pastoral, upon the plains of the

¹ The early Spanish writers speak of a "dumb dog" found domesticated in the West India Islands, and also in Mexico and Central America. (See figures of the Aztec dog in pl. iii, vol. I, of Clavigero's "History of Mexico"). I have seen no identification of the animal. They also speak of poultry as well as turkeys on the continent. The aborigines had domesticated the turkey, and the Nahuatlac tribes some species of wild fowl.

² We learn from the *Iliad* that the Greeks milked their sheep, as well as their cows and goats. See "*Iliad*," iv, 433.

Euphrates and of India, and upon the steppes of Asia; on the confines of one or the other of which the domestication of animals was probably first accomplished. To these areas, their oldest traditions and their histories alike refer them. They were thus drawn to regions which, so far from being the cradle lands of the human race, were areas they would not have occupied as savages, or as barbarians in the Lower Status of barbarism, to whom forest areas were natural homes. After becoming habituated to pastoral life, it must have been impossible for either of these families to re-enter the forest areas of Western Asia and of Europe with their flocks and herds, without first learning to cultivate some of the cereals with which to subsist the latter at a distance from the grass plains. It seems extremely probable, therefore, as before stated, that the cultivation of the cereals originated in the necessities of the domestic animals, and in connection with these western migrations; and that the use of farinaceous food by these tribes was a consequence of the knowledge thus acquired.

In the Western hemisphere, the aborigines were enabled to advance generally into the Lower Status of barbarism, and a portion of them into the Middle Status, without domestic animals, excepting the llama in Peru, and upon a single cereal, maize, with the adjuncts of the bean, squash, and tobacco, and in some areas, cacao, cotton and pepper. But maize, from its growth in the hill — which favored direct cultivation — from its useability both green and ripe, and from its abundant yield and nutritive properties, was a richer endowment in aid of early human progress than all other cereals put together. It serves to explain the remarkable progress the American aborigines had made without the domestic animals; the Peruvians having produced bronze, which stands next, and quite near, in the order of time, to the process of smelting iron ore.

V. *Unlimited Subsistence through Field Agriculture.*

The domestic animals supplementing human muscle with animal power, contributed a new factor of the highest value. In course of time, the production of iron gave

the plow with an iron point, and a better spade and axe. Out of these, and the previous horticulture, came field agriculture; and with it, for the first time, unlimited subsistence. The plow drawn by animal power may be regarded as inaugurating a new art. Now, for the first time, came the thought of reducing the forest, and bringing wide fields under cultivation.¹ Moreover, dense populations in limited areas now became possible. Prior to field agriculture it is not probable that half a million people were developed and held together under one government in any part of the earth. If exceptions occurred, they must have resulted from pastoral life on the plains, or from horticulture improved by irrigation, under peculiar and exceptional conditions.

In the course of these pages it will become necessary to speak of the family as it existed in different ethnical periods; its form in one period being sometimes entirely different from its form in another. In Part III these several forms of the family will be treated specially. But as they will be frequently mentioned in the next ensuing Part, they should at least be defined in advance for the information of the reader. They are the following:

I. *The Consanguine Family.*

It was founded upon the intermarriage of brothers and sisters in a group. Evidence still remains in the oldest of existing systems of Consanguinity, the Malayan, tending to show that this, the first form of the family, was anciently as universal as this system of consanguinity which it created.

II. *The Punaluan Family.*

Its name is derived from the Hawaiian relationship of *Punalua*. It was founded upon the intermarriage of several brothers to each other's wives in a group; and of several sisters to each other's husbands in a group. But the term brother, as here used, included the first, second, third, and even more remote male cousins, all of whom were considered brothers to each other, as we consider our own brothers; and the term sister included the first, sec-

¹ "Lucr. De Re. Nat.," v, 1369.

ond, third, and even more remote female cousins, all of whom were sisters to each other, the same as own sisters. This form of the family supervened upon the consanguine. It created the Turanian and Ganowanian systems of consanguinity. Both this and the previous form belong to the period of savagery.

III. *The Syndyasmian Family.*

The term is from *syndyazo*, to pair, *syndyasmos*, a joining two together. It was founded upon the pairing of a male with a female under the form of marriage, but without an exclusive cohabitation. It was the germ of the Monogamian Family. Divorce or separation was at the option of both husband and wife. This form of the family failed to create a system of consanguinity.

IV. *The Patriarchal Family.*

It was founded upon the marriage of one man to several wives. The term is here used in a restricted sense to define the special family of the Hebrew pastoral tribes, the chiefs and principal men of which practiced polygamy. It exercised but little influence upon human affairs for want of universality.

V. *The Monogamian Family.*

It was founded upon the marriage of one man with one woman, with an exclusive cohabitation; the latter constituting the essential element of the institution. It is pre-eminently the family of civilized society, and was therefore essentially modern. This form of the family also created an independent system of consanguinity.

Evidence will elsewhere be produced tending to show both the existence and the general prevalence of these several forms of the family at different stages of human progress.

CHAPTER III

RATIO OF HUMAN PROGRESS

It is well to obtain an impression of the relative amount and of the ratio of human progress in the several ethnical periods named, by grouping together the achievements of each, and comparing them with each other as distinct classes of facts. This will also enable us to form some conception of the relative duration of these periods. To render it forcible, such a survey must be general, and in the nature of a recapitulation. It should, likewise, be limited to the principal works of each period.

Before man could have attained to the civilized state it was necessary that he should gain all the elements of civilization. This implies an amazing change of condition, first from a primitive savage to a barbarian of the lowest type, and then from the latter to a Greek of the Homeric period, or to a Hebrew of the time of Abraham. The progressive development which history records in the period of civilization was not less true of man in each of the previous periods.

By re-ascending along the several lines of human progress toward the primitive ages of man's existence, and removing one by one his principal institutions, inventions, and discoveries, in the order in which they have appeared, the advance made in each period will be realized.

The principal contributions of modern civilization are the electric telegraph; coal gas; the spinning-jenny; and the power loom; the steam-engine with its numerous dependent machines, including the locomotive, the rail-

way, and the steam-ship; the telescope; the discovery of the ponderability of the atmosphere and of the solar system; the art of printing; the canal lock; the mariner's compass; and gunpowder. The mass of other inventions, such, for example, as the Ericsson propeller, will be found to hinge upon one or another of those named as antecedents: but there are exceptions, as photography, and numerous machines not necessary to be noticed. With these also should be removed the modern sciences; religious freedom and the common schools; representative democracy; constitutional monarchy with parliaments; the feudal kingdom; modern privileged classes; international, statute and common law.

Modern civilization recovered and absorbed whatever was valuable in the ancient civilizations and although its contributions to the sum of human knowledge have been vast, brilliant and rapid, they are far from being so disproportionately large as to overshadow the ancient civilizations and sink them into comparative insignificance.

Passing over the mediæval period, which gave Gothic architecture, feudal aristocracy with hereditary titles of rank, and a hierarchy under the headship of a pope, we enter the Roman and Grecian civilizations. They will be found deficient in great inventions and discoveries, but distinguished in art, in philosophy, and in organic institutions. The principal contributions of these civilizations were imperial and kingly government; the civil law; Christianity; mixed aristocratical and democratical government, with a senate and consuls; democratical government with a council and popular assembly; the organization of armies into cavalry and infantry, with military discipline; the establishment of navies, with the practice of naval warfare; the formation of great cities, with municipal law; commerce on the seas; the coinage of money; and the state, founded upon territory and upon property; and among inventions, fire-baked brick, the crane,¹ the water-wheel for driving mills, the bridge,

¹ The Egyptians may have invented the crane (See Herodotus, II, 125). They also had the balance scale.

acqueduct and sewer; lead pipe used as a conduit with the faucet; the arch, the balance scale; the arts and sciences of the classical period, with their results, including the orders of architecture; the Arabic numerals, and alphabetic writing.

These civilizations drew largely from, as well as rested upon, the inventions and discoveries and the institutions of the previous period of barbarism. The achievements of civilized man, although very great and remarkable, are nevertheless very far from sufficient to eclipse the works of man as a barbarian. As such he had wrought out and possessed all the elements of civilization, excepting alphabetic writing. His achievements as a barbarian should be considered in their relation to the sum of human progress; and we may be forced to admit that they transcend, in relative importance, all his subsequent works.

The use of writing, or its equivalent in hieroglyphics upon stone, affords a fair test of the commencement of civilization.¹ Without literary records neither history nor civilization can properly be said to exist. The production of the Homeric poems, whether transmitted orally or committed to writing at the time, fixes with sufficient nearness the introduction of civilization among the Greeks. These poems, ever fresh and ever marvelous, possess an ethnological value which enhances immensely their other excellences. This is especially true of the Iliad, which contains the oldest as well as the most circumstantial account now existing of the progress of mankind up to the time of its composition. Strabo compliments Homer as the father of geographical science;²

¹ The phonetic alphabet came, like other great inventions, at the end of successive efforts. The slow Egyptian, advancing the hieroglyph through its several forms, had reached a syllabus composed of phonetic characters, and at this stage was resting upon his labors. He could write in permanent characters upon stone. Then came in the inquisitive Phœnician, the first navigator and trader on the sea, who, whether previously versed in hieroglyphs or otherwise, seems to have entered at a bound upon the labors of the Egyptian, and by an inspiration of genius to have mastered the problem over which the latter was dreaming. He produced that wondrous alphabet of sixteen letters which in time gave to mankind a written language and the means for literary and historical records.

² "Strabo," I, 2.

but the great poet has given, perhaps without design, what was infinitely more important to succeeding generations: namely, a remarkably full exposition of the arts, usages, inventions and discoveries, and mode of life of the ancient Greeks. It presents our first comprehensive picture of Aryan society while still in barbarism, showing the progress then made, and of what particulars it consisted. Through these poems we are enabled confidently to state that certain things were known among the Greeks before they entered civilization. They also cast an illuminating light far backward into the period of barbarism.

Using the Homeric poems as a guide and continuing the retrospect into the Later Period of barbarism, let us strike off from the knowledge and experience of mankind the invention of poetry; the ancient mythology in its elaborate form, with the Olympian divinities; temple architecture; the knowledge of the cereals, excepting maize and cultivated plants, with field agriculture; cities encompassed with walls of stone, with battlements, towers and gates; the use of marble in architecture; ship-building with plank and probably with the use of nails; the wagon and the chariot; metallic plate armor; the copper-pointed spear and embossed shield; the iron sword; the manufacture of wine, probably; the mechanical powers excepting the screw; the potter's wheel and the hand-mill for grinding grain; woven fabrics of linen and woolen from the loom; the iron axe and spade; the iron hatchet and adz; the hammer and the anvil; the bellows and the forge; and the side-hill furnace for smelting iron ore, together with a knowledge of iron. Along with the above-named acquisitions must be removed the monogamian family; military democracies of the heroic age; the later phase of the organization into gentes, phratries and tribes; the agora or popular assembly, probably; a knowledge of individual property in houses and lands; and the advanced form of municipal life in fortified cities. When this has been done, the highest class of barbarians will have surrendered the principal portion of their mar-

velous works, together with the mental and moral growth thereby acquired.

From this point backward through the Middle Period of barbarism the indications become less distinct, and the relative order in which institutions, inventions and discoveries appeared is less clear; but we are not without some knowledge to guide our steps even in these distant ages of the Aryan family. For reasons previously stated, other families, besides the Aryan, may now be resorted to for the desired information.

Entering next the Middle Period, let us, in like manner, strike out of human experience the process of making bronze; flocks and herds of domestic animals; communal houses with walls of adobe, and of dressed stone laid in courses with mortar of lime and sand; cyclopean walls; lake dwellings constructed on piles; the knowledge of native metals,¹ with the use of charcoal and the crucible for melting them; the copper axe and chisel; the shuttle and embryo loom; cultivation by irrigation, causeways, reservoirs and irrigating canals; paved roads; osier suspension bridges; personal gods, with a priesthood distinguished by a costume, and organized in a hierarchy; human sacrifices; military democracies of the Aztec type; woven fabrics of cotton and other vegetable fibre in the Western hemisphere, and of wool and flax in the Eastern; ornamental pottery; the sword of wood, with the edges pointed with flints; polished flint and stone implements; a knowledge of cotton and flax; and the domestic animals.

The aggregate of achievements in this period was less than in that which followed; but in its relations to the sum of human progress it was very great. It includes the domestication of animals in the Eastern hemisphere, which introduced in time a permanent meat and milk subsistence, and ultimately field agriculture; and also inaugurated those experiments with the native metals which

¹ Homer mentions the native metals; but they were known long before his time, and before iron. The use of charcoal and the crucible in melting them prepared the way for smelting iron ore.

resulted in producing bronze,¹ as well as prepared the way for the higher process of smelting iron ore. In the Western hemisphere it was signalized by the discovery and treatment of the native metals, which resulted in the production independently of bronze; by the introduction of irrigation in the cultivation of maize and plants, and by the use of adobe-brick and stone in the construction of great joint tenement houses in the nature of fortresses.

Resuming the retrospect and entering the Older Period of barbarism, let us next remove from human acquisitions the confederacy, based upon gentes, phratries and tribes under the government of a council of chiefs which gave a more highly organized state of society than before that had been known. Also the discovery and cultivation of maize and the bean, squash and tobacco, in the Western hemisphere, together with a knowledge of farinaceous food; finger weaving with warp and woof; the kilt, moccasin and leggin of tanned deer-skin; the blow-gun for bird shooting; the village stockade for defense; tribal games; element worship, with a vague recognition of the Great Spirit; cannibalism in time of war; and lastly, the art of pottery.

As we ascend in the order of time and of development, but descend in the scale of human advancement, inventions become more simple, and more direct in their rela-

¹The researches of Beckmann have left a doubt upon the existence of a true bronze earlier than a knowledge of iron among the Greeks and Latins. He thinks "electrum," mentioned in the *Iliad*, was a mixture of gold and silver (*History of Inventions*, Bohn's ed., ii, 212); and that the "stannum" of the Romans, which consisted of silver and lead, was the same as the "kassiteron" of Homer (*Ib.*, ii, 217). This word has usually been interpreted as tin. In commenting upon the composition called bronze, he remarks: "In my opinion the greater part of these things were made of 'stannum,' properly so called, which by the admixture of the noble metals, and some difficulty of fusion, was rendered fitter for use than pure copper." (*Ib.*, ii, 213). These observations were limited to the nations of the Mediterranean, within whose areas tin was not produced. Axes, knives, razors, swords, daggers, and personal ornaments discovered in Switzerland, Austria, Denmark, and other parts of Northern Europe, have been found, on analysis, composed of copper and tin, and therefore fall under the strict definition of bronze. They were also found in relations indicating priority to iron.

tions to primary wants; and institutions approach nearer and nearer to the elementary form of a gens composed of consanguinei, under a chief of their own election, and to the tribe composed of kindred gentes, under the government of a council of chiefs. The condition of Asiatic and European tribes in this period, (for the Aryan and Semitic families did not probably then exist), is substantially lost. It is represented by the remains of ancient art between the invention of pottery and the domestication of animals; and includes the people who formed the shell-heaps on the coast of the Baltic, who seem to have domesticated the dog, but no other animals.

In any just estimate of the magnitude of the achievements of mankind in the three sub-periods of barbarism, they must be regarded as immense, not only in number and in intrinsic value, but also in the mental and moral development by which they were necessarily accompanied.

Ascending next through the prolonged period of savagery, let us strike out of human knowledge the organization into gentes, phratries and tribes; the syndyasmian family; the worship of the elements in its lowest form; syllabical language; the bow and arrow; stone and bone implements; cane and splint baskets; skin garments; the punaluan family; the organization upon the basis of sex; the village, consisting of clustered houses; boat craft, including the bark and dug-out canoe; the spear pointed with flint, and the war club; flint implements of the ruder kinds; the consanguine family; monosyllabical language; fetichism; cannibalism; a knowledge of the use of fire; and lastly, gesture language.¹ When this

¹The origin of language has been investigated far enough to find the grave difficulties in the way of any solution of the problem. It seems to have been abandoned, by common consent, as an unprofitable subject. It is more a question of the laws of human development and of the necessary operations of the mental principle, than of the materials of language. Lucretius remarks that with sounds and with gesture, mankind in the primitive period intimated their thoughts stammeringly to each other (-v. 1021). He assumes that thought preceded speech, and that gesture language preceded articulate language. Gesture or sign language seems to have been primitive, the elder sister of articulate speech. It is still the universal language of bar-

work of elimination has been done in the order in which these several acquisitions were made, we shall have approached quite near the infantile period of man's existence, when mankind were learning the use of fire, which rendered possible a fish subsistence and a change of habitat, and when they were attempting the formation of articulate language. In a condition so absolutely primitive, man is seen to be not only a child in the scale of humanity, but possessed of a brain into which not a thought or conception expressed by these institutions, inventions and discoveries had penetrated;—in a word, he stands at the bottom of the scale, but potentially all he has since become.

With the production of inventions and discoveries, and with the growth of institutions, the human mind necessarily grew and expanded; and we are led to recognize a gradual enlargement of the brain itself, particularly of the cerebral portion. The slowness of this mental growth was inevitable, in the period of savagery, from the extreme difficulty of compassing the simplest invention out of nothing, or with next to nothing to assist mental effort; and of discovering any substance or force

barians, if not of savages, in their mutual intercourse when their dialects are not the same. The American aborigines have developed such a language, thus showing that one may be formed adequate for general intercourse. As used by them it is both graceful and expressive, and affords pleasure in its use. It is a language of natural symbols, and therefore possesses the elements of a universal language. A sign language is easier to invent than one of sounds; and, since it is mastered with greater facility, a presumption arises that it preceded articulate speech. The sounds of the voice would first come in, on this hypothesis, in aid of gesture; and as they gradually assumed a conventional signification, they would supersede, to that extent, the language of signs, or become incorporated in it. It would also tend to develop the capacity of the vocal organs. No proposition can be plainer than that gesture has attended articulate language from its birth. It is still inseparable from it; and may embody the remains, by survival, of an ancient mental habit. If language were perfect, a gesture to lengthen out or emphasize its meaning would be a fault. As we descend through the gradations of language into its ruder forms, the gesture element increases in the quantity and variety of its forms until we find languages so dependent upon gestures that without them they would be substantially unintelligible. Growing up and flourishing side by side through savagery, and far into the period of barbarism, they remain, in modified forms, indissolubly united. Those who are curious to solve the problem of the origin of language would do well to look to the possible suggestions from gesture language.

in nature available in such a rude condition of life. It was not less difficult to organize the simplest form of society out of such savage and intractable materials. The first inventions and the first social organizations were doubtless the hardest to achieve, and were consequently separated from each other by the longest intervals of time. A striking illustration is found in the successive forms of the family. In this law of progress, which works in a geometrical ratio, a sufficient explanation is found of the prolonged duration of the period of savagery.

That the early condition of mankind was substantially as above indicated is not exclusively a recent, nor even a modern opinion. Some of the ancient poets and philosophers recognized the fact, that mankind commenced in a state of extreme rudeness from which they had risen by slow and successive steps. They also perceived that the course of their development was registered by a progressive series of inventions and discoveries, but without noticing as fully the more conclusive argument from social institutions.

The important question of the ratio of this progress, which has a direct bearing upon the relative length of the several ethnical periods, now presents itself. Human progress, from first to last, has been in a ratio not rigorously but essentially geometrical. This is plain on the face of the facts; and it could not, theoretically, have occurred in any other way. Every item of absolute knowledge gained became a factor in further acquisitions, until the present complexity of knowledge was attained. Consequently, while progress was slowest in time in the first period, and most rapid in the last, the relative amount may have been greatest in the first, when the achievements of either period are considered in their relations to the sum. It may be suggested, as not improbable of ultimate recognition, that the progress of mankind in the period of savagery, in its relations to the sum of human progress, was greater in degree than it was afterwards in the three sub-periods of barbarism; and that the progress made in the whole period of bar-

barism was, in like manner, greater in degree than it has been since in the entire period of civilization.

What may have been the relative length of these ethnical periods is also a fair subject of speculation. An exact measure is not attainable, but an approximation may be attempted. On the theory of geometrical progression, the period of savagery was necessarily longer in duration than the period of barbarism, as the latter was longer than the period of civilization. If we assume a hundred thousand years as the measure of man's existence upon the earth in order to find the relative length of each period,—and for this purpose, it may have been longer or shorter,—it will be seen at once that at least sixty thousand years must be assigned to the period of savagery. Three-fifths of the life of the most advanced portion of the human race, on this apportionment, were spent in savagery. Of the remaining years, twenty thousand, or one-fifth, should be assigned to the Older Period of barbarism. For the Middle and Later Periods there remain fifteen thousand years, leaving five thousand, more or less, for the period of civilization.

The relative length of the period of savagery is more likely under than over stated. Without discussing the principles on which this apportionment is made, it may be remarked that in addition to the argument from the geometrical progression under which human development of necessity has occurred, a graduated scale of progress has been universally observed in remains of ancient art, and this will be found equally true of institutions. It is a conclusion of deep importance in ethnology that the experience of mankind in savagery was longer in duration than all their subsequent experience, and that the period of civilization covers but a fragment of the life of the race.

Two families of mankind, the Aryan and Semitic, by the commingling of diverse stocks, superiority of subsistence or advantage of position, and possibly from all together, were the first to emerge from barbarism. They were substantially the founders of civilization.¹ But

¹The Egyptians are supposed to affiliate remotely with the Semitic family.

their existence as distinct families was undoubtedly, in a comparative sense, a late event. Their progenitors are lost in the undistinguishable mass of earlier barbarians. The first ascertained appearance of the Aryan family was in connection with the domestic animals, at which time they were one people in language and nationality. It is not probable that the Aryan or Semitic families were developed into individuality earlier than the commencement of the Middle Period of barbarism, and that their differentiation from the mass of barbarians occurred through their acquisition of the domestic animals.

The most advanced portion of the human race were halted, so to express it, at certain stages of progress, until some great invention or discovery, such as the domestication of animals or the smelting of iron ore, gave a new and powerful impulse forward. While thus restrained, the ruder tribes, continually advancing, approached in different degrees of nearness to the same status; for wherever a continental connection existed, all the tribes must have shared in some measure in each other's progress. All great inventions and discoveries propagate themselves; but the inferior tribes must have appreciated their value before they could appropriate them. In the continental areas certain tribes would lead; but the leadership would be apt to shift a number of times in the course of an ethnical period. The destruction of the ethnic bond and life of particular tribes, followed by their decadence, must have arrested for a time, in many instances and in all periods, the upward flow of human progress. From the Middle Period of barbarism, however, the Aryan and Semitic families seem fairly to represent the central threads of this progress, which in the period of civilization has been gradually assumed by the Aryan family alone.

The truth of this general position may be illustrated by the condition of the American aborigines at the epoch of their discovery. They commenced their career on the American continent in savagery; and, although possessed of inferior mental endowments, the body of them had emerged from savagery and attained to the Lower

Status of barbarism; whilst a portion of them, the Village Indians of North and South America, had risen to the Middle Status. They had domesticated the llama, the only quadruped native to the continent which promised usefulness in the domesticated state, and had produced bronze by alloying copper with tin. They needed but one invention, and that the greatest, the art of smelting iron ore, to advance themselves into the Upper Status. Considering the absence of all connection with the most advanced portion of the human family in the Eastern hemisphere, their progress in unaided self-development from the savage state must be accounted remarkable. While the Asiatic and European were waiting patiently for the boon of iron tools, the American Indian was drawing near to the possession of bronze, which stands next to iron in the order of time. During this period of arrested progress in the Eastern hemisphere, the American aborigines advanced themselves, not to the status in which they were found, but sufficiently near to reach it while the former were passing through the last period of barbarism, and the first four thousand years of civilization. It gives us a measure of the length of time they had fallen behind the Aryan family in the race of progress: namely the duration of the Later Period of barbarism, to which the years of civilization must be added. The Aryan and Ganowánian families together exemplify the entire experience of man in five ethnical periods, with the exception of the first portion of the Later Period of savagery.

Savagery was the formative period of the human race. Commencing at zero in knowledge and experience, without fire, without articulate speech and without arts, our savage progenitors fought the great battle, first for existence, and then for progress, until they secured safety from the ferocious animals, and permanent subsistence. Out of these efforts there came gradually a developed speech, and the occupation of the entire surface of the earth. But society from its rudeness was still incapable of organization in numbers. When the most advanced portion of mankind had emerged from savagery, and

entered the Lower Status of barbarism, the entire population of the earth must have been small in numbers. The earliest inventions were the most difficult to accomplish because of the feebleness of the power of abstract reasoning. Each substantial item of knowledge gained would form a basis for further advancement; but this must have been nearly imperceptible for ages upon ages, the obstacles to progress nearly balancing the energies arrayed against them. The achievements of savagery are not particularly remarkable in character, but they represent an amazing amount of persistent labor with feeble means continued through long periods of time before reaching a fair degree of completeness. The bow and arrow afford an illustration.

The inferiority of savage man in the mental and moral scale, undeveloped, inexperienced, and held down by his low animal appetites and passions, though reluctantly recognized, is, nevertheless, substantially demonstrated by the remains of ancient art in flint stone and bone implements, by his cave life in certain areas, and by his osteological remains. It is still further illustrated by the present condition of tribes of savages in a low state of development, left in isolated sections of the earth as monuments of the past. And yet to this great period of savagery belongs the formation of articulate language and its advancement to the syllabical stage, the establishment of two forms of the family, and possibly a third, and the organization into gentes which gave the first form of society worthy of the name. All these conclusions are involved in the proposition, stated at the outset, that mankind commenced their career at the bottom of the scale; which "modern science claims to be proving by the most careful and exhaustive study of man and his works."¹

In like manner, the great period of barbarism was signalized by four events of pre-eminent importance: namely, the domestication of animals, the discovery of the cereals, the use of stone in architecture, and the in-

¹ Whitney's "Oriental and Linguistic Studies," p. 341.

vention of the process of smelting iron ore. Commencing probably with the dog as a companion in the hunt, followed at a later period by the capture of the young of other animals and rearing them, not unlikely, from the merest freak of fancy, it required time and experience to discover the utility of each, to find means of raising them in numbers and to learn the forbearance necessary to spare them in the face of hunger. Could the special history of the domestication of each animal be known, it would exhibit a series of marvelous facts. The experiment carried, locked up in its doubtful chances, much of the subsequent destiny of mankind. Secondly, the acquisition of farinaceous food by cultivation must be regarded as one of the greatest events in human experience. It was less essential in the Eastern hemisphere, after the domestication of animals, than in the Western, where it became the instrument of advancing a large portion of the American aborigines into the Lower, and another portion into the Middle Status of barbarism. If mankind had never advanced beyond this last condition, they had the means of a comparatively easy and enjoyable life. Thirdly, with the use of adobe-brick and of stone in house building, an improved mode of life was introduced, eminently calculated to stimulate the mental capacities, and to create the habit of industry,—the fertile source of improvements. But, in its relations to the high career of mankind, the fourth invention must be held the greatest event in human experience, preparatory to civilization. When the barbarian, advancing step by step, had discovered the native metals, and learned to melt them in the crucible and to cast them in moulds; when he had alloyed native copper with tin and produced bronze; and, finally, when by a still greater effort of thought he had invented the furnace, and produced iron from the ore, nine-tenths of the battle for civilization was gained.¹ Furnished with iron tools,

¹ M. Quiquerez, a Swiss engineer, discovered in the canton of Berne the remains of a number of side-hill furnaces for smelting iron ore; together with tools, fragments of iron and charcoal. To construct one, an excavation was made in the side of a hill in which a bosh was formed of clay, with a

capable of holding both an edge and a point, mankind were certain of attaining to civilization. The production of iron was the event of events in human experience, without a parallel, and without an equal, beside which all other inventions and discoveries were inconsiderable, or at least subordinate. Out of it came the metallic hammer and anvil, the axe and the chisel, the plow with an iron point, the iron sword; in fine, the basis of civilization, which may be said to rest upon this metal. The want of iron tools arrested the progress of mankind in barbarism. There they would have remained to the present hour, had they failed to bridge the chasm. It seems probable that the conception and the process of smelting iron ore came but once to man. It would be a singular satisfaction could it be known to what tribe and family we are indebted for this knowledge, and with it for civilization. The Semitic family were then in advance of the Aryan, and in the lead of the human race. They gave the phonetic alphabet to mankind and it seems not unlikely the knowledge of iron as well.

At the epoch of the Homeric poems, the Grecian tribes had made immense material progress. All the common metals were known, including the process of smelting ores, and possibly of changing iron into steel; the principal cereals had been discovered, together with the art of cultivation, and the use of the plow in field agriculture; the dog, the horse, the ass, the cow, the sow, the sheep and the goat had been domesticated and reared in flocks and herds, as has been shown. Architecture had produced a house constructed of durable materials, containing separate apartments,¹ and consisting of more than a single story;² ship building, weapons, textile

chimney in the form of a dome above it to create a draft. No evidence was found of the use of the bellows. The boshes seem to have been charged with alternate layers of pulverized ore and charcoal, combustion being sustained by fanning the flames. The result was a spongy mass of partly fused ore which was afterwards welded into a compact mass by hammering. A deposit of charcoal was found beneath a bed of peat twenty feet in thickness. It is not probable that these furnaces were coeval with the knowledge of smelting iron ore; but they were, not unlikely, close copies of the original furnace.—Vide Figuler's "Primitive Man," Putnam's ed., p. 391.

¹ Palace of Priam.—II., vi, 242.

² House of Ulysses.—Od., xvi, 442.

fabrics, the manufacture of wine from the grape, the cultivation of the apple, the pear, the olive and the fig,¹ together with comfortable apparel, and useful implements and utensils, had been produced and brought into human use. But the early history of mankind was lost in the oblivion of the ages that had passed away. Tradition ascended to an anterior barbarism through which it was unable to penetrate. Language had attained such development that poetry of the highest structural form was about to embody the inspirations of genius. The closing period of barbarism brought this portion of the human family to the threshold of civilization, animated by the great attainments of the past, grown hardy and intelligent in the school of experience, and with the undisciplined imagination in the full splendor of its creative powers. Barbarism ends with the production of grand barbarians. Whilst the condition of society in this period was understood by the later Greek and Roman writers, the anterior state, with its distinctive culture and experience, was as deeply concealed from their apprehension as from our own; except as occupying a nearer stand-point in time, they saw more distinctly the relations of the present with the past. It was evident to them that a certain sequence existed in the series of inventions and discoveries, as well as a certain order of development of institutions, through which mankind had advanced themselves from the status of savagery to that of the Homeric age; but the immense interval of time between the two conditions does not appear to have been made a subject even of speculative consideration.

¹ Od., vii, 115.

PART II.

GROWTH OF THE IDEA OF GOVERNMENT