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WOMAN AND MODERN BIOLOGY

An Extract from Pure Sociology

BY
LESTER F. WARD

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WOMAN AND MODERN BIOLOGY

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New York

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Issued by the Feminist League

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Set up and electrotyped. Published January, 1903.

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New York

FOREWORD

"Woman and Modern Biology," published under the auspices of the Feminist League, is a reprint of Chapter XIV of Professor Lester Ward's "Pure Sociology." It is the first time this celebrated chapter has appeared in a separate form, but its character of a work within a work and the deep significance of the matter suggest and justify the step. It sprang into fame as furnishing a scientific formula reversing the hitherto accepted view of the relative biological importance of the sexes. It shifted the basis of human values. As Galileo demonstrated that the sun and not the earth was the centre of the solar system, so Lester Ward showed that the Female and not the Male is the centre of the biological scheme. "The androcentric theory may be compared with the geocentric theory, and the gynæocentric with the heliocentric." In these words he proclaimed a new Truth.

In other words, Lester Ward is the Galileo of modern Biology.

ALICE ABADAM,
President of the Feminist League.

Norwood, London, 3 Nov., 1921.

CHAPTER XIV

THE PHYLOGENETIC FORCES

THE proper subject of this chapter would be the influence exerted by those forces that have reproduction for their functional end in the direction of creating and transforming social structures. Keeping in view, however, the genetic method of treatment, the subject demands, much more than that of the preceding chapter, that deep explorations be made into the remote and obscure beginnings and prehuman course of things leading up to and explaining the facts that lie on the surface of the highly artificial and conventionalized society of to-day. In view, too, of the almost unexplored field in which this must be done, compared with the overdone domain of the economic forces passed over in the last chapter, the apparently uneven and much more extended treatment of the present subject is fully justified. A glance at the number and variety of heads and subheads into which the subject naturally falls, none of which can be wholly ignored, is sufficient to show that it might easily, and should properly, be expanded into a book instead of condensed into a chapter.

REPRODUCTION A FORM OF NUTRITION

The subject may really be regarded as only a continuation of that of the preceding chapter, since no fact in biology is better established than that reproduction represents a specialized mode of nutrition through the renewal of the organism, which, for reasons that we cannot here stop to point out, if indeed they can be said to be fully known, cannot be continued indefinitely. "The process of reproduction," says Haeckel, "is nothing more than a growth of the organism beyond its individual mass."¹ The biological ground for this statement will be set forth a little later, but may now be directly connected with the fact referred to in the last chapter that

¹ Der Vorgang der Fortpflanzung ist weiter Nichts als ein Wachstum des Organismus über sein individuelles Maass hinaus. "Natürliche Schöpfungsgeschichte," von Ernst Haeckel, achte Auflage, Berlin, 1889, p. 167.

the arrest of nutrition hastens reproduction, while abundant nutrition checks, and may even prevent reproduction. If we recognize only two forms of nutrition, natural selection determines which form shall be employed. Individual nutrition will be continued so long as there is no danger of the individual being cut off. Ultra-individual nutrition will begin as soon as there arises a chance of the individual being cut off, and it will be emphasized by any direct threat to the life of the individual. Hence reproduction is not possible in animals to the young that are growing rapidly, nor to plants that are over-nourished. Trees always die first at the top, but it is also at the top that they first flower and mature their fruit.

This general fact is sufficient reason for treating the ontogenetic before the phylogenetic forces, although from the standpoint of their importance the latter may be given precedence. The race is certainly of more consequence than the individual, and is that for which nature seems chiefly to care, but when the individual is looked upon as being simply prolonged and to merge into a new individual, the individual is seen to be all and to embrace or constitute the race. The race or species becomes an ideal, an abstract conception, and the individual the only thing that is real. The case is analogous to that of "society," in contradistinction to the individual members of society. Society exists only for the members and in preserving the members the society is preserved. So of the race. If the individuals continue to live over into one another, as reproduction provides, the race is conserved. Reproduction is therefore not only ultra-nutrition, in going beyond the individual, but it is *altro-nutrition*, in carrying the process to and into another. It is, as we shall see, the beginning of altruism. As it preserves the race or phylum, it is the condition to phylogenesis, and as connecting these two ideas, it may be called *phylotrophy*, or race nutrition, and stand opposed to *ontotrophy*, or individual nutrition.

THE ANDROCENTRIC THEORY

I propose to present two theories to account for the existing relations between the sexes, between which the reader can choose according to the constitution of his mind, or he can reject both. The first I call the *androcentric theory*, the second the *gynæocentric theory*. I shall, however, set down the principal facts known to science in support of each of these theories, and these may not be accepted or

rejected at will. They may be verified, or even proved false, but unless they are shown to be false and not facts at all, they must stand on one side or the other of the argument.

The androcentric theory is the view that the male sex is primary and the female secondary in the organic scheme, that all things center, as it were, about the male, and that the female, though necessary in carrying out the scheme, is only the means of continuing the life of the globe, but is otherwise an unimportant accessory, and incidental factor in the general result. This is the general statement of the androcentric theory as a tenet of biological philosophy, but as a tenet of sociology or anthropology, it becomes the view that man is primary and woman secondary, that all things center, as it were, about man, and that woman, though necessary to the work of reproduction, is only a means of continuing the human race, but is otherwise an unimportant accessory, and incidental factor in the general result.

The facts in support of the androcentric theory, in both its general and its special form, are numerous and weighty. From the former point of view we have the general fact that in all the principal animals with which everybody is more or less familiar, including the classes of mammals and birds at least, the males are usually larger, stronger, more varied in structure and organs, and more highly ornamented and adorned than the females. One has only to run over in his mind the different domestic animals and fowls, and the better known wild animals, such as the lion, the stag, and the buffalo, and most of the common song birds of the wood and meadow, to be convinced of the truth of this proposition. Among birds the females are not only smaller and of plain colors, but the male alone possesses the power of song. He is often brilliantly colored and far more active and agile than his mate. Among animals the male, besides his greater size and strength, is often endowed with such purely esthetic accessories as antlers and gracefully curving horns, and such weapons as tusks. Some male birds, too, are provided with spurs not possessed by the females. A comparison of female animals and birds with the young of the same species shows, as compared to the males, a marked resemblance, which fact has given rise to the favorite theory of many zoölogists that the female sex represents a process of "arrested development" as contrasted with the alleged normal, and certainly far greater development of the males. Such are the

main facts which zoölogy furnishes in support of the androcentric theory.

When we narrow the comparison down to the human races we find the same general class of facts somewhat emphasized. The women of all races are smaller than the men. They are less strong in proportion to their size, certainly if size is measured by weight. In the lower races at least the esthetic difference holds, and the male is more perfectly proportioned, and if positive beauty can be predicated of either sex it belongs to the man more than to the woman. In the advanced races female beauty is much vaunted, but women themselves regard men as more beautiful, and in the matter of beard, at least, they have what corresponds to the male decorations of animals. The difference in the brain of man and woman is quite as great as that of the rest of the body. Many measurements have been made of male and female brains both of civilized and uncivilized races, and always with the same general result at least that the female brain is considerably less than the male both in weight and cubic capacity. The average civilized male brain is said to weigh 602 grammes while the average female weighs only 516 grammes, a difference of over fourteen per cent of the former. But there are also qualitative differences showing female inferiority. Some of these are enumerated by Topinard as follows:—

The outlines of the adult female cranium are intermediate between those of the child and the adult man; they are softer, more graceful and delicate, and the apophyses and ridges for the attachment of muscles are less pronounced, . . . the forehead is . . . more perpendicular, to such a degree that in a group of skulls those of the two sexes have been mistaken for different types; the superciliary ridges and the gabella are far less developed, often not at all; the crown is higher and more horizontal; the brain weight and the cranial capacity are less; the mastoid apophyses, the inion, the styloid apophyses, and the condyles of the occipital are of less volume, the zygomatic and alveolar arches are more regular, the orbits higher, etc.¹

Other parts of the body differ in a similar manner. Professor W. K. Brooks says: "The female is scarcely in any normal case a mere miniature copy of the male. Her proportions differ; the head and the thorax are relatively smaller, the pelvis broader, the bones slighter, and the muscles less powerful."² All these facts are stated over and over again in all the works that treat of the subject,

¹ "Éléments d'Anthropologie générale," par Paul Topinard, Paris, 1885, p. 253.

² *Popular Science Monthly*, Vol. XIV, p. 202.

with slight variations, it is true, but with substantial agreement, and they may therefore be safely accepted as true to all intents and purposes.

But this is only the physical side of the subject. Stress of course is always laid upon the differences in the male and female brain, and it is but natural that inferior brain development in woman should be attended by correspondingly inferior mental powers. This is found to be the case, and attention is usually drawn to this as an immediate consequence of the other. In the first place it is found that women have very little inventive power. As invention is the great key to civilization, and as the inventive faculty is the primary advantageous function of the intellect, this is a fundamental difference and has great weight. If we take the inventive faculty in a wider sense and include scientific discovery we shall find woman still more behind man. It is for scientific discoveries rather than for mechanical inventions that the great men of history have risen to fame. In the leading countries of Europe there are scientific academies which from time immemorial have made it a practice to elect to membership any person who has made noteworthy scientific discoveries. This of course is not always done, and there are often narrow prejudices and short-sighted judgments that have debarred the greatest men for a time from this honor; but, these aside, membership in such bodies is *prima facie* proof of special eminence in one or another department of science. Professor Alphonse de Candolle, basing his arguments chiefly on this test, wrote his great work on the "History of Science and Scientific Men," which has become a recognized classic, taking rank alongside of the similar works of Francis Galton, "Hereditary Genius," "English Men of Science," to which it is in large part an answer. In this work de Candolle devotes two pages to "Women and Scientific Progress," most of which is so appropriate to the present discussion that I cannot do better than to quote it. He says:—

We do not see the name of any woman in the table of scientific associates of the principal academies. This is not wholly due to rules that fail to provide for their admission, for it is easy to perceive that no person of the feminine sex has done an original scientific work that has made its mark in any science and commanded the attention of scientific men. I do not think that it has ever been proposed to elect a woman a member of any of the great scientific academies with restricted membership. Madame de

Staël and George Sand might have become members of the French Academy, and Rosa Bonheur of the Academy of Fine Arts, but women who have translated scientific works, those who have taught or compiled elementary works, and even those who have published some good memoir on a special subject, are not elevated so high, although they have not lacked sympathy and support. The persons of whom I have spoken are however exceptions. Very few women interest themselves in scientific questions, at least in a sustained manner and for the sake of the questions and not of persons who are studying them or in order to support some favorite religious theory.

It is not difficult to find the causes of this difference between the two sexes. The development of woman stops sooner than that of man, and every one knows that studies at the age of from 16 to 18 years count for much in the production of a scientist of distinction. Besides, the female mind is superficial (*primesautier*). It takes pleasure in ideas that can be readily seized by a sort of intuition. The slow methods of observation and calculation by which truths are surely arrived at, cannot be pleasing to it. Truths themselves, independent of their nature and possible consequences, are of little moment for most women—especially general truths which do not affect any one in particular. Add to this, small independence of opinion, a reasoning faculty less strong than in man, and finally the horror of doubt, *i.e.*, of the state of mind through which all research in the sciences of observation must begin and often end.¹

Not only is the inventive genius of woman low as compared to that of man, but so is also her creative genius.² The following by a writer in the *Gentleman's Magazine* is fairly representative of what may be found repeated a hundred times in the general literature of the nineteenth century:—

It is notorious that creative genius is essentially of the masculine gender. Women are the imaginative sex, but the work which nature seems to have distinctly allotted to them has been done by men. This strange phenomenon is not due to the fact that women have written comparatively little, because, if it were, the little imaginative work they have done would have been great in quality, and would surpass in quantity the other work they have done. But it has not been great in quality compared with that of men, and, compared with the rest of their own work, has been infinitesimally small. No woman ever wrote a great drama; not one of the world's great poems came from a woman's hand.³

¹ "Histoire des Sciences et des Savants depuis deux siècles," etc., par Alphonse de Candolle. Deuxième édition considérablement augmentée. Genève-Bale, 1885, pp. 270-271. (This section occurs only in the second edition of the work.)

² There is only one art in which women equal and perhaps excel men, and that is the art of acting. Cf. Havelock Ellis, "Man and Woman," p. 324.

³ "The Physiology of Authorship," by R. E. Francillon, *Gentleman's Magazine*, N. S., Vol. XIV, March, 1875, pp. 334-335.

If we wished to pursue this line further we should find it often asserted that in all the fine arts woman is far behind man. There are very few great women architects, sculptors, painters, or musical composers.

Still less can be said for the female side of speculative genius, the faculty by which the mind deals with abstract truth and rises by a series of ever widening generalizations from multiplicity to unity. Women care very little for truth for its own sake, take very little interest in the abstract, and even concrete facts fail to win their attention unless connected more or less directly with persons and with some personal advantage, not necessarily to self, but to self or others. In short, they lack the power to see things objectively, and require that they be presented subjectively. Innate interests are ever present to their minds, and anything that does not appeal in any way to their interests is beyond their grasp.

A glance at the history and condition of the world in general is sufficient to show how small has been and is the rôle of woman in the most important affairs of life. None of the great business interests of mankind are or ever have been headed by women. In political affairs she has been practically a cipher, except where hereditary descent has chanced to place a crown upon her head. In such cases, however, no one can say that it has not usually rested easily. But from a certain point of view it almost seems as if everything was done by men, and woman was only a means of continuing the race.

THE GYNÆOCENTRIC THEORY

The gynæocentric theory is the view that the female sex is primary and the male secondary in the organic scheme, that originally and normally all things center, as it were, about the female, and that the male, though not necessary in carrying out the scheme, was developed under the operation of the principle of advantage to secure organic progress through the crossing of strains. The theory further claims that the apparent male superiority in the human race and in certain of the higher animals and birds is the result of specialization in extra-normal directions due to adventitious causes which have nothing to do with the general scheme, but which can be explained on biological and psychological principles; that it only applies to certain characters, and to a relatively small number of genera and families. It accounts for the prevalence of the androcentric

tric theory by the superficial character of human knowledge of such subjects, chiefly influenced by the illusion of the near, but largely, in the case of man at least, by tradition, convention, and prejudice.

History of the Theory. — As this theory is not only new but novel, and perhaps somewhat startling, it seems proper to give a brief account of its inception and history, if it can be said to have such. As the theory, so far as I have ever heard, is wholly my own, no one else having proposed or even defended it, scarcely any one accepting it, and no one certainly coveting it, it would be folly for me to pretend indifference to it. At the same time it must rest on facts that cannot be disputed, and the question of its acceptance or rejection must become one of interpreting the facts.

In the year 1888 there existed in Washington what was called the Six O'Clock Club, which consisted of a dinner at a hotel followed by speeches by the members of the Club according to a programme. The Fourteenth Dinner of the Club took place on April 26, 1888, at Willard's Hotel. It was known to the managers that certain distinguished women would be in Washington on that day, and they were invited to the Club. Among these were Mrs. Elizabeth Cady Stanton, Miss Phebe Couzins, Mrs. Croly (Jennie June), Mrs. N. P. Willis, and a number of others equally well known. On their account the subject of Sex Equality was selected for discussion, and I was appointed to open the debate. Although in a humorous vein, I set forth the greater part of the principles and many of the facts of what I now call the gynæocentric theory. Professor C. V. Riley was present and, I think, took part in the discussion. Many of my facts were drawn from insect life, and especially interested him. I mention this because a long time afterward he brought me a newspaper clipping from the *Household Companion* for June, 1888, containing a brief report of my remarks copied from the *St. Louis Globe*, but crediting them to him; and he apologized for its appearance saying that he could not explain the mistake. The reporter had fairly seized the salient points of the theory and presented them in a manner to which I could not object. This, therefore, was the first time the theory can be said to have been stated in print. The exact date at which it appeared in the *Globe* I have not yet learned, but presume it was shortly after the meeting of the Club. Professor Riley did not hesitate to announce himself a convert to the theory, and we often discussed it together.

I had long been reflecting along this line, and these events only heightened my interest in the subject. The editor of the *Forum* had solicited an article from me, and I decided to devote it to a popular but serious presentation of the idea. The result was my article entitled, "Our Better Halves."¹ That article, therefore, constitutes the first authorized statement of the gynæocentric theory that was published, and as a matter of fact it is almost the only one. Mr. Grant Allen answered my argument on certain points in the same magazine,² and I was asked to put in a rejoinder, which I did,³ but these discussions related chiefly to certain differences between the mind of man and woman and did not deal with the question of origin. I alluded to it in my first presidential address before the Biological Society of Washington,⁴ and it came up several times in writing the "Psychic Factors" (Chapters XIV, XXVI).

Such is the exceedingly brief history of the gynæocentric theory, and if it is entirely personal to myself, this is no fault of mine. Nothing pleases me more than to see in the writings of others any intimation, however vague and obscure, that the principle has been perceived, and I have faithfully searched for such indications and noted all I have seen. The idea has not wholly escaped the human mind, but it is never presented in any systematic way. It is only occasionally shadowed forth in connection with certain specific facts that call forth some passing reflection looking in this general direction. In introducing a few of these adumbrations I omit the facts, which will be considered under the several heads into which the subject will naturally fall, and confine myself for the most part to the reflections to which they have given rise. Many of these latter, however, are of a very general character, and not based on specific facts. In fact thus far the theory has had rather the form of a prophetic idea than of a scientific hypothesis. We may begin as far back as Condorcet, who brushed aside the conventional error that intellect and the power of abstract reasoning are the only marks of superiority and caught a glimpse of the truth that lies below them when he said:—

¹ The *Forum*, New York, Vol. VI, November, 1888, pp. 266-275.

² "Woman's Place in Nature," by Grant Allen, the *Forum*, Vol. VII, May, 1889, pp. 258-263.

³ "Genius and Woman's Intuition," the *Forum*, Vol. IX, June, 1890, pp. 401-408.

⁴ "The Course of Biologic Evolution," Proc. Biol. Soc., Washington, Vol. V, pp. 23-55. See pp. 49-52.

If we try to compare the moral energy of women with that of men, taking into consideration the necessary effect of the inequality with which the two sexes have been treated by laws, institutions, customs, and prejudices, and fix our attention on the numerous examples that they have furnished of contempt for death and suffering, of constancy in their resolutions and their convictions, of courage and intrepidity, and of greatness of mind, we shall see that we are far from having the proof of their alleged inferiority. Only through new observations can a true light be shed upon the question of the natural inequality of the two sexes.¹

Comte, as all know, changed his attitude toward women after his experiences with Clotilde de Vaux, but even in his "Positive Philosophy," in which he declared them to be in a state of "perpetual infancy," and of "fundamental inferiority," he admitted that they had a "secondary superiority considered from the social point of view."² In his "Positive Polity" he expressed himself much more strongly, saying that the female sex "is certainly superior to ours in the most fundamental attribute of the human species, the tendency to make sociability prevail over personality."³ He also says that "feminine supremacy becomes evident when we consider the spontaneous disposition of the affectionate sex (*sexe aimant*) always to further morality, the sole end of all our conceptions."⁴

Of all modern writers the one most free from the androcentric bias, so far as I am aware, is Mr. Havelock Ellis. In his excellent book "Man and Woman," he has pointed out many of the fallacies of that Weltanschauung, and without apparent leaning toward anything but the truth has placed woman in a far more favorable light than it is customary to view her. While usually confining himself to the facts, he occasionally indicates that their deeper meaning has not escaped him. Thus he says: "The female is the mother of the new generation, and has a closer and more permanent connection with the care of the young; she is thus of greater importance than the male from Nature's point of view" (pp. 383-384). To him is also due the complete refutation of the "arrested development" theory, above mentioned, by showing that the child, and the young generally, represent the most advanced type of development, while the adult male represents a reversion to an inferior early type, and this in man is a more bestial type.

¹ "Tableau Historique des Progrès de l'Esprit Humain," Paris, 1900, pp. 444-445.

² "Philosophie Positive," Vol. IV, Paris, 1839, pp. 405, 406.

³ "Système de Politique Positive," Vol. I, 1851, p. 210.

⁴ *Op. cit.*, Vol. IV, 1854, p. 63.

In the sayings quoted thus far we have little more than opinions, or general philosophical tenets, of which it would be much easier to find passages with the opposite import. In fact statements of the androcentric theory are to be met with everywhere. Not only do philosophers and popular writers never tire of repeating its main propositions, but anthropologists and biologists will go out of their way to defend it while at the same time heaping up facts that really contradict it and strongly support the gynæocentric theory. This is due entirely to the power of a predominant world view (*Weltanschauung*). The androcentric theory is such a world view that is deeply stamped upon the popular mind, and the history of human thought has demonstrated many times that scarcely any number of facts opposed to such a world view can shake it. It amounts to a social structure and has the attribute of stability in common with other social structures. Only occasionally will a thinking investigator pause to consider the true import of the facts he is himself bringing to light.

Bachofen, McLennan, Morgan, and the other ethnologists who have contributed to our knowledge of the remarkable institution or historic phase called the matriarchate, all stop short of stating the full significance of these phenomena, and the facts of amazonism that are so often referred to as so many singular anomalies and reversals of the natural order of things, are never looked at philosophically as residual facts that must be explained even if they overthrow many current beliefs. Occasionally some one will take such facts seriously and dare to intimate a doubt as to the prevailing theory. Thus I find in Ratzenhofer's work the following remark:—

It is probable that in the horde there existed a certain individual equality between man and woman; the results of our investigation leave it doubtful whether the man always had a superior position. There is much to indicate that the woman was the uniting element in the community; the mode of development of reproduction in the animal world and the latest investigations into the natural differences between man and woman give rise to the assumption that the woman of to-day is the atavistic product of the race, while the man varies more frequently and more widely. This view agrees perfectly with the nature of the social process, for in the horde, as the social form out of which the human race has developed, there existed an individual equality which has only been removed by social disturbances which chiefly concern the man. All the secondary sexual differences in men are undoubtedly explained by the struggle for existence and the position of man in the community as conditioned thereby. Even the

security of the horde from predatory animals, and still more the necessity of fighting with other men for the preservation of the group, developed individual superiority in general, both mental and physical, and especially in man. But any individual superiority disturbed the equality existing in the elements of the horde; woman from her sexual nature took only a passive part in these disturbances. The sexual life as well as the mode of subsistence no longer has its former peaceful character. Disturbances due to the demands of superior individuals thrive up to a certain point, beyond which the differentiation of the group into several takes place.¹

Among biologists the philosophical significance of residual facts opposed to current beliefs is still less frequently reflected upon. I have stated that Professor Riley fully accepted the view that I set forth and admitted that the facts of entomology sustained it, yet, although somewhat of a philosopher himself, and living in the midst of the facts, the idea had not previously occurred to him. Among botanists, Professor Meehan was the only one in whose writings I have found an adumbration of the gynæocentric theory. He several times called attention to a certain form of female superiority in plants. In describing certain peculiarities in the Early Meadow Rue and comparing the development of the male and female flowers he observed differences due to sex. After describing the female flowers he says:—

By turning to the male flowers (Fig. 2) we see a much greater number of bracts or small leaves scattered through the panicle, and find the pedicels longer than in the female; and this shows a much slighter effort—a less expenditure of force—to be required in forming male than female flowers. A male flower, as we see clearly here, is an intermediate stage between a perfect leaf and a perfect, or we may say, a female flower. It seems as if there might be as much truth as poetry in the expression of Burns,—

Her 'prentice han' she tried on man,
An' then she made the lasses, O,

at least in so far as the flowers are concerned, and in the sense of a higher effort of vital power.²

It is singular, but suggestive that he should have quoted the lines from Burns in this connection, as they are an undoubted echo of the androcentric world view, a mere variation upon the Biblical myth of the rib. Of course he could find nothing on his side in the classic literature of the world, but wishing to embellish the idea in a popular

¹ "Die Sociologische Erkenntnis," von Gustav Ratzenhofer, Leipzig, 1898, p. 127.

² "The Native Flowers and Ferns of the United States," by Thomas Meehan, Vol. I, Boston, 1878, p. 47.

work, he tried to make these somewhat ambiguous lines do duty in this capacity. The fact cited is only one of thousands that stand out clearly before the botanist, but not according with the accepted view of the relations of the sexes, they are brushed aside as worthless anomalies and "exceptions that prove the rule." In fact in all branches of biology the progress of truth has been greatly impeded by this spirit. All modern anatomists know how the facts that are now regarded as demonstrating the horizontal position of the ancestors of man, and in general those that establish the doctrine of evolution, were treated by the older students of the human body — rejected, ignored, and disliked, as intruders that interfered with their investigations. It is exactly so now with gynæocentric facts, and we are probably in about the same position and stage with reference to the questions of sex as were the men of the eighteenth century with reference to the question of evolution. Indeed, the androcentric theory may be profitably compared with the geocentric theory, and the gynæocentric with the heliocentric. The advancement of truth has always been in the direction of supplanting the superficial and apparent by the fundamental and real, and the gynæocentric truth may be classed among the "paradoxes of nature."¹

The Biological Imperative. — It is a common belief among the theologically minded that nature is presided over by intelligence and guided toward some predestined goal. Science finds it very difficult to dislodge this belief on account of the number of cases in which really moral ends are worked out by agents unconscious of such ends or even opposed to them. In Chapter XI we saw that most of the progress thus far attained by man has been the result of the several dynamic principles there considered acting quite independently of the human will and unknown to man, in a direction opposite to that which he would have preferred. In the tenth chapter it was shown that the agents in social synergy are wholly unconscious of the social ends they are working for. Gumplowicz says of them: "These founders of states, like all men, never act except in their immediate interest, but social development, above and beyond the egoistic efforts of men, arrives at its end as prescribed by nature."² And Spencer somewhat extends this idea when he

¹ "Dynamic Sociology," Vol. I, pp. 47-53.

² "Précis de Sociologie," par Louis Gumplowicz. Traduction par Charles Baye, Paris, 1896, p. 196.

says: "While the injustice of conquests and enslavings is not perceived, they are on the whole beneficial; but as soon as they are felt to be at variance with the moral law, the continuance of them retards adaptation in one direction more than it advances in another."¹ All of which is in line with what was set forth in the last chapter in relation to the institution of slavery. Even the general statement of Professor Gerland that "man has developed from his natural animal state in a purely natural and mechanical way,"² is true, the social forces acting blindly and unconsciously to that end. It is not a malignant force: —

Ein Theil von jener Kraft

Die stets das Böse will, und stets das Gute schafft,³

but a wholly indifferent amoral or anethical force, a force devoid of all moral quality. The victims who are sacrificed to it have no conception of the rôle they are playing in the grand scheme. The teleological or theological view point assumes that there is an Intelligence that comprehends it all, plans it all, executes it all, but which is raised so far above the capacities of even the wisest of men that they can form no conception of the scheme. Professor James has given the best illustration of this that has thus far been supplied in comparing man to a dog on the vivisection table: —

He lies strapped on a board and shrieking at his executioners, and to his own dark consciousness is literally in a sort of hell. He cannot see a single redeeming ray in the whole business; and yet all these diabolical-seeming events are usually controlled by human intentions with which, if his poor benighted mind could only be made to catch a glimpse of them, all that is heroic in him would religiously acquiesce. Healing truth, relief to future sufferings of beast and man are to be bought by them. It is genuinely a process of redemption. Lying on his back on the board there he is performing a function incalculably higher than any prosperous canine life admits of; and yet, of the whole performance, this function is the one portion that must remain absolutely beyond his ken.⁴

The main difference is that the dog is incapable of faith, while man, however inscrutable may be the ends that he is serving, is disposed to *believe* that they are good. And right here is a curious paradox, namely, that the most religious, *i.e.*, those who are the most certain that

¹ "Social Statics," abridged and revised, etc., New York, 1892, pp. 240-241.

² "Anthropologische Beiträge," von Georg Gerland, Halle a.S., 1875, Vol. I, p. 21.

³ Goethe: "Faust;" der Tragödie erster Theil, Scene III, Studierzimmer (Mephistopheles).

⁴ *International Journal of Ethics*, Vol. VI, October, 1895, pp. 20-21.

they are "pushed by unseen hands," or as Adam Smith expressed it "led by an invisible hand," believe most implicitly in their own individual freedom, and hold the doctrine of free will to be essential to the religious spirit. For whether we take the theological or the scientific view, this sense of a power beyond our control or comprehension is one of the surest indications that we do not control our own acts, and that do what we may by whatever motive, we are contributing to the accomplishment of results of which we do not dream.

But clear as all this may be in the domain of social action, it is in biology that the *natura naturans* works out its most mysterious results. All life is a great illusion, and things are never what they seem. In biology there seems to be a purpose, but this is also an illusion. Yet everything in nature has a meaning, and biology teaches the profounder meaning of things. All of our impulses and instincts possess a deep significance. And there is no department of biology in which these occult principles are more active and potent than in all that relates to reproduction and to sex. The mystery of reproduction is also deepened by social taboo of the subject, and its treatment is delicate and difficult. It is habitually avoided except by special investigators, and the general public is almost completely cut off from all sources of information. But as Bacon said: "Whatever is worth being is worth knowing,"¹ and there can be no more vital or fundamental field of truth than that of reproduction upon which depends the existence not merely of the individual but of the species, race, or ethnic group of men.

Reproduction. — In Chapter XI it was shown that reproduction is a very different thing from sexuality, and in the last chapter its practical identity with nutrition was set forth. Both of these truths are wholly contrary to current beliefs, and both will be further elucidated in the attempt to explain in what reproduction really consists. Lamarck came very close to perceiving the latter of these truths. He said: —

When by the aid of circumstances and the proper means nature has succeeded in setting up movements in a body which constitute life, the succession of these movements develops organization and gives rise to *nutrition*, the first of the faculties of life, and from this there arises the second of the

¹ "Novum Organum," Lib. I, Aph. cxx, ("Works," Vol. I, New York, 1869, p. 326).
"Quicquid essentia dignum est, id etiam scientia dignum, quæ est essentiæ imago."

vital faculties, viz., the growth of the body. The superabundance of nutrition in giving rise to the growth of this body prepares the materials for a new being which organization places in position to resemble this same body, and thereby furnishes it with the means of reproducing itself, whence arise the third of the faculties of life.¹

Schopenhauer struck the truth more squarely when he said that nutrition differs only in degree from reproduction,² but this may pass for a prophetic idea. It remained for Haeckel in 1866³ to give a clear scientific expression to it in the form that "reproduction is a nutrition and a growth of the organism beyond its individual mass, which erects a part of it into a whole." We may therefore start from this conception in the further study of reproduction. Bearing constantly in mind that reproduction and sexuality are two distinct things we find the word "asexual" superfluous and even misleading, as tending to confound these two things. The problem was how to secure this continuous nutrition and keep the organism growing beyond the point where the original plastic structure tended to break down. This was not always effected in the same way, and there arose a number of different modes of reproduction. A careful study of these has shown that in a general way, with some apparent, and probably some real exceptions, the different modes of reproduction constitute a sort of ascending series from the point of view of complexity and adaptation to increasing development of structure — a series of steps from the more simple to the more complex. Biologists have worked out these steps from the actual study of living organisms, and a few authors have attempted to set forth their logical succession.

The simplest form of reproduction is undoubtedly that by division or fission, in which the overgrown *Amœba*, moner, or protist, consisting of an apparently almost homogeneous mass of living protoplasm, falls apart and resolves itself into two nearly equal portions, each of which continues to grow as before and again divides, and so on indefinitely. The growth of any of the higher organisms is a process very similar to this, only here each cell must be regarded as an individual. The cells increase in size and then divide, each half in

¹ "Philosophie Zoologique," 1809. Edition of 1873, Vol. II, pp. 63-64.

² "Welt als Wille und Vorstellung," 3d edition, Leipzig, 1859, Vol. I, p. 326.

³ "Generelle Morphologie der Organismen," von Ernst Haeckel, Berlin, 1866, Vol. II, p. 16.

turn increasing and again dividing, and so on indefinitely, thus constituting the growth of the whole organism.

The second step in the development of the reproductive process is called gemmation, *i.e.*, budding. The unicellular organism, instead of dividing into two practically equal parts, divides, as we may say, into two very unequal parts. A small portion of its substance first protrudes a little and is then separated from the mother-cell by a constriction that grows deeper and deeper until the bud becomes wholly detached. This small bud then grows until it attains the size of the parent cell, and at the proper time it in turn develops a bud that has the same simple life history. This mode of reproduction is not confined to unicellular organisms but takes place in certain bryozoans, worms, and ascidians. In plants, as everybody knows, it is the principal form, the true bud being its type, but through it also are produced rootstocks, runners, stolons, etc.

The third step has been called germinal budding, or polysporogonia. Within an individual composed of many cells a small group of cells separates from the surrounding ones and gradually develops into an independent individual similar to the parent, and sooner or later finds its way out of the mother. This process of reproduction is met with in some zoophytes and worms, and especially in the Trematodes. These young cell groups of course soon attain maturity and go through the same process as the parent group.

The fourth step is strictly intermediate between this last and the simplest forms of bisexuality. It is called germ cell formation or spore formation (monosporogonia, or simply sporogonia). In this a single cell instead of a group of cells becomes detached from the interior of the organism, but does not further develop until it has escaped from the latter. It then increases by division and forms a multicellular organism like its parent. This form of reproduction is common among certain low types of vegetation.

We have to consider still a fifth form of asexual reproduction, which, however, is not usually classed as another step in the series, but rather as a backward step from a more advanced form. This is parthenogenesis or virgin reproduction. Here germ cells similar to all appearances to eggs, are capable of developing into new beings without the aid of any fertilizing agent. The same cells may also be fertilized, and upon the fact of fertilization or non-fertilization usually depends the sex of the resulting creature. Among bees, as

is well known, the unfertilized eggs produce only males, while the fertilized eggs produce females. This therefore would not constitute reproduction in the full sense, since without fertilization the race would be quickly cut off. But in certain plant lice the reverse of this has been observed, the unfertilized eggs producing females, capable at maturity of repeating the process. Here then is a form of parthenogenesis which constitutes complete reproduction, although it is not usually depended upon, and might perhaps fail from gradual decline in life energy.

It is not probable that the above are all the steps that have actually been taken by nature in the development of the principle of life renewal to this point. There have probably been intermediate steps between these, perhaps many such, but the forms in which they occur either have not persisted or have not yet been studied. Those that are known, however, are sufficient to show that the reproductive process has been a serial development from simpler to more complicated modes. In fact, as we ought to expect, and as Lamarek said,¹ reproduction at these early stages is nothing but the continuation of the process by which life was originally created, and which could not have been realized as a permanent fact without it. The origination of life (*archigonia, generatio spontanea*), the preservation of life (nutrition, growth), and the continuation of life (*tocogonia, generatio parentalis*, reproduction), are all one fact, and the observed differences are only matters of detail — the different modes corresponding to different conditions.

Fertilization. — Reproduction has for its sole object to perpetuate life. To enable the individual to attain its maximum size, to live out its normal period of existence, to carry itself on into new beings that will do the same, and to produce as large a number as possible of such beings — these are the primary ends of nature in the organic world. The several forms of reproduction above described go

¹“Philosophie Zoologique,” Paris, 1873, Vol. II, pp. 76-77. The following passage is particularly suggestive: “Or, ne pouvant donner à ses premières productions la faculté de se multiplier par aucun système d’organes particulier, elle [la nature] parvint à leur donner la même faculté en donnant à celle de *s’accroître*, qui est commune à tous les corps qui jouissent de la vie, la faculté d’amener des scissions, d’abord du corps entier et ensuite de certaines portions en saillie de ce corps; de là, les gemmes et les différents corps reproductifs qui ne sont que des parties qui s’étendent, se séparent et continuent de vivre après leur séparation, et qui, n’ayant exigé aucune fécondation, ne constituant aucun embryon, se développant sans déchirement d’aucune enveloppe, ressemblent cependant, après leur accroissement, aux individus dont ils proviennent” (pp. 138-139).

no farther than the accomplishment of these ends. Any further steps require a new principle. But this purely quantitative development was not all that the life force accomplished. There was added to it a qualitative development. Here as elsewhere, however, quality is readily reducible to quantity. Quantity remained the end and quality served primarily as a means. We saw in Chapter VII that the end of nature seems to have been the increase of the quantity of matter transferred from the inorganic to the organic state. Anything additional to this is to be classed among the incidental, extra-normal, and "unintended" results. That these became at times highly important does not alter the principle. But this much at least is true, that no collateral process could be inaugurated that did not conduce to the primary end. With the life force pushing in all conceivable directions, as from the center toward every point on the surface of a sphere, every possible process must have been tried. If an advantageous one existed it would prove successful through the operation of the principle of advantage.

It turned out that there was one advantageous process, viz., the process or principle of fertilization. All fertilization is cross fertilization, and we saw in Chapter XI that this was one of the great dynamic principles of nature, calculated to keep up a difference of potential and prevent stagnation. We also saw that mere function — nutrition (assimilation, metabolism, growth), and reproduction (repetition, ultra-nutrition, multiplication) — is essentially static. Simple reproduction by any of the modes thus far described is mere function. It simply continues the type unchanged. To get beyond this and secure any advantageous change in the types of structure a dynamic principle must be introduced. The dynamic principle which in fact was introduced was that of crossing the hereditary strains or stirps through what I prefer to designate fertilization. The various modes by which this was accomplished is what we are next to consider. In any of the advanced stages of this process we have the phenomena of sex, but the use of this term for the earlier stages, if correct at all, is at least misleading. It is so difficult to divest the mind of the idea which the term sex gives rise to, based on the universal familiarity with organisms that have two distinct sexes called male and female, coupled with the almost equally universal lack of acquaintance with organisms that either have no sex at all, such as those considered in the last section, and which, nevertheless, con-

stitute numerically far more than half of all organic beings, or that have this dual character in an exceedingly undeveloped state, such as would not be recognized as the same that is properly known as sex.

Still, it may be advantageous to use the term sex in such a generic sense, and biologists regularly do so, clearly perceiving that out of these mere primordial sketches all the developed forms of sexuality have proceeded by a natural series of ascending steps, much as in the case of asexual reproduction which we have already considered. Taking this view we may say that sex constitutes a dynamic principle in biology, that it arose in this gradual way from the advantage it afforded in securing the commingling of the ancestral elements of heredity, and that its value as a device for maintaining a difference of potential is measured by the degree of completeness that it attains. This is the true meaning of sex, which is not at all that of securing or perfecting reproduction, but the secondary effect of securing variation and through variation the production of better and higher types of organic structure — in a word, organic evolution.

The vitalizing or rejuvenating effect of crossing has always been recognized, but it is usually stated simply as a fact, and just *how* it becomes true is not only not stated, but it has sometimes been put down as among the mysteries, or at least problems of biology. Thus Dr. Gray says: "How and why the union of two organisms, or generally of two very minute portions of them, should reënforce vitality, we do not know, and can hardly conjecture. But this must be the meaning of sexual reproduction."¹ Professor W. K. Brooks has said that "the essential function of the male element is not the vitalization of the germ . . . the male element is the vehicle by which new variations are added."² It would be easy to quote a score of competent modern biologists to the same effect, but the best summing up of the subject is perhaps that of Professor Richard Hertwig in an address delivered Nov 7, 1899, before the Gesellschaft für Morphologie und Physiologie in München, and published in its proceedings.³ Pro-

¹ "Darwiniana: Essays and Reviews pertaining to Darwinism," by Asa Gray, New York, 1877, pp. 346-347.

² *Popular Science Monthly*, Vol. XV, May, 1879, pp. 149, 150. Cf. *Science*, Vol. IV, Dec. 12, 1884, p. 532.

³ "Mit welchem Recht unterscheidet man geschlechtliche und ungeschlechtliche Fortpflanzung?" *Sitzb. d. Ges. für Morphologie und Physiologie in München*, Vol. XV, 1899, Heft III, München, 1900, pp. 142-153.

fessor Winterton C. Curtis has done English readers a good service in summarizing this address and presenting the results in compact form, and I give a few extracts from his summary:—

Fertilization and reproduction are phenomena which may be found together, but which in their essence have no connection with one another. . . .

If we now attempt an accurate statement of the kinds of reproduction in the plant and animal kingdoms, the old conception of sexual and asexual reproduction must be given up entirely and replaced by the following statement:—

All organisms effect their reproduction in a common way by means of single cells which have arisen by cell-division. In single-celled organisms every cell-division is an act of reproduction and results in the formation of another physiologically self-sustaining individual. In multicellular animals, most of the cell-divisions lead to the growth of the multicellular individual, and only certain of them serve for reproduction. Fertilization goes on side by side with reproduction, because the organism cannot attain its highest development without the union of two individualities by nuclear copulation. Fertilization in its essence has nothing to do with reproduction.¹

Conjugation.—To the general fact of the union of two elements in reproduction Haeckel has given the name *amphigonia*, and this is quite near to Weismann's *amphimixis*. But it begins with conjugation or zygotis. It might almost be said to consist in this, since the chief difference in this respect between the Protozoa and the Metazoa is that in the latter the conjugating cells are taken from the bodies of many-celled organisms, while in the former they constitute two single-celled organisms. To avoid the use of the term "sex" as inapplicable to the lowest organisms, we may call all forms of reproduction which takes place through the union of two elements *compound reproduction* in contradistinction to the various forms of simple reproduction that have been described. We may then say that in all compound reproduction conjugation takes place. In the Protozoa the whole organism is involved, while in the Metazoa only the cells specialized and separated off for reproductive purposes are involved. But in both there are always two cells that unite and coalesce to form the new being. When conjugation was first observed, and for a long time afterward, it was supposed that the two conjugating cells simply coalesced and that their entire contents were converted into a new cell at first to all appearances homogeneous, but later differentiating and forming the rudiments of an

¹ *Science*, N. S., Vol. XII, Dec. 21, 1900, pp. 943, 945.

embryo. In this there was seen an analogy to nutrition, and the cells were sometimes spoken of as mutually devouring each other. The process is now known to be much more complicated than this, but there is no doubt that the extra-nuclear parts of the cells are appropriated as nourishment. But it is the nuclei that contain the hereditary elements, and the fusion of these is a somewhat prolonged process called karyokinesis, which has now been exhaustively studied by a large corps of investigators. Weismann has summed up the results¹ in somewhat convenient form in his biological essays, where references will be found to the original sources.

It would be out of place here to go over this ground, and that was not the purpose of this section, but it is well to emphasize the fact that while conjugation is the universal mode of procuring the union of different hereditary elements in the production of variation and consequent progressive development of living forms, it does not primarily or necessarily imply any such difference in the uniting cells as is implied by the term sex. The biologists sometimes express this by saying that the sexes were originally alike, or that primarily the sexes were not differentiated. The cases are abundant in which no difference is perceptible between the cells that conjugate. They are different only in the sense that they are dual. There must be differences in all cells, but these differences are beyond human power to distinguish with the best appliances. They exist in those primordial hereditary elements that have been called by so many different names—gemmules, biophores, stirps, micellæ, physiological units, etc.—by different investigators; elements so minute as to be practically molecular.

It is true that these conjugating cells, whether constituting the whole of the organism or only germ and sperm cells of many-celled organisms, are, as usually seen, more or less differentiated and unlike, one being commonly larger and motionless, and the other smaller and active, and this differentiation may properly be called sexual. The spontaneous union of two cells must be something more than accidental to become at all general. There must be some reason inherent in the cells themselves for the act of uniting. In other words, there must exist an innate interest in so doing, and

¹ "Essays upon Heredity and Kindred Biological Problems," by August Weismann, Vol. II, Oxford, 1892. See especially the twelfth essay.

this property was developed according to the principles set forth in Chapter V. The law of parsimony would naturally restrict this interest chiefly to one of the cells and leave the other passive. The same causes created the other differences, including those of size. The result is that what is called the male cell or sperm cell is usually a relatively minute cell possessing a form approaching that of a body of least resistance, is provided with locomotive appendages, and endowed with an appetitive faculty by which it actively seeks the female cell and buries itself in its substance. Conjugation thus becomes true sexual union. Needless to say that between the simple mutual coalescence and absorption of two equal cells and the fully developed union of sperm cell and germ cell there are in nature all intermediate conditions.

But if these cells are called sexual, and the latest stages of conjugation are regarded as sexual unions, there may be said to exist two kinds of sexuality, a sexuality of cells and a sexuality of organisms. This, it is true, is very nearly the same as the difference in the sexuality of protozoic and metazoic life, since the sperm cells and germ cells may be regarded as independent unicellular organisms; still the term sex is generally applied to organisms as a whole possessing sex, and when used of the Metazoa and Metaphyta it is the whole organism that is meant and not the reproductive cells. We may therefore now leave the subject of cellular differentiation, which goes no farther than this, and confine our attention to the other aspect of the sex question.

It may be well, however, to note that fertilization, whether as the conjugation of similar cells or as the union of sperm and germ cells, was only gradually resorted to. Asexual generation not only permits no change or development but it also seems ultimately to exhaust itself. It is therefore found as the sole and permanent condition in only a few organisms. Much more frequently is there found that modification of it which is called *alternation of generations*, in which after a long series of asexual reproductions the creature becomes encysted and goes through a resting process followed by conjugation or some other form of fertilization, the resultant progeny again reproducing asexually, and so on. Taking into account the entire history of sexual development, although it varies so widely in different forms, we may say in general that these alternations gradually grow more and more frequent until the

period of asexual reproduction is ultimately eliminated entirely. But even then it must be conceived as possible. From this to the stage in which fertilization becomes essential to reproduction is a long step and this stage is only brought about through adaptation. Fertilization, as we have seen, has nothing to do with reproduction, and that it should ever become a necessary condition to it can only be accounted for by the great advantage that it has for the species, first bringing it about that every act of reproduction is in fact preceded by fertilization, and then, through this uniform coupling of the two acts, at last rendering such coupling a prerequisite to reproduction. It is this fact that gave rise to the erroneous view that fertilization is a necessary part of reproduction. This accounts for all the forms of hermaphroditism and parthenogenesis, presently to be considered, which are so many intermediate stages in the process. They may be regarded as temporary and transition forms. Asexual reproduction and the alternation of generations are also comparatively transient stages, although the former is the only mode in some animals and the latter is universal in plants. But complete stability is not attained until the stage not only of sexuality but of unisexuality is reached.

Origin of the Male Sex. — Although reproduction and sex are two distinct things, and although a creature that reproduces without sex cannot properly be called either male or female, still, so completely have these conceptions become blended in the popular mind that a creature which actually brings forth offspring out of its own body is instinctively classed as female. The female is the fertile sex, and whatever is fertile is looked upon as female. Assuredly it would be absurd to look upon an organism propagating asexually as male. Biologists have proceeded from this popular standpoint, and regularly speak of "mother-cells" and "daughter-cells." It therefore does no violence to language or to science to say that life begins with the female organism and is carried on a long distance by means of females alone. In all the different forms of asexual reproduction, from fission to parthenogenesis, the female may in this sense be said to exist alone and perform all the functions of life including reproduction. In a word, life begins as female.

The further development of life serves to strengthen this gynæocentric point of view. It consists, as we might say, exclusively in the history of the subsequent origin and development

of the male sex. The female sex, which existed from the beginning, continues unchanged, but the male sex, which did not exist at the beginning, makes its appearance at a certain stage, and has a certain history and development, but never became universal, so but that, as already remarked, there are probably many more living beings without it than with it, even in the present life of the globe. The female is not only the primary and original sex but continues throughout as the main trunk, while to it a male element is afterward added for the purposes above explained. The male is therefore, as it were, a mere afterthought of nature. Moreover, the male sex was at first and for a long period, and still throughout many of the lower orders of beings, devoted exclusively to the function for which it was created, viz., that of fertilization. Among millions of humble creatures the male is simply and solely a fertilizer.

The simplest type of sexuality consists in the normal continuance of the original female form with the addition of an insignificant and inconspicuous male fertilizer, incapable of any other function. In sexual cells there is no character in which the differentiation goes so far as in that of size. The female or germ cell is always much larger than the male or sperm cell. In the human species, for example, an ovum is about 3000 times as large as a spermatozoon.¹ In the parasitic *Sphaerularia Bombi*, the female is a thousand or many thousand times the size of the male.² The Cirripedia present remarkable examples of female superiority, or rather of the existence of minute male fertilizers in connection with normal development in the female. Darwin was perhaps the first to call attention to this fact in a letter to Sir Charles Lyell, dated Sept. 14, 1849, in which he said:—

The other day I got a curious case of a unisexual, instead of hermaphrodite cirripede, in which the female had the common cirripedal character, and in two valves of her shell had two little pockets, in each of which she kept a little husband; I do not know of any other case where a female invariably has two husbands. I have one still odder fact, common to several species, namely, that though they are hermaphrodite, they have small additional, or as I shall call them, complemental males, one specimen, itself hermaphrodite, had no less than seven of these complemental males attached to it. Truly the schemes and wonders of Nature are illimitable.³

¹ John A. Ryder in *Science*, N. S., Vol. I, May 31, 1895, p. 603.

² Herbert Spencer, "Principles of Biology," New York, 1873, Vol. II, p. 417 (§ 332).

³ "The Life and Letters of Charles Darwin," including an autobiographical chapter, edited by his son Francis Darwin, New York, 1888, Vol. I, p. 345.

Darwin's observations have been abundantly confirmed by later investigators. Huxley asserts the parasitic nature of the male in certain cases, the male being attached to the female and living at her expense.¹ Van Beneden, to practically the same effect, remarks that "the whole family of the Abdominalia [cirripedes] have the sexes separate; and the males, comparatively very small, are attached to the body of each female."²

The phenomenon of minute parasitic males is not rare among the lower forms, and that their sole office is fertilization may be clearly seen from the following statement of Milne Edwards: "It is to be noted that in some of these parasites [Ex. *Diplozoon paradoxum*, a nematode] the entire visceral cavity was occupied by the testicles, and that Mr. Darwin could not discover in it any trace of digestive organs."³ Van Beneden also says that the males are reduced to the rôle of spermatophores: "The male of the Syngami (nematodes) is so far effaced that it is no longer anything but a testicle living on the female."⁴ These of course are extreme cases, and the difference is less in most of the animal world, the reason for which will be shown later on. But the examples cited serve to show how sexuality began. Female superiority, however, of a more or less marked degree still prevails throughout the greater part of the invertebrates. It is perhaps greatest among the Arachnidæ or spider family. The courtships of spiders are so often described in popular works that allusion to them almost calls for an apology.⁵ They are always regarded as astonishing anomalies in the animal world. While the behavior of the relatively gigantic female in seizing and devouring the tiny male fertilizer when he is only seeking to do the only duty that he exists for, may seem remarkable and even contrary to the interests of nature, the fact of the enormous difference between the female and the male, is, according to the gynæocentric hypothesis, not anomalous at all, but perfectly natural and normal.⁶

¹ "A Manual of the Anatomy of Invertebrated Animals," by Thomas H. Huxley, New York, 1878, pp. 261-262.

² "Animal Parasites and Messmates," by P. J. Van Beneden, second edition, London, 1876, pp. 55-56.

³ "Leçons sur la Physiologie et l'Anatomie comparée de l'Homme et des Animaux," par H. Milne Edwards, Vol. IX, Paris, 1870, p. 267.

⁴ *Op. cit.*, p. 93, of the French edition. This statement does not seem to occur in the English edition.

⁵ Cf. Darwin, "Descent of Man," Vol. I, p. 329.

⁶ Professors Geddes and Thompson in their useful work on the Evolution of Sex have brought together a large number of examples in various departments of the

In the mantis or praying insect there is much less difference in size than in most spiders, but female superiority shows itself in the ferocity of the female, while the paramount importance of the act of fertilization is clear from the terrible risks that the male takes in securing it, usually resulting in his destruction. I give an example on the authority of one of the best known entomologists:—

A few days since I brought a male of *Mantis carolina* to a friend who had been keeping a solitary female as a pet. Placing them in the same jar, the male, in alarm, endeavored to escape. In a few minutes the female succeeded in grasping him. She first bit off his left front tarsus, and consumed the tibia and femur. Next she gnawed out his left eye. At this the male seemed to realize his proximity to one of the opposite sex, and began vain endeavors to mate. The female next ate up his right front leg, and then entirely decapitated him, devouring his head and gnawing into his thorax. Not until she had eaten all of his thorax except about three millimeters did she stop to rest. All this while the male had continued his vain attempts to obtain entrance at the valvules, and he now succeeded, as she voluntarily spread the parts open, and union took place. She remained quiet for four hours, and the remnant of the male gave occasional signs of life by a movement of one of his remaining tarsi for three hours. The next morning she had entirely rid herself of her spouse, and nothing but his wings remained.

The extraordinary vitality of the species which permits a fragment of the male to perform the act of impregnation is necessary on account of the rapacity of the female, and it seems to be only by accident that a male ever escapes alive from the embraces of his partner.

Riley in his first monthly report, p. 151, says: "The female being the strongest and most voracious, the male, in making his advances, has to risk his life many times, and only succeeds in grasping her by slyly and suddenly surprising her; and even then he frequently gets remorselessly devoured."¹

In insects generally the males are smaller than the females, especially in the imago state. It applies to the larvæ to a less extent, but it is often marked even in the cocoons, as, for example, of the silk worm.² There are many species, and even genera, belonging to

animal kingdom, many of which have been recorded since Darwin's time. See the edition of 1901, pp. 17 ff., 82. This work is a valuable compilation of facts of all kinds bearing on sex and was much needed. While it is pervaded with the androcentric spirit, the "thesis" of it that the female is anabolic and the male catabolic is a long step in the direction of the gynæocentric theory, forced or wrested, as it were, from unwilling minds by the mass of evidence. It is correct as far as it goes, but it is only one of the many surface facts resulting from the fundamental principle now under discussion.

¹ Dr. L. O. Howard in a letter to *Science*, dated Sept. 27, 1886. *Science*, Vol. VIII, Oct. 8, 1886, p. 326.

² "An Introduction to Entomology: or Elements of the Natural History of Insects," by William Kirby and William Spence, London, 1826, Vol. III, pp. 299 ff.

different orders, in which the male, usually smaller and more slender, is either not provided with any functional organs for eating, or has these so imperfectly developed that it seems improbable that it succeeds in sustaining life beyond the period that the nourishment stored up in the larval state will continue it. This clearly shows that the sole function of such males is fertilization. Some of these cases come very close home to us, for example, the mosquito. Dr. Howard says:—

It is a well-known fact that the adult male mosquito does not necessarily take nourishment and that the adult female does not necessarily rely on the blood of warm-blooded animals. The mouth parts of the male are so different from those of the female that it is probable that if it feeds at all it obtains its food in a quite different manner from the female. They are often observed sipping at drops of water, and in one instance a fondness for molasses has been recorded.¹

Bees constitute another familiar example, the males being what are popularly known as the drones. Fertilization, as is well known, is almost their only rôle, and if they become at all numerous they are killed off by the workers (neutral females), and the hive is rid of them. But great differences between the sexes, always involving some form of female superiority, occur also in the Neuroptera, Lepidoptera, Orthoptera, and Coleoptera. In the other great types of invertebrates this is also true, but only the specialists are acquainted with the facts. Even in the lower vertebrates there are cases of female superiority. The smallest known vertebrate, *Heterandria formosa* Agassiz, has the females about twenty-five per cent larger than the males.² Male fishes are commonly smaller than female. In trout this is well known, and trout fishermen sometimes throw the little males or "studs," as they call them, back into the stream, as not worth taking. Even in birds, which are the mainstay of the androcentric theory, there are some large families, as, for example, the hawks, in which male superiority is rare, and the female is usually the larger and finer bird. There are even some mammals in which the sexes do not differ appreciably in size or strength, and very little, or not at all, in coloration and adornment. Such is the case with nearly all of the great family of rodents. It is also the

¹ "Notes on the Mosquitoes of the United States," by L. O. Howard. Bulletin No. 25, New Series, U.S. Department of Agriculture, Division of Entomology, Washington, 1900, p. 12.

² *Science*, N. S., Vol. XV, Jan. 3, 1902, p. 30.

case with the Erinaceidæ, at least with its typical subfamily of hedgehogs.

All that was said of the Protozoa applies equally to the Proto-phyta, and indeed in those unicellular forms the distinction between plant and animal is very obscure, Haeckel making a third kingdom of nature, the Protista, which is neither plant nor animal. But the evolution of the male sex in multicellular plants is somewhat different from that of the Metazoa. In dealing with such plants much depends on what we regard as constituting an individual. If we take the growing branch or phyton as the unit of individuality, it may perhaps be truly said that sexual differentiation is universal in the vegetable kingdom. But if we make the individual include all that proceeds from the same root and coheres in one organic system—the whole plant—then we have the following grades of sexuality: 1, hermaphroditism, in which both male and female organs occur in the same flower; 2, monœcism, in which the flowers are either male or female, but both sexes occur on the same plant; and 3, diœcism, in which every plant is either wholly male or wholly female. In the flowerless plants—thallophytes, bryophytes, pteridophytes, formerly known as cryptogams—the sexual cells are borne in a variety of ways, usually separated some distance from each other, often on different plants, but here there occurs in most cases a compound generation, consisting of a short-lived prothallium stage—the true sexual stage—succeeded by a spore-bearing stage constituting the principal life of the plant. This peculiarity has no important bearing on the theory under consideration, and being too complicated to be explained without extensive illustration, it need not be dwelt upon here. An acquaintance with it belongs to a proper understanding of botany such as the student of sociology should have.

Confining our attention, then, to the flowering plants, we have to note first that the Cycadaceæ and Ginkgoaceæ form two apparently different transitions from the flowerless to the flowering plants, in that they are both fertilized by means of spermatozoids—active ciliated sperm cells—as in the case of flowerless plants generally, while all the other families of flowering plants, so far as now known, have the entire prothallium stage effaced, abridged, or theoretically condensed into the development of the ovule and pollen grain. The discovery of this important distinction, which has revolutionized

the classification of the vegetable kingdom, dates back only to 1896, and was made primarily by two Japanese botanists.¹

We have next to remark that hermaphroditism in plants is not the anomalous and almost pathologic condition known by that name in the animal world. It seems to have been the common initial state in flowering plants, and deviations from it seem to be the result of the universal struggle of nature to prevent self or close fertilization and to secure the widest possible separation of the sexes. This is, however, nothing but the continuation of the operation of the same principle by which sex itself was introduced. But if the other more scientific and correct view is taken as to what constitutes an individual, this is not hermaphroditism at all. It is simply the bringing of the sexes together in compact and somewhat symmetrically ordered groups, which, before the advent of nectar-loving winged insects, was almost the only way in which fertilization could be brought about. Still, long strides were taken in this direction among the Gymnosperms, in which no showy flowers have ever been developed, and cycads and conifers are either monœcious or diœcious. The maidenhair-tree which has the longest known geological history, is diœcious, and most of the trees whose fossil remains show them to have had a long history are diœcious. Thus the willows and poplars are diœcious and the oaks and plane trees are monœcious. All this points to the law that the longer a type has lived the wider is the separation of the sexes, and as the flowers of plants are rarely preserved in the fossil state we have no warrant for assuming that the ancestral forms that we know were the same in past ages as now in respect of their sexual relations.

We have already had occasion to refer to the fact that showy flowers with nectar glands and nectar-loving insects developed *pari passu* in the history of the world (see *supra*, p. 234). It is now to be noted that the influence of cross fertilization through insect agency is chiefly upon plants with hermaphrodite flowers. On the scientific theory of leaf metamorphosis each stamen and pistil of a flower is a transformed leaf, and therefore a flower is only a cluster of leaves, some of which have been specialized into

¹ "On the Spermatozoid of Ginkgo biloba," by S. Hirase, *Bot. Mag.*, Tokyo, Vol. X, Oct. 20, 1896, p. 325 (Japanese). "The Spermatozoid of Cycas revoluta," by S. Ikeno, *ibid.*, Nov. 20, 1896, p. 367 (Japanese). Other papers in German and French soon followed these preliminary announcements.

stamens, others into pistils, others into petals, and others into segments of the calyx. The flower may therefore be looked upon as a little colony. If the ovary is compound it is not the whole pistil but each lobe or cell of the ovary with its separate style and stigma that constitutes the individual. In such a colony the conditions become too uniform for vigorous development, and there has been an obvious struggle to escape these narrow bonds and secure a wider separation of the sexes. The mutual interaction of the law of natural selection and the fact of insect agency has wrought the most extensive changes in this direction, some of which have been pointed out.

If we regard stamens and pistils as individuals, it becomes obvious that in the higher plants generally, and to a much greater extent than in animals, the male is simply a fertilizer, while the female goes on and develops and matures the fruit. Stamens always wither as soon as the anthers have shed their pollen. They have no other function. If we take the other and more popular view of individuality, and look upon the whole plant as the vital unit, the only comparisons between the sexes that can be instituted are those of dioecious plants. Here of course we usually find the sexes practically equal. This we should expect, since sexual differentiation has alone brought about this state from a former state of hermaphroditism. If any cases could be found of either male or female superiority they could only be accounted for either by special overdevelopment of the superior or by degeneracy of the inferior sex. In point of fact there are such cases, but only those of female superiority. An examination of them clearly shows that they are due to a loss on the part of the male of the powers once possessed. Again, there are found to be cases in which this decline does not take place until after the function of fertilization has been performed.

The best known example is that of the hemp plant, *Cannabis sativa*. It has long been known that when hemp is sown in a field the sexes cannot at first be distinguished, and this condition of equality persists until the plants of both sexes reach the period of fertility. The male plants then shed their pollen and the female plants are fertilized thereby. Soon thereafter, however, the male plants cease to grow, begin to turn yellow and sere, and in a short time they droop, wither, die, and disappear. The fertilized

female plants are then found not to have as yet reached their maximum development. They continue to grow taller and more robust, while at the same time the fruit is forming, swelling, and ripening, which requires the remainder of the season. It is only from these tall, healthy, robust female stalks that the hemp fiber is obtained. It is commonly supposed that this collapse of the male plant only occurs in thickly sown fields, where, after it has performed its function it is only a cumberer of the ground. Certain it is that it amounts to an effective weeding of the field. I have, however, carefully watched the sexes when growing as weeds in waste grounds, and where there were not enough plants to crowd one another in the least, and found that the male plants ceased to grow taller and thicker after shedding their pollen, as did the female plants after being pollenized, but here the males did not perish at once, but continued to live to near the end of the season.

Before I had made any observations on the hemp plant or had heard of the peculiarity above described I had been for a number of years taking notes on a somewhat similar habit in certain native plants of the United States. In my *Guide to the Flora of Washington and Vicinity*, published in 1881, as Bulletin No. 22, U. S. National Museum, which consists chiefly of a catalogue of the plants growing in the region named, and in which I occasionally made a brief note of some special peculiarity in a plant not mentioned in any other work, I find the following note appended to *Ambrosia artemisiifolia* (p. 90): "Tends to become dioecious, and the fruiting plants crowd out the staminate ones." Subsequently I found this to be even more true of the large species, *A. trifida*, especially farther south where it often covers large areas of abandoned land. At *Antennaria plantaginifolia* (p. 89), this remark occurs: "Female plants much larger than the male, often half a meter in height, and both varying widely." What I regarded as one species has since been found to represent several, and all of them possess this peculiarity. They tend to grow in little patches at a distance from one another, and all the plants in the same patch are of the same sex, either all male or all female, and in these patches the plants are densely crowded together. The male patches form a mat or carpet on the ground, the flowering stems only rising a few inches above the radical leaves. The female patches are less dense, and the flower-bearing stems after fertilization grow a foot or two high. Male infe

riority was also noted in *Thalictrum dioicum* and many other dioecious herbs. If carefully looked for it would probably be found to be general.

All these facts from both kingdoms, and the number that might be added is unlimited, combine to show that the female constitutes the main trunk, descending unchanged from the asexual, or presexual, condition; that the male element was added at a certain stage for the sole purpose of securing a crossing of ancestral strains, and the consequent variation and higher development; that it began as a simple fertilizer, assuming a variety of forms; that for reasons hereafter to be considered, the male in most organisms gradually assumed more importance, and ultimately came to approach the size and general nature of the female; but that throughout nearly or quite the whole of the invertebrates, and to a considerable extent among the vertebrates, the male has remained an inferior creature, and has continued to devote its existence chiefly to the one function for which it was created. The change, or progress, as it may be called, has been wholly in the male, the female remaining unchanged. This is why it is so often said that the female represents heredity and the male variation. "The ovum is the material medium through which the law of heredity manifests itself, while the male element is the vehicle by which new variations are added. . . . The greater variability of the male is also shown by a comparison of the adult male and female with the immature birds of both sexes."¹

The last fact is the one usually adduced in support of the theory that in birds and mammals where the male is superior the female is an example of "arrested development." Such is, however, probably not the case, and the female simply represents the normal condition, while the condition of the male is abnormal due to his great powers of variability. That the female should resemble the young is quite natural, but the statement is an inverted one, due to the androcentric bias. The least unbiased consideration would make it clear that the colors of such male birds as Professor Brooks had in mind are not the normal colors of the species, but are due to some abnormal or supra-normal causes. The normal color is that of the young and the female, and the color of the male is the result of his excessive variability. Females cannot thus vary. They represent the center of gravity of the biological system. They are that

¹ W. K. Brooks in *Popular Science Monthly*, Vol. XV, June, 1879, pp. 150, 152.

"stubborn power of permanency" of which Goethe speaks. The female not only typifies the race but, metaphor aside, she is the race.

Sexual Selection.—The fact that requires to be explained is that, as we have seen, the male, primarily and normally an inconspicuous and insignificant afterthought of nature, has in most existing organisms attained a higher stage of development and somewhat approached the form and stature of the primary trunk form which is now called the female. That which might naturally surprise the philosophical observer is not that the female is usually superior to the male, but that the male should have advanced at all beyond its primitive estate as either a fertilizing organ attached to the female, or at most a minute organism detached from her but devoted exclusively to the same purpose. In other words, while female superiority is a perfectly natural condition, male development requires explanation. We have explained the origin of the male as a provision of nature for keeping up the difference of potential among biotic forces. This we found in Chapter XI to be one of the leading dynamic principles. But this principle does not explain the first step nor any subsequent step made by the male toward equality with the female. For this an entirely different principle must be found.

We saw at the outset that in order to fulfill his mission the male must be endowed with an innate interest in performing his work. This was supplied on the principle laid down in Chapter V, viz., appetite. This attribute was absolutely necessary to the success of the scheme, and throughout all nature we find the male always active and eager seeking the female and exerting his utmost powers to infuse into her the new hereditary *Anlagen* that often make up the greater part of his material substance. This intense interest in his work is the *natura naturans*, the voice of nature speaking through him and commanding him, in season and out of season, always and under all circumstances, to do his duty, and never on any pretext to allow an opportunity to escape to infuse into the old hereditary trunk of his species the new life that is in him. This duty he always performed, not only making extraordinary efforts but incurring enormous risks, often actually sacrificing his life and perishing at his post.

The sociological application of this is that the sexual irregularities of human society are chiefly due to this same principle. All

attempts on the part of society to regulate the relations of the sexes, necessary though they may be to the maintenance of the social order, interfere with the biologic principle of crossing strains and securing the maximum variation, development, and vigor of the stock. The violation of human laws relating to this class of conduct is usually in obedience to that higher law of nature commanding such conduct. As Havelock Ellis says:—

A cosmic conservatism does not necessarily involve a social conservatism. The wisdom of Man, working through a few centuries or in one corner of the earth, by no means necessarily corresponds to the wisdom of Nature, and may be in flat opposition to it. This is especially the case when the wisdom of Man merely means, as sometimes happens, the experience of our ancestors gained under other conditions, or merely the opinions of one class or one sex. Taking a broad view of the matter, it seems difficult to avoid the conclusion that it is safer to trust to the conservatism of Nature than to the conservatism of Man. We are not at liberty to introduce any artificial sexual barrier into social concerns.¹

Such violations of the social code are called crimes and are thereby made such, but they are artificial crimes. Those who commit them may even think they are doing "wrong," because they have been taught so; nevertheless they continue to commit them and take the risks of punishment. They obey the biological imperative in the face of all danger in perfect analogy with the action of the male spider or mantis.

This part of the scheme was thus effectively carried out, and so far it was a complete success, and ample variation and consequent diversity and progress were secured in the organic world. The sacrifice of males was a matter of complete indifference, as much so as is the sacrifice of germs, because the supply was inexhaustible, and in fact, throughout the lower orders an excess of males over females is the normal condition, and often the number of males greatly exceeds that of the females. That a hundred males should live and die without once exercising their normal faculty is of less consequence than that one female should go unfecundated. Biologic economy consists in unlimited resources coupled with the multiplication of chances.² Success in accomplishing the main purpose is the paramount consideration. The cost in effort, sacrifice, and life is a comparatively unimportant element.

¹ "Man and Woman," 3d edition, London, 1902, p. 397.

² "Psychic Factors of Civilization," Boston, 1893, p. 250.

But it is obvious that the interest of the male is wholly unlike the interest of the female. That the female has an interest there is no doubt. She also has to a limited extent the appetent interest of the male, but this is not usually strong enough to cause her even to move from her place, much less to seek the male. From this point of view she is comparatively indifferent, and is, as is so commonly said, the passive sex. But the female has another and wholly different interest and one which is wanting in the male. Through her nature secures another end which is second only to the two great ends thus far considered, viz., reproduction and fertilization. The male element is in a high degree centrifugal. Unlimited variation would be dangerous if not destructive. Mere difference is not all that is required by evolution. Quality is an element as important as degree. The female is the guardian of hereditary qualities. Variation may be retrogressive as well as progressive. It may be excessive and lead to abnormalities. It requires regulation. The female is the balance wheel of the whole machinery. As the primary, ancestral trunk she stands unmoved amid the heated strife of rivals and holds the scales that decide their relative worth to the race. While the voice of nature speaking to the male in the form of an intense appetitive interest, says to him: fecundate! it gives to the female a different command, and says: discriminate! The order to the male is: cross the strains! that to the female is: choose the best! Here the value of a plurality of males is apparent. In such a plurality there are always differences. The female recognizes these differences, and instinctively selects the one that has the highest value for the race. This quality must of course coincide with a subjective feeling of preference, a coincidence which is brought about by the action of the well-known laws of organic adaptation.

This subjective feeling it is which constitutes the distinctive interest of the female. It is clearly quite other than the interest of the male. It is wanting in the plant and in the lowest animals, but nevertheless makes its appearance at a very early stage in the history of sentient beings. In considering it we have to do with a psychic attribute a grade higher than that of pure appetency. In fact it represents the dawn of the esthetic faculty. We have already seen in Chapter VII how the advent of mind gave the world a new dispensation and seemed to reverse the whole policy of nature. We are now about to witness another profound transformation

wrought by a special psychic faculty, viz., the faculty of taste. This transformation is nothing less than the work of raising that miniature speck of existence, the primordial fertilizing agent, to the rank of a fully developed animal organism, approaching in varying degrees, and actually reaching in a few instances, the status of the original specific trunk, then called the female.

The foundation of the whole process is the fundamental law of heredity, that offspring inherit the qualities of both their parents. The qualities of the mother, being those of the species in general, are of course inherited and do not concern the transformation. This comes through the qualities of the male. The incipient esthetic tastes of the female cause her to select the qualities from among her suitors that she prefers, and to reject all males that do not come up to her standard. The qualities selected are transmitted to the offspring and the new generation again selects and again transmits. As all females may be supposed to have substantially the same preferences the effect is cumulative, and however slowly the transformation may go on, it is only necessary to multiply the repetitions a sufficient number of times to secure any required result. The particular characters thus selected are called secondary sexual characters; they are chiefly seen in the male because the female already has the normal development. There can be no doubt that in cases, like spiders, where the males are so exceedingly small, one of the preferred qualities is a respectable stature and bulk, and that throughout the lower orders the chief selecting has been that of larger and larger males, until the observed present state of partial sex equality was attained. This is exactly the kind of facts that would be overlooked by the average investigator, attention being concentrated on certain more striking and apparently abnormal facts, such as brilliant coloration, peculiar markings, special ornamental organs, weapons of destruction, etc. These latter, under the joint action of the principle of selection and the law of parsimony, are often not only confined to the male, but do not appear until the age of maturity, at which time they can alone serve the purpose for which they were selected and created, viz., to attract the female and lead to the continued selection of those males in which they are best developed. It is upon these that biological writers chiefly dwell. They point to a certain degree of development in the tastes of the females which lies beyond the simply useful.

To use the language of figure based on fact, it is small wonder that the female should be ashamed of her puny and diminutive suitors and should always choose the largest and finest specimen among them. If her selection were mainly confined to this quality during all the early history of every species the naturalist without the gynæocentric theory to guide his observations would never discover it. He would simply notice that the difference in the size of the sexes differs widely in different species and families and set it down as a somewhat remarkable fact but without significance. He would be specially attracted by the superficial differences, particularly in the matter of ornamentation in the male. These are certainly remarkable, and a vast array of examples has been marshaled by Darwin and his coadjutors and successors. Darwin found comparatively little evidence of sexual selection among the invertebrates. In the Mollusca hermaphroditism prevails, which means that the fertilizer is simply an organ and not an independent organism; but here, as in hermaphrodite plants, the tendency toward sex separation is general. In the Arthropoda, and especially in the Arachnidæ, there occur those enormous differences in the size of the sexes that we have been considering. But this varies even here in nearly all degrees, which shows that selection in the quality of size has always been going on, and in some species has resulted in something like sex equality. Blackwall, De Geer, Vinson, Westring, and Kirby and Spence had already recorded many facts, and many more have since been added. In insects the equalizing process had gone much farther, and still Darwin was obliged to admit that "with insects of all kinds the males are commonly smaller than the females."¹ In most of them, however, the other more striking characters of the males attract the chief attention. Darwin takes up each class and group of animals in the ascending order of development all the way to man, and makes out an unanswerable case in favor of his principle of sexual selection. Later writers have multiplied facts in its support until it is to-day as firmly established as that of natural selection. Only certain extreme "Neo-Darwinians," as they call themselves, who defend the "all-sufficiency of natural selection," seek to belittle or even deny this principle, but this is done with such an obvious *parti pris* that its scientific value is slight. Even Professor Poulton, who

¹ "Descent of Man," Vol. I., New York, 1871, p. 335.

was the principal translator of Weismann's "Essays," and is an especially competent judge, insists in his lectures, one of which I have heard, upon the undeniable truth of sexual selection, and presents a large mass of fresh and striking evidence in its support.

Jealousy, the "green-eyed monster which doth mock the meat it feeds on," here showed its usefulness, for it coöperated with the esthetic faculty of the female and led to all those intense activities of the rival males that developed the characters that the females preferred. Success in these struggles for favor, due in turn to the qualities that insured success, was the sure passport to favor, and female favor meant parenthood of the race. Size and strength, even more than the accompanying organic weapons, were the elements of success, and in this way the respectable stature and compact build of the males of developed species gradually replaced the diminutiveness and structural frailty of the primitive males. All these influences have been at work in all the types of animal life since the dawn of the psychic faculty, and the effects, as we should naturally expect, have been roughly proportioned to the length of the phylum. There are of course exceptions to this rule, due to other collateral and partially neutralizing influences, often of a very obscure and complex nature, but upon the whole this has been the result, and consequently we find that it is in the birds and mammals, the two latest classes, and the two that possess the longest phylogenetic ancestry, that the effects of sexual selection are the most marked. Here the struggle for size, strength, courage, and beauty reaches its maximum intensity, and begins in a sort of geometrical progression to augment and multiply all the secondary sexual characters of the male and to threaten the overthrow, at least for a time, of the long prevailing gynæarchy of the animal world.

Male Efflorescence. — We have presided at the birth of the male being, long subsequent to that of the true organism, in the form of a minute sperm-plasm to supplement the much older germ-plasm, not as an aid to reproduction, but simply as a medium of variation and a condition to higher development. We have watched the progress of this accessory element subjected to the esthetic choice of the organism or real animal, until, through the inheritance of the qualities thus chosen it slowly rose in form and volume into somewhat the image of its creator and became a true animal organism resembling the original organism, on account of which naturalists call it

the male and the other the female of the same species. Seeing these two somewhat similar forms habitually together, the one still performing the office of fertilizer and the other the work of reproduction, they class them alike, and until recently regarded fertilization as an essential part of reproduction. But the deeper meaning of it all has generally escaped observation.

The esthetic sense of the females has produced many beautiful objects in the form of male decoration in the invertebrate and lower vertebrate classes, but with the advent of bird life this sense became more acute, and having such decorative materials as feathers to work with, it soon surpassed all its previous achievements and wrought gorgeous products on the most ornamental patterns. The following is Wallace's description of the bird of paradise from personal observation in New Guinea, and will serve for a general example, although it is, of course, an extreme one:—

Most celebrated of all are the birds of paradise, forming a distinct family, containing more than twenty-five different species, all confined to this island and the immediately surrounding lands. These singular birds are really allied to our crows and magpies, but are remarkable for their special and varied developments of plumage. In most cases tufts of feathers spring from the sides of the body or breast, forming fans, or shields, or trains of extreme beauty. Others have glossy mantles or arched plumes over the back, strange crests on the head, or long and wire-like tail-feathers. These varied appendages exhibit corresponding varieties of color. The long trains of waving plumes are golden yellow or rich crimson, the breast-shields, mantles, and crests are often of the most intense metallic blue or green, while the general body plumage is either a rich chocolate brown or deep velvety black. All these birds are exceedingly active and vivacious, the males meeting together in rivalry to display their gorgeous plumage, while in every case the female birds are unornamented, and are usually plain or positively dingy in their coloring.¹

From this we can form some idea of the esthetic tastes of female birds. As was remarked of the tastes of insects in virtually creating the world of flowers (see *supra*, p. 234), so we may now say of birds, the similarity of their tastes to those of men, even of the men of the highest culture, is proved by the universal admiration of mankind for the objects of their esthetic selection and creation. From a certain point of view, therefore the standard of taste is universal among sentient and psychic beings, and the beautiful colors, mark-

¹ "New Guinea and its Inhabitants," by Alfred Russel Wallace, *Contemporary Review*, Vol. XXXIV, February, 1879, p. 424.

* Note that certain features are limited to the sex to which they belong - children then the same - hence qualities which in each sex & respecting the

limit of sex - education - boundaries

ings, and forms of butterflies, moths, and beetles, of ostrich feathers and peacocks' tails, speak for an esthetic unity throughout all the grades and orders of life. It is the same standard of taste, too, that again comes out in the highest class of animals, the mammals, and that produces such universally admired objects as the antlers of the stag, which are the type of a true secondary sexual character. It is through such influences that the males of so many birds and mammals have attained their extraordinary development in the direction of size, strength, activity, courage, beauty, and brilliancy.

The faculty exercised by the female in sexual selection may in a broad sense be called esthetic, but many other qualities than those that are popularly classed as beauty are preferred and created. Some of these may be called moral qualities, such as courage. This is a special element of success, and its development leads to the universal rivalry in the animal world for mates. It is not that the rivals decimate and destroy one another leaving only the final victor. As has been remarked,¹ the battles of the males, however fierce, rarely result fatally, and they often take the form of quasi mock battles in which some do, indeed, "get hurt," but it rarely happens that any get killed. Still less is it true that the strongest and ablest males use their powers to coerce the female into submission. The female, even when greatly surpassed in size and strength by the male, still asserts her supremacy and exercises her prerogative of discrimination as sternly and pitilessly as when she far surpassed the male in these qualities. This is why I reject the usual expression "male superiority" for those relatively few cases in which the male has acquired superior size and strength along with the various ornaments with which the female has decked him out. And nothing is more false than the oft-repeated statement inspired by the androcentric world view, that the so-called "superior" males devote that new-gained strength to the work of protecting and feeding the female and the young. Those birds and mammals in which the process of male differentiation has gone farthest, such as peacocks, pheasants, turkeys, and barnyard fowls, among birds, and lions, buffaloes, stags, and sheep, among mammals, do practically nothing for their families. It is the mother and she alone that cares for the young, feeds them, defends them, and if necessary fights for them. It is she that has the real courage —

¹ Espinas, "Sociétés Animales," 2^e éd., Paris, 1878, pp. 324, 327.

courage to attack the enemies of the species. Many wild animals will flee from man, the only exception being the female with her young. She alone is dangerous. Even the male lion is really somewhat of a coward, but the hunter learns to beware of the lioness. The doe goes off into a lonely spot to bring forth and nurse her fawn. It is the same with the female buffalo and the domestic cow. How much does the bull or the cock care for its mate or its offspring? Approach the brood with hostile intent and it is the old hen that ruffles up her feathers so as to look formidable and dares to attack you. The cock is never with her. His business is with other hens that have no chickens to distract their attention from him.

The formidable weapons of the males of many animals acquired through sexual selection are employed exclusively in fighting other males, and never in the serious work of fighting enemies. The female simply looks on and admires the victorious rival, and selects him to continue the species, thus at each selection emphasizing the qualities selected and causing these qualities to tower up into greater and greater prominence. The whole phenomenon of so-called male superiority bears a certain stamp of spuriousness and sham. It is to natural history what chivalry was to human history. It is pretentious, meretricious, quixotic; a sort of make-believe, play, or sport of nature of an airy unsubstantial character. The male side of nature shot up and blossomed out in an unnatural, fantastic way, cutting loose from the real business of life and attracting a share of attention wholly disproportionate to its real importance. I call it *male efflorescence*. It certainly is not male supremacy, for throughout the animal world below man, in all the serious and essential affairs of life, the female is still supreme. There is no male hegemony or andrarchy. Nevertheless it represents organic evolution of which both sexes have partaken. Its chief value lies in the fact that in lifting the male from nothing to his present estate it has elevated all species and all life and placed the organic world on a higher plane. The apparent male superiority in some birds and mammals instead of indicating arrested development in the female indicates over-development in the male. Male efflorescence is an epiphenomenon. But in all this surplus life infused into the male a certain quantity has found its way into the stock and caused an advance. It has been shown that even the

typical secondary sexual characters crop out to a limited extent also in the females. This was perceived by Darwin,¹ and has recently been established on paleontological evidence.² But it is especially the more solid and useful characters that have thus advanced.

Primitive Woman.—To the intelligent and sympathetic reader no apology is needed for having dwelt so long on the prehuman stage in the exposition of so unfamiliar a subject as the gynæocentric theory. It must be perfectly apparent to him that this could be done in no other way. Long before we reach the human stage we find all the alleged evidence of the androcentric theory, and without such a study of origins as we have been making there would be no counter-evidence, and in fact no data for understanding the real meaning of this alleged evidence. We are now in position at least to understand it and to weigh it, and as I said at the outset, there will be differences in the amount of weight given to all the facts depending upon the differences in the constitution of individual minds, and if the facts can be placed before all minds the conclusions drawn from them may be safely left to take care of themselves. But it so happens that while the facts depended upon to support the androcentric theory are patent to all, those that support the gynæocentric theory are latent and known to very few. But in this it does not differ at all from any of the great truths of science. The facts supposed to prove the apparent are on the surface while those that prove the real, which is usually the reverse of the apparent, lie hidden and only come forth after prolonged investigation and reflection. The androcentric world view will probably be as slow to give way as was the geocentric, or as is still the anthropocentric.

In the larger apes that most resemble man male efflorescence is tolerably well marked, though not so extreme as in some other animals. The comparison is usually with so-called anthropoid or tailless apes, but there are apes with tails that have a physiognomy more like that of man than is that of any of the anthropoids. Certain mandrills that I have seen have strong Hibernian features. The white-nosed seacat, *Cercopithecus petaurista*, has decided African

¹ "Descent of Man," New York, 1871, Vol. I, pp. 270, 271.

² "On the evidence of the Transference of Secondary Sexual Characters of Mammals from Males to Females," by C. I. Forsyth Major, *Geological Magazine*, N. S., London, Dec. IV, Vol. VIII, No. 6, June, 1901, pp. 241-245.

and even Garibaldian traits, while the nose-ape, *Semnopithecus nasicus*, has an almost English face. This strikingly human appearance in these apes is in part due to the large facial angle, but it is chiefly due to the distribution of the hair on the face, which is practically the same as in a man. The parts above the mouth are hairless as in man while the sides of the face and the chin are provided with much longer hair than that of the rest of the body. In other words these apes have a true beard like that of man. The beard is the most prominent and typical secondary sexual character of man, and we see that it was developed far back in the phylogenetic line. I am not informed how the females differ from the males in these species of ape, but in the orang, gorilla, chimpanzee, and gibbon, the males are much larger and stronger, and the male gorilla at least has much more powerful jaws and teeth, the canines having almost the character of tusks.

Nothing is of course known of the differences in the sexes of Pithecanthropus (ape-man), of which only part of one skeleton has been found, but it is a fair assumption that the males were larger and stronger than the females, and possessed other distinctively male characters. The somewhat hypothetical European Tertiary creature called *Homosimius* by Gabriel and Adrien de Mortillet¹ would seem to connect the Pithecanthropus of Java with the man of Neanderthal, which King² first erected into a distinct species and named *Homo Neanderthalensis* (which view has been accepted by Cope³ and Schwalbe⁴) and later in the same year⁵ declared in favor of its generic distinctness.

Unfortunately *Homosimius* is thus far known only by his works, no part of his skeleton having been found. Still these authors name three species of this genus, viz., *H. Bourgeoisii*, for the man of

¹ "Le Préhistorique. Origine et Antiquité de l'Homme," par Gabriel et Adrien de Mortillet, 3^e éd., Paris, 1900, pp. 96-101.

² "On the Neanderthal Skull, or Reasons for believing it belonged to the Clydian Period, and to a species different from that represented by Man," by Professor W. King, British Association Report, 33d meeting, Newcastle-upon-Tyne, 1863, London, 1864, Part II, Notices and Abstracts, pp. 81-82.

³ "On the Genealogy of Man," by E. D. Cope, *American Naturalist*, Vol. XXVII, April, 1893, pp. 321-335 (see p. 331).

⁴ "Ueber die spezifischen Merkmale des Neanderthalschädels," von G. Schwalbe, *Anatomischer Anzeiger, Verhandl. d. Anat. Ges.*, XV. Versamml., Bonn, 26-29 Mai, 1901, Jena, 1901, pp. 44-61.

⁵ "The Reputed Fossil Man of the Neanderthal," by Professor William King, *Quarterly Journal of Science*, Vol. I, January, 1864, pp. 88-97.

Thenay; *H. Ribeiroi*, for that of Otta; and *H. Ramesii*, for that of Puy-Courny. They claim to have positive proof that the first of these used fire in breaking flints. The other two broke them by percussion. These acts alone would make them men, *i.e.*, rational beings, capable of utilizing the forces of nature to their own advantage. No true animal, as I have successfully maintained, attains to this intellectual stage (see *infra.*, p. 514).

On the evolution theory we are obliged to assume that the transition from the truly animal ancestor of man to the truly human being was by a series of imperceptible steps, and therefore the exact line between animal and man cannot of course be drawn and could not be if all the steps were represented in the paleontological and archæological record. But it is of the greatest interest to discover and trace out in both these sciences as many steps as possible in the series leading up to existing man. From now on we are to deal with man as we actually know him, and to consider the relations between man and woman, physically and socially. In all known human races man is found to be larger and stronger than woman, and to have certain of the typical secondary sexual characters, but these latter differ in different races and have no special value for our subject.

A survey of this field soon shows that we are on a new plane of existence. We have reached another of those turns in the lane of evolution at which a new era begins. It is one of those cosmical crises mentioned in Chapter V, in which a new and at first unperceived and unimportant element suddenly assumes vast proportions and causes a complete change of front in the march of events. We have encountered several such. The rise of the esthetic faculty which led to sexual selection, evolved the male sex, and carried it up to such giddy heights, should have been set down as one of these differential attributes producing unintended effects, which in this sense are, if not abnormal, at least extra-normal, ultra-normal, and supra-normal. On the human plane we encounter another such an element, not indeed one that has been overlooked, but one that produced a large number of deviations from the norm, some of which have been considered, others of which will be considered later on, and one of which now confronts us in our attempts to explain the relations of the sexes. This new element is none other than the presence in man of a rational faculty. We saw in Chapter X how

this faculty alone gave man the dominion of the earth. We may now see how the same faculty gave to man in the narrower sense the dominion of woman. We have seen that notwithstanding all the shining qualities with which female taste endowed the males of certain of the higher types of animals, including the immediate ancestors of man, there is not and never can be in any of these types any true male hegemony, and that everywhere and always, regardless of relative size, strength, beauty, or courage, the mothers of the race have held the rein and held the male aspirants to a strict accountability. In a non-rational world there could be no other economy, since to place affairs in the hands of the "fickle and changeable" sex¹ would bring speedy and certain ruin to any animal species.

But the term "rational," as here employed, is misleading to the average mind. The popular idea that it conveys is akin to that implied in the word *reasonable*. A rational being is supposed to be incapable of an irrational act, and from this idea the word is some way connected with right or moral action. But applied to primitive man it should be divested of all these implications. It simply means a being capable of reasoning about the simplest and most material things. The rational faculty began as a purely egoistic servant of the will in better securing the objects of desire. Its chief rôle was to supplant instinct. To do this it must attain a certain strength. It is a preëminently centrifugal faculty, and up to a certain point it must be under the power of instinct. It is instinct which, throughout the animal kingdom below man, maintains female supremacy and prevents the destruction of animal races. But with man reason begins to gain the ascendant over instinct. This means that it is strong enough to break over the restraints of instinct and still avert danger. Until it reaches this point it is self-destructive, since natural selection eliminates the wayward.

Increased brain mass became a secondary sexual character. It has been already noted that the chief stress has been laid on those comparatively unimportant characters, such as horns, spurs, bright colors, and musical powers, as the products of sexual selection, while increased bulk and strength, and the assimilation of form to that of the primary organism or female, are characters rarely mentioned in that connection, although these are by far the most impor-

¹ The "varium et mutabile semper femina" of Virgil (Book IV, lines 569-570) is a typical androcentric sentiment, and the precise reverse of the truth.

tant. It is the same with brain development. Because brain is common to both sexes its increase as the result of female preference is not noticed. Yet there can be no doubt that success in rivalry for female favor became more and more dependent upon sagacity, and that this led to brain development. It also seems certain that, as in the case of size of body, so in that of size of brain, a disproportionate share of the increment acquired went to the male. But throughout the later geologic periods, and to some extent in all periods, the brain gained upon the body, as shown by the phenomena of cephalization, whereby the head, and especially the encephalon, has been growing larger in proportion to the body in all the great phylogenetic lines. Natural selection might bring this about to some extent, but the greater part of it is probably attributable to sexual selection, and the male brain has thus gradually gained upon that of the female, until we have the present state of things.

Now this male brain development it is that has brought about the great change, and has constituted man a being apart from the rest of creation, enabling him with increasing safety to violate the restraints of instinct and inaugurate a régime wholly different from that of the animal world out of which he has developed. Having become larger and physically stronger than woman, his egoistic reason, unfettered by any such sentiment as sympathy, and therefore wholly devoid of moral conceptions of any kind, naturally led him to employ his superior strength in exacting from woman whatever satisfaction she could yield him. The first blow that he struck in this direction wrought the whole transformation. The ægis and palladium of the female sex had been from the beginning her power of choice. This rational man early set about wresting from woman, and although, as we shall see, this was not accomplished all at once, still it was accomplished very early, and for the mother of mankind all was lost.

Gynæcocracy. — In a broad general sense the relations of the sexes throughout the animal kingdom, as above described, might be characterized as a gynæcocracy, or female rule, for which the form *gynæcarchy*, already employed (*supra*, p. 328), is perhaps to be preferred. But I propose to restrict the term, as did Bachofen,¹ to the human race,

¹ "Das Mutterrecht. Eine Untersuchung über die Gynaikokratie der alten Welt nach ihrer religiösen und rechtlichen Natur," von J. J. Bachofen, Stuttgart, 1861: Zweite unveränderte Auflage, Basel, 1897, 4°, pp. XL, 440.

and to a phase of the early history of man, which, though almost unknown prior to the astonishingly erudite and exhaustive researches of Bachofen, is now known always to have existed and still to exist at the proper status of culture or stage of man's history. Making all due allowance for the unreliability of the accounts of travelers, and the disposition to exaggerate everything that is opposed to civilized customs, there still remains far too large a volume of facts bearing on this state to be passed over as meaningless or worthless. In fact this tendency to exaggerate them is doubtless more than counterbalanced by the influence of the androcentric world view in causing them to be overlooked. Ethnographers constantly lean toward their rejection or the minimizing of their significance. They are in their way in working out a complete androcentric system of ethnology.

It must not be forgotten that the true beginnings of man are not known in the sense that races exist representing such beginnings. The lowest races known are relatively far advanced and belong to old stocks. It is natural to suppose that, at much lower stages than any of these represent, woman, almost to the same extent as among the female anthropoids, possessed absolute power of choice and rejection, and in this most vital respect, was the ruling sex. Sexual selection may have been still in action, still further modifying the attributes of men. Mr. Spencer gives one case that points in this direction even among existing races: "Tuckey, speaking of certain Congo people who make scars, says that this is 'principally done with the idea of rendering themselves agreeable to the women:' a motive which is intelligible if such scars originally passed for scars got in war, and implying bravery."¹ There are many indications that woman was slow to surrender her scepter, and that the gradual loss of her power of rejection and selection took place with all the irregularity that characterizes all natural phenomena. Circumstances of every kind impeded or favored it, and the scattered hordes exerted no influence on one another to produce uniformity in this respect. Nothing is more varied than the relations of the sexes among existing races of men. Almost every conceivable form of marriage, or union, has been found. While most persons suppose that nothing is so certainly fixed by nature, and even by divine decree, as the particular form of marriage that happens to prevail

¹ "Principles of Sociology," Vol. II, New York, 1896, p. 75 (§ 365).

in their own country, ethnologists know that nothing is so purely conventional as just this fact of the ways in which men and women arrange or agree to carry on the work of continuing the race.

About the time that the transformation from apehood to manhood took place it is probable that the males were considerably larger and stronger than the females, but that the females compelled the males to conform to their choice, thus keeping up the action of selection and its legitimate effects. With the advent of incipient rationality it could scarcely be otherwise than that this long fixed condition should be somewhat disturbed. As rationality was acquired by both sexes, though perhaps in somewhat unequal degrees, if it was to cause one sex to dominate the other, circumstances must decide, at least at first, which should be the dominant sex. As the female sex had thus far always exercised supremacy in the most vital matters, it might be supposed that woman would prove the dominant sex in primitive hordes. That this was the original tendency and logic of events is abundantly shown by the survivals of it that we find, and by the real condition of the lowest existing races.

The first and most striking form of evidence pointing this way consists in a class of facts that may be roughly grouped under the general head of *amazonism*, although they show not only widely different degrees of this state, but also a great variety of forms of it. These are all described in the numerous standard works in which the facts have been laboriously compiled, and space does not permit me to attempt their enumeration. It is enough to note that phenomena of this class, sufficient to show a greater or less degree of female supremacy, have been observed in at least a score of races. Some of those most frequently referred to are the following: Natives of the Khasi Hills in Assam; Naïars of the Malabar coast; Dyaks of Borneo; Batta people in Sumatra; Dahomans, West Africa; Mombuttus, Central Africa; natives of Madagascar; inhabitants of Imôhagh in the desert of Sahara; natives of New Britain (Neu-Pommern), Australasia; Fuegians; Botocudos of Eastern Brazil; Nicaraguans; Indians of the province of Cueva, Central America. This list covers a large part of the world. That it should consist chiefly of somewhat remote, outlying regions is of course what we should expect. That it was once far more general, however, is proved by records of it even in Europe, notably among the ancient Bretons and Scots. It was probably well-nigh universal, in the

sense that each race has passed through that stage, although different races doubtless passed out of it not only at different times, but at different relative points in their history or development.

The other principal group of facts that support the claim for a primitive stage of gynæocracy is that relating to what is variously called matriarchy, motherright, the matriarchate, and the metronymic family. Bachofen greatly disturbed the smooth androcentric current that had thus far been flowing, when in 1861 he announced that the ancient laws and records, both written and hieroglyphic, indicated a widespread system of descent and inheritance in the female line among both Aryan and Semitic peoples, and from data in his possession he worked out an entirely new theory of the early relations of the sexes. He concluded that the original state was one similar to the hetairism of the early Greeks, and that this passed into a form of female rule which he called "demetric gynæocracy."¹ Soon after McLennan independently discovered that a large number of existing uncivilized races still reckon through the female line and actually have a more or less complete system of motherright. Morgan in studying the North American Indians found a similar condition of things complicated by a sort of group marriage. Since then ethnologists have studied the marriage relations of large numbers of tribes, finding of course great differences and nearly all gradations from the matriarchal to the patriarchal condition. The literature has become voluminous and is largely controversial, so that it is difficult for one seeking simply the truth to disengage any clear principles. The obvious zeal on the part of many to protect the human race from the supposed disgrace of having ever had sexual relations that their age and country condemns is a large element of untrustworthiness in the discussions.

While the animal origin of man is now almost universally admitted by anthropologists and by well-informed persons generally, there is manifest a very tardy recognition of its full meaning. No blame ever attaches to the sexual relations of animals. They are usually or always such as best subserve the needs of different species; at least they are such as the conditions actually produced. It was the same with man when he emerged from the animal state, and, properly viewed, they have always been such since that date. The multitudinous forms of marriage have all been the products of the con-

¹ "Das Mutterrecht," Introduction, p. XIX.

ditions of existence. A common error tacitly entertained is that animals carry on the process of reproduction and rearing of the young by a conscious attention to this important business. They are supposed to woo and mate for this purpose, and to care for their offspring with an eye to the interests of the species. The fact is that these functional results are the consequences of the law of adaptation, and the agents are wholly unconscious of them as anything to be attained by their actions. They only seek their interests in the form of feelings, which are so regulated by instinct as to secure the results. For example, as has already been said, animals can have no knowledge of the connection between mating and propagating. All they know is that they like to mate. The female brings forth her young with no conception of the part the male has had in it. She cares for her young because she is impelled to do so by an innate interest, in short, because she likes to do so. All this is true of all animal species, and it is not at all probable that the degree of reasoning power that enabled primitive man to perceive that the fertilization of the male was a necessary condition to reproduction was attained until long after the full human estate had been reached and man had advanced far into the protosocial stage. The fact that races still exist incapable of performing such an act of ratiocination proves that the inability to perform it must have once been general.

In such a state it was natural and necessary that everything should be traced to the mother. The father was unknown and unthought of. The idea of paternity did not exist. Maternity was everything. Fertilization and reproduction were as completely separated in thought as they have been shown to be in essence. That under such circumstances mother-rule and mother-right should prevail is among the necessities of existence. Amazonism, matriarchy, and all the forms of gynæcocracy that are found among primitive peoples, instead of being anomalies or curiosities, are simply survivals of this early and probably very long stage in the history of man and society of which no other evidence now exists, but which is the logical and inevitable conclusion that must follow the admission of the animal origin of man.

That the sexual relations of our most remote ancestors under such circumstances should be what would now be called lax, or even promiscuous, is nothing more than we should expect, and notwithstand-

ing the laudable efforts of certain ethnologists to prove the contrary, or at least to palliate the supposed humiliation involved in such a state of things, the facts we have, even among the relatively advanced existing races, abundantly establish inductively the conclusion that can alone be reached deductively. I could easily fill a chapter with the bare enumeration of these facts, but they would be distasteful reading and may all be found in the great storehouses of facts that have been accumulated through the indefatigable labors of ethnographers. Only the general conclusion from all these facts can be stated here, and I prefer to state it in the words of one who labored long and faithfully in this field and who was not afraid of any real truth to which the facts lead:—

In the lower grades of civilization, in the most primitive human hordes, there is nothing yet that deserves the name of marriage. It is by the hazard of necessity that sexual unions, or rather, couplings, take place, and one single law governs them: the law of the strongest.¹

But even here Letourneau had in mind a later stage than the one we are now considering. This is a stage in which "the law of the strongest" applies only in the sense that the strongest rival wins the prize. It is the strongest man, and has nothing to do with the relative strength of man and woman. So long as woman retains her power to select and reject, relative male strength is an element, but only one element among many. Woman's idea of male beauty still counts in the balance, and such moral qualities as courage, persistence, and powers of persuasion do their share. Finally, already, certain mental qualities begin to tell, especially cunning in outwitting, circumventing, and thereby overcoming rivals.

Androcracy.—At some point quite early in the protosocial stage it began slowly to dawn upon the growing intellect of man that a causal connection existed between these couplings of men and women and the birth of children. It was this simple act of ratiocination that literally reversed the whole social system. For the first time the man began to perceive that he, too, had a part in the continuance of the race, that the children were in part his, and not wholly the woman's. The idea, however, was very slow to take root. The only absolutely certain antecedent to the existence of a child was the parturition of the mother. That the child came from

¹ "La Sociologie d'après l'Ethnographie," par Charles Letourneau, 3^e éd., Paris, 1892, p. 375.

her was something about which there could be no doubt. That it came in any manner from him was highly problematical to the primitive mind. In order that a child be born the mother must pass through the throes of child-birth, must suffer pangs, must remain for a greater or less period prostrate and helpless, as if the victim of disease. This temporary illness having always without exception accompanied the birth of a child through the entire history of any horde or race, became indissolubly associated with it, so that the two constituted a single compound conception in the savage mind. It may seem strange to the civilized mind that two such different facts could not be separated in thought, but it is proved that they could not, and I know of no better illustration of the feeble power of abstraction in the dawning intellect than is furnished by this fact. The use of fictions by savages is often referred to as an illustration of their ingenuity. Correctly analyzed it simply proves their incapacity to separate ideas that habitually occur together. Facts that are habitually associated cannot be thought of apart and independently. When their separation is forced upon them they invent some fiction which really avoids the necessity of separating them and still holds them together. Illness and child-birth were two facts that had always been associated, that in fact always had gone together. The existence of a child must presuppose the temporary illness of the person that has the child. If any one should say to a man, that child is partly yours, he may be imagined to reply, How so? I have not been ill. But when the causal connection finally became generally recognized, and the parental relation of the father admitted, he was naturally disposed to claim his title to the offspring. In complete promiscuity where any one of a large number of men might be the father of a child, no such claim could be set up even if the causal connection referred to was believed to exist. But it may be supposed that even in the most primitive hordes, as among some of the anthropoid apes and many animals less highly developed, a certain amount of monogamic or polygynic pairing would take place, so that the father could be certain that no other man could have had a share in the creation of the children of one or several women with whom he lived. In such cases the claim to paternity would and no doubt did naturally arise. But so firmly did the ideas of temporary illness and child-birth cohere in the mind that it was not considered an adequate claim to any proprietary

title to the child until this illness had actually been gone through with. But as the father was not really made ill by the birth of the child it was adjudged essential that he should feign such illness and take to his bed for the prescribed period. Absurd as all this may seem, it is what actually takes place even to-day among a large number of primitive peoples in widely different parts of the world. During these periods the man actually takes the kind of medicine that is given the woman, asafoetida, etc. This is characterized by Tylor as "the world-wide custom of the 'couvade,' where at child-birth the husband undergoes medical treatment, in many cases being put to bed for days."¹ The couvade has been so generally treated by ethnographers and writers on uncivilized races that it need not be discussed here further than to point out its social significance. Bachofen² came quite as near its correct interpretation as have his critics and later writers. Sir John Lubbock³ (Lord Avebury) gives the views of a number of authors, most of which are highly improbable, inclining himself to connect it in some way with the doctrine of signatures. It certainly represents one of Tylor's "ethnographic parallels," but he denies that he regards it as "evidence that the races by whom it is practised belong to one variety of the human species,"⁴ and finally admits that "it may have come to serve in something like the way suggested by Bachofen, as a symbol belonging to the rule of male kinship."⁵ The fact is that wherever now met with it exists chiefly as a survival from a remote and forgotten past, and like everything else it has during this long history surrounded itself with a mass of absurd practices, gross superstitions, and extraneous associations, and these have come to take the first place in the savage mind, while the real reason for the existence of such a custom has been wholly lost from view. Those who practice it are therefore the last persons in the world from whom to expect a correct explanation of it. Letourneau, who went carefully over the whole field of the status of primitive woman, said in his concluding lecture:—

For a long time it was not suspected that the man had anything to do with the pregnancy of the woman. When it began to be suspected the

¹ "Primitive Culture," by Edward B. Tylor, London, 1871, Vol. I, p. 76.

² "Das Mutterrecht," Stuttgart, 1861, pp. 17, 255, 256.

³ "Origin of Civilization," New York 1871, p. 12.

⁴ "Researches into the Early History of Mankind," New York, 1878, p. 305 (foot-note).

⁵ *Ibid.*, p. 298.

ridiculous ceremonies of the couvade were invented by which the man, in recognizing his paternity, sought also to draw upon himself, in part at least, the malevolence of the evil spirits who watched the mother during and after the labor of parturition. The couvade has been discovered in a sufficient number of races and sufficiently often to justify the belief that the state of mind that it reveals was common to all peoples at a certain stage of their evolution.¹

He had previously said that in Africa "the husband sometimes submits to the ceremony of the couvade in order to reënforce the bonds of parentage with the children of his wife. . . . In many [South American] tribes the practice of the couvade is observed, which seems to be an effort to create paternal filiation."²

One of the objections to this interpretation of the meaning of the couvade was that a certain tribe, the Mancusis, who practice it, "so far from reckoning the parentage as having been transferred to the father by the couvade, are actually among the tribes who do not reckon kinship on the father's side, the child belonging to the mother's clan."³ It is not to be supposed that the couvade would produce a sudden reversal of what had been the order of nature throughout all past time. It is not probable that the father expected by it to demonstrate his exclusive right to the ownership of the child. It is forgotten that prior to the couvade the father had not suspected that he had contributed in the least to the creation of the child. The object of the couvade was solely to establish by a fiction the fact of paternity or joint action with the mother in bringing the child into existence. The question of domination or supremacy was an after consideration. The couvade was the first step toward fatherright and the patriarchy. Certain it was that the latter could never have been attained so long as children were believed to be the exclusive creation of women. So long as that view obtained gynæocracy was the only condition possible.

But the idea once firmly established that the family was a joint product of the woman and the man, it is easy to see the important results that would naturally follow. The same strengthening of the

¹ "La femme à travers les âges. Leçon de clôture d'un cours sur la condition des femmes dans les diverses races," par Charles Letourneau, *Revue de l'École d'Anthropologie de Paris*, onzième année, Vol. IX, septembre, 1901, pp. 273-290. See p. 280.

² "La Sociologie d'après l'Ethnographie," 3^e éd., Paris, 1892, pp. 384, 385.

³ Tylor, *loc. cit.*, p. 298.

reasoning powers that made the discovery of paternity possible worked in all other directions. Paternity implied power over the child, which was now exercised by the father as well as by the mother. But it went much farther. Equal authority with the mother soon lead to a comparison of physical strength between the sexes, which had never been made before for precisely the same reason that the lion never compares strength with the lioness, the hart with the hind, the bull with the cow, or the cock with the hen. Physical strength never comes in question in the gynæocratic state. The female dispenses her favors according to her choice, and the males acquiesce after venting their jealousy on one another. The idea of coercing the female or extorting her favor never so much as occurs to the male mind. The virtue of the female animal is absolute, for virtue does not consist, as many suppose, in refusal, but in selection. It is refusal of the unfit and of all at improper times and places. This definition of virtue applies to human beings, even the most civilized, as well as to animals. The female animal or the human female in the gynæocratic state would perish before she would surrender her virtue.

The passage from the gynæocratic to the androcratic state was characterized on the part of man by the loss of his normal chivalry and respect for the preferences of woman, and on the part of woman by the loss of her virtue. Both the time-honored assertion of authority by woman and submission to it by man were abrogated. In discovering his paternity and accompanying authority man also discovered his power, which at that stage meant simply physical strength. He began to learn the economic value of woman and to exert his superior power in the direction of exacting not only favors but service from her. The gynæocratic régime once broken over the steps were short and rapid to complete androcracy. The patriarchy or patriarchal system, in which the man assumed complete supremacy, was the natural sequel to the process that had begun. It was all the product of the strengthening intellect which refused longer to be bound by the bonds of animal instinct and broke away from the functional restraints that adaptation had imposed upon the sexes. The man saw that he was the master creature, that woman was smaller, weaker, less shrewd and cunning than he, and at the same time could be made to contribute to his pleasure and his wants, and he proceeded to appropriate her accordingly.

The Subjection of Woman.—When John Stuart Mill used this expression as the title for his book he had only the philosopher's penetration into a great truth. He had comparatively little light from anthropology and scarcely any from biology. Its true meaning, therefore, as a phase of the history of man, as something impossible to the so-called "brute creation," and as a pure product of human reason untempered by altruistic sentiments, was for the most part lost to him. The most unfortunate fact in the history of human development is the fact that the rational faculty so far outstripped the moral sentiments. This is really because moral sentiments require such a high degree of reasoning power. The intuitive reason, which is purely egoistic, is almost the earliest manifestation of the directive agent and requires only a low degree of the faculty of reasoning. But sympathy requires a power of putting one's self in the place of another, of representing to self the pains of others. When this power is acquired it causes a reflex of the represented pain to self, and this reflected pain felt by the person representing it becomes more and more acute and unendurable as the representation becomes more vivid and as the general organization becomes more delicate and refined. This high degree was far from being attained by man at the early stage with which we are now dealing. Vast ages must elapse before it is reached even in its simplest form. And yet the men of that time knew their own wants and possessed much intelligence of ways of satisfying them. We need not go back to savage times to find this difference between egoistic and altruistic reason. We see it constantly in members of civilized society who are capable of murdering innocent persons for a few dollars with which they expect to gratify a passion or satisfy some personal want. It is true in this sense that the criminal is a survival from savagery. Civilization may, indeed, be measured by the capacity of men for suffering representative pain and their efforts to relieve it.

In our long and somewhat dreary journey down the stream of time we have now reached the darkest spot, and fain would I omit its description were this not to leave a blank in the story and to drop out an essential link in the chain of evidence for the gynæcocratic theory. But in recording this history I prefer in the main to let others speak. And first let us hear Herbert Spencer. This is what he says:—

In the history of humanity as written, the saddest part concerns the treatment of women; and had we before us its unwritten history we should find this part still sadder. I say the saddest part because, though there have been many things more conspicuously dreadful—cannibalism, the torturings of prisoners, the sacrificings of victims to ghosts and gods—these have been but occasional; whereas the brutal treatment of woman has been universal and constant. If, looking first at their state of subjection among the semi-civilized, we pass to the uncivilized, and observe the lives of hardship borne by nearly all of them—if we then think what must have gone on among those still ruder peoples who, for so many thousands of years, roamed over the uncultivated Earth; we shall infer that the amount of suffering which has been, and is, borne by women, is utterly beyond imagination. . . . Utter absence of sympathy made it inevitable that women should suffer from the egoism of men, without any limit save their ability to bear the entailed hardships. Passing this limit, the ill-treatment, by rendering the women incapable of rearing a due number of children, brought about disappearance of the tribe; and we may safely assume that multitudes of tribes disappeared from this cause: leaving behind those in which the ill-treatment was less extreme.¹

The general fidelity of this picture cannot be questioned, but, in the light of all that has been said thus far, I must protest against the term "brutal" as characterizing the treatment of woman by man. Far too many human sins are attributed to the brute that still lurks in man, but in this case it is flagrantly unjust to do this, since, as has been seen, no male brute maltreats the female, and the abuse of females by males is an exclusively human virtue.

In the second place, I think Spencer's picture a little too dark in assuming that this state of things must have been progressively worse as we recede from the present toward the past. It may have been worse in some races at an earlier date, and no doubt in all it has been bad for a very long period, but if any race could be traced back far enough we should find it in its gynæcocratic stage when the women were not only well treated, but themselves meted out justice to the men. All the cases enumerated in the last section are more or less modified survivals of that stage.

That the abuse of women by men is due in the main to the feeble development of sympathy is well stated by Spencer in an earlier work:—

The status of women among any people, and the habitual behavior to them, indicate with approximate truth, the *average* power of the altruistic sentiments; and the indication thus yielded tells against the character of the primitive man. Often the actions of the stronger sex to the weaker

¹ "Principles of Ethics," New York, 1893, Vol. II, pp. 335, 336 (§ 428).

among the uncivilized are brutal; generally the weaker are treated as mere belongings, without any regard for their personal claims; and even at best the conduct towards them is unsympathetic. That this slavery, often joined with cruelty, and always with indignity, should be the normal condition among savages, accepted as right not by men only but by women themselves, proves that whatever occasional displays of altruism there may be, the ordinary flow of altruistic feeling is small.¹

To practically the same effect Letourneau remarks:—

In the human brain ideas of right and justice, the sentiment of respect for the weak, are fruits of a high culture, unknown to primitive civilizations in which man, realizing certain conceptions of Greek mythology, is still more than half beast. Now, throughout the world woman has the misfortune to be less strong than her companion; we must then expect to find her lot harder in proportion as the society of which she forms a part is more rudimentary. The condition of women may even furnish a good criterion of the degree of development of a people.²

The great length that this chapter is assuming will almost compel me to limit myself to giving a few of these general statements, but they are found either at the beginning or the end of long recitals of facts observed and recorded of great numbers of tribes in all parts of the world. Any attempt to enumerate these facts would carry me much too far. I will, therefore, offer only a few of the briefer accounts, which may be taken as illustrating the subjection of woman in the stage of androcracy, which is that in which we now find most of the lower savages. Thus Lubbock says, quoting in part from Eyre:—

In Australia "little real affection exists between husbands and wives, and young men value a wife principally for her services as a slave; in fact, when asked why they are anxious to obtain wives, their usual reply is, that they may get wood, water, and food for them, and carry whatever property they possess." The position of women in Australia seems indeed to be wretched in the extreme. They are treated with the utmost brutality, beaten and speared in the limbs on the most trivial provocation. "Few women," says Eyre, "will be found, upon examination, to be free from frightful scars upon the head, or the marks of spear-wounds about the body. I have seen a young woman who, from the number of these marks, appeared to have been almost riddled with spear wounds." If at all good-looking their position is, if possible, even worse than otherwise.³

¹ "Principles of Sociology," Vol. I, New York, 1877, p. 78 (§ 37).

² "La Sociologie d'après l'Ethnographie," 3^e éd., Paris, 1892, p. 168.

³ "Origin of Civilization," New York, 1871, p. 52. Cf. Edward John Eyre, "Journals of Expeditions of Discovery into Central Australia and Overland from Adelaide to King George's Sound, in the Years 1840-1." London, 1845. Two volumes, 8°. Vol. II, pp. 321, 322.

Du Chaillu describes two distressing cases of the apparently wanton torture of women in Central Africa,¹ one of which he succeeded in relieving. He intimates that this practice of torturing women was connected with some detestable superstition among the natives by which women were suspected of sorcery and witchcraft. But how much better were the people of Europe, and even of America, in this respect, down to the end of the seventeenth century?

"Among the Kaffirs," says Spencer, quoting Shooter, "besides her domestic duties, the woman has to perform all the hard work; she is her husband's ox, as a Kaffir once said to me, — she had been bought, he argued, and must therefore labor."²

The complete slavery of woman to man is shown by the following: "Of a Malagasy chief Drury says — 'he had scarcely seated himself at his door, when his wife came out crawling on her hands and knees till she came to him, and then licked his feet . . . all the women in the town saluted their husbands in the same manner.'"³ "Almost everywhere in Africa," says Letourneau, "woman is the property (*chose*) of her husband, who has the right to use her as a beast of burden, and almost always makes her work as he does his oxen."⁴ "In certain Himalayan regions near the sources of the Djemnah in Nepal, etc., the Aryan Hindoos have adopted Tibetan polyandry. The women are for them a veritable merchandise which they buy and sell. At the time of which Fraser writes a woman among the peasants cost from 10 to 12 rupees, a sum which it was pleasant to receive but painful to expend. They also freely sold their daughters, and the brothers of each family bought a common wife, whom they rented without hesitation to strangers."⁵

That the subjection of woman was due entirely to her physical inferiority to man, or rather to that superior size and strength which men had acquired in common with most of the other higher animals through female selection, seems beyond controversy, the tendency to deny and escape it being inspired wholly by shame at admitting it. I find the following noble sentiment in the fragments of Condorcet:

¹ "Adventures in the Great Forest of Equatorial Africa and the Country of the Dwarfs," by Paul Du Chaillu, London, 1861, Chapter X, p. 122; Chapter XII, pp. 157-158.

² "Principles of Sociology," Vol. I, p. 687 (§ 305).

³ *Op. cit.* Vol. II, pp. 124-125 (§ 386).

⁴ "La Sociologie d'après l'Ethnographie," p. 336.

⁵ *Op. cit.*, p. 366.

Among the advances of the human mind most important for the general welfare, we should number the entire destruction of the prejudices which have produced between the sexes an inequality of rights injurious even to the favored sex. In vain is it sought to justify it by differences in their physical organization, in the strength of their intellects, in their moral sensibilities. This inequality has had no other origin than the abuse of power, and it is in vain that men have since sought to excuse it by sophisms.¹

Darwin says: "Man is more powerful in body and mind than woman, and in the savage state he keeps her in a far more abject state of bondage than does the male of any other animal;"² and Spencer remarks: "Without implying that savage men are morally inferior to savage women (the last show just as much cruelty as the first where opportunity allows), it is clear that among people who are selfish in extreme degrees the stronger will ill-treat the weaker; and that besides other forms of ill-treatment will be that of imposing on them all the disagreeable tasks they are able to perform."³ In New Zealand, according to Moerenhaut, a father or brother, in giving his daughter or his sister to her future husband, would say, "If you are not satisfied with her, sell her, kill her, eat her, you are absolute master of her."⁴ "Almost at the origin of human society woman was subjugated by her companion; we have seen her become in succession, beast of burden, slave, minor, subject, held aloof from a free and active life, often maltreated, oppressed, punished with fury for acts that her male owner would commit with impunity before her eyes."⁵

The whole difficulty in understanding these abuses lies in the fact that civilized men cannot conceive of a state in which no moral sentiments exist, no sympathy for pain, no sense of justice. And yet every day, in every civilized country of the world, the public press informs us of wife beatings that are scarcely less horrid than those of savages, and these would of course be far more common and shocking but for the restraints of law and police regulation. At the stage in the history of any race at which the transition from gynæ-

¹ "Tableau Historique des Progrès de l'Esprit Humain," Bibliothèque Positiviste, Paris, 1900, pp. 180-181.

² "Descent of Man," Vol. II, p. 355.

³ "Principles of Sociology," Vol. III, p. 343 (§ 730).

⁴ "Voyages aux Îles du Grand Océan," par J. A. Moerenhaut, Paris, 1837, Vol. II, p. 69. These are the closing words of a set speech delivering the woman to the man, which may not be varied, and which corresponds to that of a modern marriage ceremony.

⁵ Letourneau, *Rev. Ecole d'Anthrop. de Paris*, Vol. IX, p. 288.

cocracy to androcracy took place, and for a long period afterward, all men were morally below the level of the basest wife-beater of modern society, at a state in which the first spark of sympathy for suffering in others had not yet been kindled. It was this manner of man, just coming to consciousness through the dawn of a purely egoistic intellect, who, suddenly as it were, discovered that the physically inferior being who had, without his knowledge, endowed him with his superiority, was in his power and could be made to serve him. Hence the subjection of woman.

The Family.—It is customary to speak of the family with the most unreserved respect. Comte, who knew scarce anything of primitive man, and whose own family affairs were wretched in the extreme, made it the unit and the bulwark of society. In this he has been followed by many sociologists, and most of those who prefer some other social unit still hold the family to be an essential if not a sacred institution. But Comte was aware that the word *family* originally meant the servants or slaves.¹ The philologists have traced it back to the Oscan word *famel* from which the Latin *famulus*, *slave*, also proceeds, but whether all these terms have the same root as *fames*, hunger, signifying dependence for subsistence, is not certain. It is true, however, that *familia* was only rarely and not classically used by the Romans in the sense of the modern word family, *i.e.*, as including parents and children. For this *domus* was usually employed. But perhaps etymology signifies little in the present case.

The important thing is to gain something like a just conception of what the primitive family was. Under the régime of gynæcocracy there could of course be no proper family. The father was unknown and the mother cared for her children in obedience to an instinct common certainly to all mammals and birds and probably to many lower vertebrates. With the beginning of the régime of androcracy the women were enslaved and both women and children became the chattels of the men. The men still continued to fight for the women, but instead of thereby seeking to secure their favor and to become the chosen ones, they fought for their possession and seized each as many women as possible. The weaker men were, as before, condemned to celibacy, and the women were subject to a monopoly of the strong. This polygamous life made paternity practi-

¹ "Politique Positive," Vol. II, p. 201.

cally certain, and led direct to the patriarchate or patriarchal family. Brain development, among its other effects, led to the invention of artifices and devices for catching game and fish, and of weapons for more effectually combating rivals, who were now often killed and eaten, the distinction between war and the chase having as yet scarcely arisen. The primitive androcratic society was thus formed of patriarchal polygamous families and celibate men, the weaker of whom may have been also made slaves. All women were abject slaves, and the children were compelled to do any service of which they were capable. The patriarchs had absolute power over the persons of all within their families. Lippert¹ holds that the invention of the first implements and weapons produced a true revolution. The chase becomes possible, but only for man; woman, embarrassed by her child, cannot take part in it. Man begins to have need of her to carry his simple baggage; he must therefore maintain her and the children. Marriage is from the beginning an association dictated by economic needs. Man, devoting himself to the chase, becomes little by little physically superior to woman, and so becomes her master. Of course Lippert had no idea of the real causes that produced man's physical superiority to woman, but this passage is as clear a picture of the actual transition as I find in the writings of anthropologists, most of whom, strange to say, have scarcely any biological equipment for their work.

Ratzenhofer portrays the primitive family in the following terms:

The need of authority in this group makes the father its head, and from this arises a new social phenomenon, the *family*, as the union of both sexes with their children under the leadership of one part, with the moral duty of mutual protection and sustentation. The headship of the father (exceptionally in a few peoples of the mother) is the fundamental condition of the family. Although in the horde with peaceful relations between man and wife a sort of marital relation may have existed, still this only acquired permanence through dominion and subjection in the family; only through these was an indissoluble marriage made to conform to the innate interests of men. But as the family bond of the community has an economic basis (*Veranlassung*) it lowers (*verschlechtert*) in general the position of women and children, sometimes also that of the parents; the stronger father reduces wife and children to the condition of workers for him, while he is supported and eventually devotes himself only to the chase or to combating wild animals. It may be said that this condition of wife and children is the most

¹ "Kulturgeschichte der Menschheit in ihrem organischen Aufbau," von Julius Lippert, Stuttgart, 1887. Zwei Bände, Band I, pp. 64 ff.

widespread of social phenomena. Not only do all cultured peoples who have developed the family from the community or the tribe show from that time to the present this economic state of things, but primitive tribes have gradually brought about the enslavement of woman, and without the aid of other social influences, have transferred the labor to the wife. Not only the wife of the negro, the Hindu, and the Kirghis, but also the wife of the present Slav of the Balkan peninsula and of Russia, is the misused slave of her husband, and as the result of the effort to escape labor, we see the unwholesome interchange of wife and child labor in the West European factories, which would make greater gains from the laborer at the expense of wife and child, while at the same time they lower their wages.¹

And in another place he remarks:—

Whether a man subjects one or several women to himself and treats the children as an addition to their working capacity, or whether a patriarchal community under the leadership of the oldest father devotes itself to similar economic ends, or whether several men appropriate one woman with a common economic object, or whether finally the monogamic family prevails through the honored relation of one man to one woman— it remains the same, the family is in all its forms an economic arrangement on the basis of the sex relation.²

It thus appears that, whatever the family may be to-day in civilized lands, in its origin it was simply an institution for the more complete subjugation and enslavement of women and children, for the subversion of nature's method in which the mother is the queen, dictates who shall be fathers, and guards her offspring by the instinct of maternal affection planted in her for that express purpose. The primitive family was an unnatural androcratic excrescence upon society.

Marriage.— We have now to invade another "sanctuary" only to find it, like the last, a "whited sepulcher." It may look like a strange inversion of the natural order of things to place marriage after the family, but if the promiscuous intercourse of the sexes that characterized the gynæocratic stage cannot be properly called marriage, scarcely more can that stage be so called in which the men forcibly seize the women and make them their slaves and concubines without ceremony or pretence of consulting their will. The original patriarchal family implies marriage only in the sense that it is implied in a harem of seals on a rookery under the dominion of an old bull. Less so, in fact, for, although we are told that the bull does sometimes gently bite his refractory cows, he never abuses or

¹ "Die Sociologische Erkenntnis," pp. 142-143.

² *Ibid.*, pp. 230-231.

injures them, much less kills and eats them. That function is reserved for the "lord of creation," the only being endowed with a "moral sense," made "in the image of his Creator," and often after his death erected by his descendants into a god. Indeed, most gods are themselves accredited with these sublime attributes!

The word *marriage* in the English language has three meanings, viz.: 1, the mutual voluntary union of a man and a woman; 2, the act of union of a man to a woman, or of a woman to a man; 3, the causing of a woman to unite with a man. The first of these is a neuter or "middle" sense, and the corresponding verb is reflexive in most other languages. The other two meanings are active, the second having an entirely different verb in the Romance languages (*épouser*, etc.). The third is active and transitive, and is little used, being more commonly expressed by the phrase "giving in marriage." Even this is now more or less a matter of form. These uses of the word marriage represent an evolution, and the first meaning was the last to be developed, and represents the greatest mutuality and equality of the marrying parties that has been attained. The second at first chiefly applied to the man who married the woman without implying her consent, and has only in comparatively recent times carried with it the idea of a woman marrying a man. The third, and now nearly obsolete meaning, was the only one that the word possessed throughout all the early ages of human development. The patriarch who owned all the women disposed of them as he saw fit. They were looked upon by him as so much value, and if the oxen, spears, boats, or other merchandise offered for a woman were worth more to him than the woman, he sold her for a price, and marriage consisted in nothing more than the ratification, by whatever ceremony might prevail, of the bargain thus made. In selling a woman to a man her owner is said to marry her to him, and such was primitive marriage. In later stages and in different tribes of course variations arose in the nature of the ceremonies, and a great variety of so-called forms of marriage has been described, but all of them wholly ignore the wishes of the woman and constitute so many different ways of transferring and holding property in women.

When the protosocial stage was passed and wars, conquests, and social assimilation had begun, the women of the conquered races became the slaves of the conquerors, and ultimately the warriors also

and many of the other men. Then commenced the period of universal slavery with the qualifications set forth in Chapter X. The system of caste was no doubt favorable to woman, since those of the noble classes, whatever their relations to the men of those classes, were on a higher plane than those of the lower classes. The patriarchal system was strengthened rather than weakened by social assimilation, and the principal effect it had upon marriage was to diversify forms and, along with its other socializing influences, somewhat to mitigate the rigor of woman slavery. Polygamy prevailed, and with the establishment of a leisure class it was greatly strengthened, the nobility and ruling class being secured in the possession of as many wives as they desired. The enslavement of men was some relief to women from drudgery, and harems were established in which the handsomest women were kept without labor and always fresh for breeding purposes and to satisfy men's lusts.

Among the lower classes, and especially in the large middle class that were neither slaves nor nobles, which carried on the principal industrial operations of the now developing state and people, marriage took more rational forms, becoming, from considerations of enforced justice, more frequently monogamic, and, as was shown, resulting in the complete mixture of the blood of the two races. With the origin of the state and the establishment of more and more complete codes of law, marriage was legalized and regulated and became more and more a human institution. But when we see how little advanced marriage was in Greece and Rome during what we call "antiquity," we may easily imagine what it must have been at an earlier date and among more backward races. In Homer's day the distinction between the first or real wife, presumably the one who belonged to the noble caste, and the concubines, probably for the most part from the lower caste, was clearly drawn.

The characteristic feature of Homeric marriage-preliminaries, in perfect consonance with the patriarchal mode, is wife-purchase. "Women," *i.e.*, concubines, had values set upon them, were given as prizes and bought like cattle; they were mere slaves and treated as such. A wife, on the other hand, was regularly sought with gifts, that is, was bought in a more formal and distinctive way. . . . The father's power was very great; to him the daughter belonged, and he promised and married her with no thought of her own feeling in the matter.¹

¹"Homeric Society. A Sociological Study of the Iliad and Odyssey," by Albert Galloway Keller. New York, 1902, pp. 212, 214.

Letourneau says:—

In the first ages of Rome the wife formed part of the family of her husband only in the quality of a slave. . . . She was owned like any chattel, for the virtuous Cato lent his wife Marcia to his friend Hortensius and took her back on the death of that friend. The Roman husband had the right to beat his wife; for, according to the expression of Monica, Saint Augustine's mother, Roman marriage was only a "contract of servitude." The wife was for a long time purchased, and marriage *per coemptionem* always existed. If the betrothed was of patrician race, the sale was disguised by the ceremony of *confarreatio*, consisting in partaking with the future husband, before ten witnesses, of a cake given by the priest of Jupiter. For at Rome marriage, the *justes noces*, long the sole privilege of patricians, required religious consecration. But once married by coemption or *confarreatio*, the woman belonged to her husband, body and goods; she was "in his hands."¹

It would be hopeless to attempt to enumerate all the multitudinous forms of marriage, but down to comparatively modern times they all have one thing in common, viz., the proprietorship of the husband in the wife. So slow has the idea of the wife being a slave of her husband been in disappearing that the word "obey" still remains in the marriage ceremony of all countries, and is only stricken out by a few emancipated people or liberal sects.

Almost from the beginning there existed a sort of "ceremonial government," growing more and more "ecclesiastical," *i.e.*, acquiring more and more a religious character, and by this the relations of the sexes were greatly modified. This was what I have called *the group sentiment of safety*. Its action was not moral in the sense of mitigating the abuse of women by men; it was moral only in the sense of imposing restraints upon tendencies injurious or destructive to the race. Among other such influences the ones that chiefly concern us here were those that worked for the maintenance of race vigor and the prevention of degeneracy. Nature, as has been seen, constantly strives to keep up the difference of potential, and the origin of sex was one of the most effective of all devices for this purpose. Nothing further seemed to be required in the animal world except to avoid hermaphroditism and secure bisexuality. But among men forming themselves into kinship groups, the tendency to interbreed too closely was strong, and required to be checked. The collective wisdom, or instinct, if any one prefers, perceived this, and offset it in a

¹ Letourneau, "La Sociologie d'après l'Ethnographie," p. 371. Cf. De Greef, "Introduction à la Sociologie," Pt. II, 1889, pp. 136-140.

number of ways. In the protosocial stage this was accomplished chiefly through exogamy, which, as is well known, widely prevails, and although showing considerable variation, consists essentially in the crossing of clans. In many tribes marriage within the clan is severely punished, often with death. The era of war, conquest, and race amalgamation inaugurated a system of cross fertilization on a large scale, and this was adequately treated in Chapter XI. But one of the principal consequences that followed was the introduction of a system of marriage by rape, in which whole races engaged, and women were sought in war as trophies, and were captured for wives, thus effectively crossing the different stocks, and greatly strengthening the physical and mental constitution of the races involved. Marriage by capture thus became a system and was real for ages and over large parts of the earth. But with the increase and spread of population and the formation of states and peoples it gradually lost its serious character and was reduced to a mass of fictions and conventional symbolizations. Survivals of it persisted far down into the historic period, and some still exist. There seems no doubt that the "wedding tour" is a survival of the marriage flight following wife-capture, made to escape the fury of the wife's relatives, while the charivari or "horning" typifies the attack of the members of the wife's clan upon the pair, who seek to conceal themselves.

Ethnographers and historians all tell us that polygamy, meaning polygyny, or a plurality of wives, prevails and has prevailed in nearly all parts of the world and throughout all time. No doubt it has been the accepted form, but the substantial numerical equality of the sexes requires the assumption of a large amount of accompanying male celibacy. Wherever the facts have been ascertained no prevalent form of marriage has been able to prevent the coexistence with it of a widespread system of promiscuity. In civilized countries this is called prostitution, and by making it illegal without being able to suppress it, it has been rendered base and dangerous to the public health. But if all countries are studied it is found that from this quasi-criminal character it shades off more and more into a recognized form, if not of marriage at least of sexual union, and that it becomes natural and harmless in proportion as it is more fully tolerated and recognized. It is certain that monogamy does not lead to its abolition, and polygamists insist that their system is

less favorable to it than monogamy.¹ As in civilized countries this form of marriage is not allowed to result in propagation it becomes a case of the complete triumph of feeling over function, and in which feeling is the sole end, and is sought for its own sake. The high group morality, expressing itself largely through religion, therefore condemns it. If function were the sole end, and feeling had no right to exist as an end, this condemnation would be altogether just. But even this sterile form of marriage may, from a wider standpoint, be compared with the wholesale destruction of germs going on in nature. The phylogenetic forces as such are irrepressible, but there must be a limit to multiplication, and this may be looked upon as one of the ways of preventing undue multiplication while at the same time permitting the action of the reproductive forces.

Upon the whole, however, marriage has accomplished its purpose, which, as we have seen, is not exclusively the producing and protecting of offspring and consequent continuation of the race, although this of course is its chief function, but which is also, to a large extent qualitative, and secures a degree of variation, crossing, and mixing, compatible with the prevention of stagnation and degeneracy and with the maintenance and increase of race vigor and of those physical and psychic qualities that have contributed to make the human race what we find it at its best.

We have seen that at a certain stage rape was a form of marriage, and that it was based on the unconscious but universal sense of the advantage of crossing strains, which is reinforced by the charm of sexual novelty, both of which motives are equally products of the biological imperative. It will be interesting to trace the influence of these early principles into later stages of society where rape has become a crime. The philosophy of rape as an ethnological phenomenon may be briefly summed up under the following heads:—

¹In Utah it is exclusively confined to the "gentiles." In all countries it is almost wholly due to the economic dependence of women. Winiarsky justly remarks (*Revue Philosophique*, 25^e Année, mars, 1900, p. 276) that "in regard to prostitution we have to do with a regular market, recognized for the most part by states, in which the supply of and demand for virtue exist and in which prices fix themselves according to the laws of economic mechanics." What would happen if women should acquire economic independence it may be difficult to predict, but it is easy to see that prostitution would practically cease. It would seem that there would then exist a demand without a supply, but in practice there would only remain the general fact that the sexes demand each other, and there can be no doubt that they would find ways of supplying this mutual demand. It could scarcely fail to produce a profound revolution in marriage institutions.

1. The women of any race will freely accept the men of a race which they regard as higher than their own.

2. The women of any race will vehemently reject the men of a race which they regard as lower than their own.

3. The men of any race will greatly prefer the women of a race which they regard as higher than their own.

These are fundamental and universal principles of ethnology, and when closely analyzed they will be seen to be all the result of the more general principle which makes for race improvement. When a woman of an inferior race yields to a man of a superior race there is a subconscious motive probably more powerful than physical passion, which is, indeed, the inspirer of the physical passion itself—the command of nature to elevate her race. When a woman of a superior race rejects and spurns the man of an inferior race it is from a profound though unreasoned feeling that to accept him would do something more than to disgrace her, that it would to that extent lower the race to which she belongs. And when the man of an inferior race strives to perpetuate his existence through a woman of a superior race, it is something more than mere bestial lust that drives him to such a dangerous act. It is the same unheard but imperious voice of nature commanding him at the risk of "lynch law" to raise his race to a little higher level.

In this last case, therefore, the philosophical student of races, however much he may deplore anything that tends to lower a higher race, sees reasons for partially excusing the "crime," since, although the perpetrator does not know it, it is committed in large measure under the influence of the biological imperative. It may be compared to the brave conduct of the male mantis or male spider in his zeal to perpetuate his race. On the other hand, the indignation and fury of the community in which such an act is performed is to be excused in a measure for the same reason. Although the enraged citizens who pursue, capture, and "lynch" the offender do not know any more than their victim that they are impelled to do so by the biological law of race preservation, still it is this unconscious imperative, far more than the supposed sense of outraged decency, that impels them to the performance of a much greater and more savage "crime" than the poor wretch has committed.

The terrible penalty attached to the attempt to raise a lower race by lowering a higher one renders this form of race mixture very

rare. Fortunately perhaps for the human species at large, there is a fourth law, which may be stated as follows:—

4. The men of any race, in default of women of a higher race, will be content with women of a lower race.

The necessary corollary to all these laws is that in the mixture of races the fathers of the mixed race almost always belong to the higher and the mothers to the lower component race. What the effect of this is upon mankind at large is matter for speculation. Whether the opposite would produce a better or a poorer mixture is not known. That it would be a very different one there is little doubt. The difference might be compared to that between a mule and a hinny. At all events the process of race mixture that has always gone on and is still going on through the union of men of superior with women of inferior races is at least in the nature of a leveling *up*, and not a leveling *down*.

Male Sexual Selection.—With the earliest forms of social assimilation through conquest the lowest point seems to have been reached in the moral degradation of man. From this point on the ethical as well as the intellectual curve gradually rises, and the horrors of savagery become by degrees mitigated. The esthetic sense through which the female mind had created the male being, including man as we find him, was not extinguished, it was simply overwhelmed by the power of the new-born egoistic reason of man, using the strength acquired through female selection in the subjugation and domination of the innocent and unconscious authoress of these gifts. Nor was this esthetic sense an exclusively female attribute. It is an invariable concomitant of brain development. Beauty is that which is agreeable to sense, and its effect is measured by the development of the senses and sensory tracts of the brain. But the esthetic sense is not intense. It constitutes an interest of mild type. By the side of the sexual interest of the male in animals and earliest man it is so feeble as scarcely to make itself felt. The male therefore did not select or exercise any choice. All females were alike for the male animal and savage. The only selection that took place down to the close of the protosocial stage was female selection. The females alone were sufficiently free from the violence of passion to compare, deliberate, and discriminate. This they did, and we have seen the result.

But with the advent of the metasocial stage due to conquest and

subjugation, inaugurating the system of caste and establishing a leisure class, brain development was greatly accelerated by cross fertilization, and for the higher classes the primary sexual wants were more than satisfied by universal polygamy in those classes. It is a sociological law that as the lower, more physical wants are satisfied the higher spiritual wants arise. With an unlimited supply of women men began to compare them, and their esthetic sense was sharpened to stimulate their sated physical sense. Female sexual selection, which for the sake of brevity and precision may be called *gyneclexis*, had long ceased. The advent of androcracy and the subjection of woman had terminated its long and fruitful reign, and throughout the entire protosocial stage of man physical passion was supreme. But now there comes a calm in the long stormy career of man, and a small number are placed in a position to allow the spiritual forces free play. In this way male sexual selection, which may be called *andreclaxis*,¹ arose, and this has since played a considerable rôle in the history of the human race.

Darwin did not overlook the phenomenon of male sexual selection. He even observed cases in the higher animals, and called special attention to the case of man. The following is his principal allusion to the subject:—

There are, however, exceptional cases in which the males, instead of having been the selected, have been the selectors. We recognize such cases by the females having been rendered more highly ornamented than the males—their ornamental characters having been transmitted exclusively or chiefly to their female offspring. One such case has been described in the order to which man belongs, namely, with the Rhesus monkey. Man is more powerful in body and mind than woman, . . . therefore it is not surprising that he should have gained the power of selection. Women are everywhere conscious of the value of their beauty; and when they have the means, they

¹The various kinds of selection play such an important rôle in modern dynamic biology that they seem to demand a special terminology. The phrases "natural selection," "artificial selection," "sexual selection," etc., besides being too long for convenient use, are not all free from ambiguity. For example, sexual selection does not indicate which sex does the selecting, but it is generally understood that by it only female selection is meant. To express the opposite it is necessary to say, male sexual selection. It should be possible to designate each different kind of selection by a single word, and I therefore propose the following terms derived from the Greek word *ἐκλεξις*, selection, and an appropriate first component expressing the kind of selection:—

Geneclaxis, natural selection; *teleclaxis*, artificial (intentional) selection; *gyneclexis*, female sexual selection; *andreclaxis*, male sexual selection; *ampheclaxis*, mutual sexual selection, as explained below (p. 396).

take more delight in decorating themselves with all sorts of ornaments than do men. They borrow the plumes of male birds, with which nature decked this sex in order to charm the females. As women have long been selected for beauty, it is not surprising that some of the successive variations should have been transmitted in a limited manner; and consequently that women should have transmitted their beauty in a somewhat higher degree to their female than to their male offspring. Hence women have become more beautiful, as most persons will admit, than men. Women, however, certainly transmit most of their characters, including beauty, to their offspring of both sexes; so that the continued preference by the men of each race of the more attractive women, according to their standard of taste, would tend to modify in the same manner all the individuals of both sexes belonging to the race.¹

In the undeveloped state of male tastes the qualities preferred by men are apt to be mere monstrosities, as in the steatopygy of the Hottentot women,² but even here it proves the possibility of producing secondary sexual characters in the female as well as in the male by sexual selection. De Candolle is the only author I have noted who has signalized the value of polygyny in securing female beauty. He says:—

Polygamy — which should be called polygyny — is a natural consequence of the abuse of power. Along with many bad effects it has this advantage that the population of the wealthy class is physically improved by a continual choice of women endowed with beauty and with health.³

Although this effect is chiefly confined to the leisure class, the nobility, and the priesthood where this last is not celibate, and in more advanced and somewhat industrial societies, to the wealthy classes generally, still in polygamous countries it must be very great. Especially the large seraglios of Oriental Semitic and Aryan peoples were and still are stirpicultural nurseries of female beauty. Kings and high dignitaries canvass the surrounding countries for the most perfectly developed women to stock these seraglios. Circassian and Caucasian girls having the pure white complexion, small hands, feet, and limbs, and perfect pelvic and thoracic development, are among those of whom we read as constituting the favored inmates of these establishments. If we reflect that this process had been going on for untold ages, before the time of Greek sculpture, we can readily understand how the models for the most celebrated statues may

¹ "Descent of Man and Selection in Relation to Sex," New York, 1871, Vol. II, p. 355.

² *Ibid.*, p. 329.

³ "Histoire des Sciences et des Savants," 2^e éd., 1885, p. 129.

have actually existed in that epoch, requiring scarcely any exercise of the sculptor's imagination to reproduce them in marble.

The fact that this andreclexis was so long confined to a numerically small class of mankind accounts for the great differences in the beauty of women; and the fact that this beauty is a secondary sexual character renders it somewhat ephemeral, so that the same women who were beautiful during their reproductive period are apt to become ugly during the latter part of their lives. As it is purely physical, and mind plays no part in its production, this element of durability is also wanting, and the quality is in a high degree superficial. In fact there is some resemblance between the effects of male and of female sexual selection, as the former was described a few pages back. There is a certain unreality, artificiality, and spuriousness about female as well as about male secondary sexual characters. The two processes differ, however, in many respects. Man, for example, does not desire women to be larger and stronger, but prefers frailty and a certain diminutiveness. He does not want cunning nor courage, nor any sterling mental or moral qualities, and therefore woman does not advance in these directions. Even fecundity and the physical development necessary to render it successful are not specially selected, and under this influence woman grows more sterile rather than more fertile. In short, almost the only quality selected is bodily symmetry with the color and complexion that best conform to it. The result is that if this were to go on a sufficient length of time without the neutralizing and compensating effect of other more normal influences, woman might ultimately be reduced to a helpless parasite upon society, comparable to the condition of the primitive male element, and the cycle might be completed by the production of complementary females corresponding to Darwin's complementary males in the cirripeds. There are certain women now in what is regarded as high society who are even less useful, since they contribute nothing to the quantity or quality of the human species. They represent what Mr. Veblen calls "vicarious leisure" and "vicarious consumption," devoting their lives to "reputable futility." In fact most leisure class ideas tend in the direction of making the women of that class as useless as possible. In China, as is well known, the ideal of female beauty consists in small feet, and not satisfied with the slow processes of selection and heredity, artificial clamps are put on at an early age to prevent the feet from

growing, and so far is this carried that we are told that many women are unable to walk.

Notwithstanding all these capricious and unnatural tendencies, male sexual selection has been perhaps upon the whole beneficial in securing increased physical perfection of the race, primarily of women, a sort of female efflorescence, but also in some degree of men.

Woman in History. — The series of influences which we have been describing had the effect to fasten upon the human mind the habit of thought which I call the androcentric world view, and this has persistently clung to the race until it forms to-day the substratum of all thought and action. So universal is this attitude that a presentation of the real and fundamental relation of the sexes is something new to those who are able to see it, and something preposterous to those who are not. The idea that the female is naturally and really the superior sex seems incredible, and only the most liberal and emancipated minds, possessed of a large store of biological information, are capable of realizing it. At the beginning of the historical period woman was under complete subjection to man. She had so long been a mere slave and drudge that she had lost all the higher attributes that she originally possessed, and in order to furnish an excuse for degrading and abusing her men had imputed to her a great array of false evil qualities that tended to make her despise herself. All Oriental literature, all the ancient sacred books and books of law, all the traditional epics, all the literature of Greek and Roman antiquity, and in fact all that was written during the middle ages, and much of the literature of the fifteenth, sixteenth, and seventeenth centuries, teem with epithets, slurs, flings, and open condemnations of women as beings in some manner vile and hateful, often malicious and evil disposed, and usually endowed with some superstitious power for evil. The horrors of witchcraft were nothing but the normal fruit of this prevailing spirit in the hands of superstitious priests of a miracle-based cult. Near the end of the fifteenth century a certain book appeared entitled, "The Witch Hammer," which received the sanction of Pope Innocent VIII, and formed the companion to a bull against witches issued by him. The following is a sample passage from this book: —

The holy fathers have often said that there are three things that have no moderation in good or evil — the *tongue*, a *priest*, and a *woman*. Concerning woman this is evident. All ages have made complaints against her. The

wise Solomon, who was himself tempted to idolatry by woman, has often in his writings given the feminine sex a sad but true testimonial; and the holy Chrysostom says: "What is woman but an enemy of friendship, an unavoidable punishment, a necessary evil, a natural temptation, a desirable affliction, a constantly flowing source of tears, a wicked work of nature covered with a shining varnish?" Already had the first woman entered into a sort of compact with the devil; should not, then, her daughters do it also? The very word *femina* (woman) means *one wanting in faith*; for *fe* means "faith" and *minus* "less." Since she was formed of a crooked rib, her entire spiritual nature has been distorted and inclined more toward sin than virtue. If we here compare the words of Seneca, "Woman either loves or hates; there is no third possibility," it is easy to see that when she does not love God she must resort to the opposite extreme and hate him. It is thus clear why women especially are addicted to the practice of sorcery. The crime of witches exceeds all others. They are worse than the devil, for he has fallen once for all, and Christ has not suffered for him. The devil sins, therefore, only against the Creator, but the witch both against the Creator and Redeemer.¹

The Hebrew Bible myth of the rib has been made a potent instrument for the subjection of woman. Bossuet in his "Élévations sur les Mystères," uttered the following classical note which has since been hurled at woman on every possible occasion: —

Let women consider their origin and not boast too much of their delicacy; let them remember that they are after all only a supernumerary bone, in which there is no beauty but that which God wished to put into it.²

Among these characteristic fables we give the first place to the one that has been preserved for us by the Bible, and according to which woman was a secondary creation of God: she was formed out of a rib of man which justifies her domination by him. That is probably one of the most ancient examples proving that a *de facto* domination is never embarrassed in proving its "right."³

¹The only copy of this work that I have seen is as old as 1487, and although it has no title page, place or date of publication, it bears the name "Malleus Maleficarum" on the back of the cover, and properly begins with the heading: "Apologia auctoris in malleum maleficarum." This is preceded by the text of the bull of Pope Innocent VIII, "adversus heresim." The pages are not numbered and passages can only be cited by the signature marks at the bottom, which consist of letters in alphabetical order accompanied by Arabic numbers for the general heads or rubrics. The above passage occurs under the rubric: "Sequitur quo ad ipsas maleficas demonibus se subjicientibus," which is in signature C and is No. 4. It need not be quoted in full in the Latin text, but the part relating to the etymology of the word *femina*, woman, reads thus: "Dicitur enim femina fe, et minus, quia semper minorem habet et seruat fidem." The authorship of the work is ascribed to Heinrich Institor and Jacob Sprenger.

²"Élévations sur les Mystères," V^e Semaine, II^e Élévation. La Création du second sexe. Œuvres de Bossuet, Tome quatrième, Paris, 1841, p. 653.

³Gumplowicz, "Précis de Sociologie," p. 182.

The literature and thought of India is thoroughly hostile to woman. A large number of proverbs attest this widespread misogyny. "Woman is like a slipper made to order; wear it if it fits you, throw it away if it does not." "You can never be safe from the cunning artifices of woman." "Woman is like a snake, charming as well as venomous." Hebrew literature breathes the same spirit, and the reading of the Bible often brings the color to the cheeks of a liberal-minded person of either sex. Arabian magic is even worse in this respect, and is so erotic that it is next to impossible to obtain an unexpurgated text of the Arabian Nights Entertainments, about 75 per cent of the matter being expunged from all current editions. The androcentric world view may almost be said to have its headquarters in India. The "Code of Manu" reflects it throughout. According to it "Woman depends during her childhood upon her father; during her youth upon her husband; in her widowhood upon her sons or her male relatives; in default of these, upon the sovereign." "She should always be in good humor and revere her husband, even though unfaithful, as a god." "If a widow she must not even pronounce the name of another man than her deceased husband."¹ The husband always addressed his wife as servant or slave, while she must address him as master or lord. The same code declares that "it is in the nature of the feminine sex to seek to corrupt men," and forbids any man to remain in any place alone with his sister, his mother, or his daughter. Even at the present day in India free choice, especially of the woman, has nothing to do with marriage, and parents and families arbitrarily dispose of the girls, often at a very tender age.

Modern countries differ somewhat in the prevailing ideas about women. No statement is more frequently repeated than that in any country the treatment of women is a true measure of the degree of civilization. It may now be added to this that the treatment of women is a true measure of the intensity of the androcentric sentiment prevailing in any country. It might be invidious to attempt to classify modern nations on this basis, especially as individuals in any country differ so widely in this respect. It is a measure of civilization or civility in individuals as well as in nations, and in every nation there are thoroughly liberal and fully civilized individuals. Neither can the nineteenth and twentieth centuries claim them all,

¹ "Code of Manu," Book V, Ordinances, Nos. 148, 154, 157.

as we have seen in the noble sayings of Condorcet, who was probably the most civilized man of his time, far more so than Comte who made him his spiritual father but did not share his liberality. In placing Germany at the bottom of the scale in this basis of classification, therefore, numberless shining exceptions must be made, and account taken only of the general spirit or public opinion relative to women in that country. The German attitude toward women was perhaps typified by the father of Frederick the Great, of whom it is related as among his sterling qualities, that when he met a woman in the street he would walk up to her with his cane raised, saying: "Go back into the house! an honest woman should keep indoors."

Spencer says:—

Concerning the claims of women, as domestically associated with men, I may add that here in England, and still more in America, the need for urging them is not pressing. In some cases, indeed, there is a converse need. But there are other civilized societies in which their claims are very inadequately recognized: instance Germany.

To which he appends the following footnote:—

With other reasons prompting this remark, is joined the remembrance of a conversation between two Germans in which, with contemptuous laughter, they were describing how, in England, they had often seen on a Sunday or other holiday, an artizan relieving his wife by carrying the child they had with them. Their sneers produced in me a feeling of shame—but not for the artizan.¹

Germans as a rule detest American women for their initiative and boldness, daring to act and think independently of their husbands and of men generally, and they apply to them the strongest term of contempt that they have in their language in characterizing them as *emancipirt*. Woman is much more respected in France, but under Napoleon and his code there was a recoil toward barbarism. Napoleon said to the Council of State that "a husband should have absolute power over the actions of his wife." In the "Mémorial de Sainte-Hélène" he is quoted to the following effect:—

Woman is given to man to bring forth children. Woman is our property; we are not hers; for she gives us children and man does not give any to her. She is therefore his property, as the tree is that of the gardener. . . . A single woman cannot suffice for a man for that purpose. She cannot be his wife when she is sick. She ceases to be his wife when she can no longer

¹ Justice ("Principles of Ethics," Vol. II), pp. 162-163 (§ 89).

give him children. Man, whom nature does not arrest either by age or by any of these inconveniences, should therefore have several wives.¹

Only a part of the oppressive laws of the code Napoleon have been repealed, but public opinion in France is far in advance of its laws, and judging from outward indications, I should be inclined to place that country, next to the United States, as the most highly civilized nation of the globe. In this I am only uttering the view long ago put forth with large documentary support by Guizot.

Throughout the historic period woman has suffered from a consistent, systematic, and universal discrimination in the laws of all countries. In all the early codes she was herself a hereditament, and when she ceased to be a chattel she was not allowed to inherit property, or was cut down to a very small share in the estate. In this and many other ways her economic dependence has been made more or less complete. Letourneau² has enumerated many of these discriminating laws, and we have only to turn the pages of the law books to find them everywhere. When a student of law I scheduled scores of them, and could fill a dozen pages with a bare enumeration of such as still form part of the common law of England as taught to law classes even in the United States. All this is simply the embodiment in the jurisprudence of nations of the universal androcentric world view, and it has been unquestioningly acquiesced in by all mankind, including the women themselves.

The Anglo-Saxon word *woman* reflects this world view, showing that it is older than the stock of languages from which this word is derived. For although it is no longer believed by philologists that the first syllable of this word has anything to do with *womb*, still it is certain that the last syllable is the same as the German *Mann*, not *Mensch*, and that the rest signifies wife or female, as though man were the original and woman only a secondary creation. As regards the Latin *femina*, while of course it has no connection with *faith* or *minus*, as stated in the "Witch Hammer," still the syllable *fe* is the hypothetical root from which *fecundity* comes, and the word signifies the fertile sex. Primarily no such conceptions as beauty,

¹ "Mémorial de Sainte-Hélène," Journal de la vie privée et les conversations de l'Empereur Napoléon à Sainte-Hélène, par le Comte de Las Cases, Londres, 1823, Tome II, Quatrième partie, juin, 1816, pp. 117-118.

² "La Sociologie d'après l'Ethnographie," pp. 180 ff.

grace, delicacy, and attractiveness are associated with woman, and all notions of dignity, honor, and worth are equally wanting from the conception of the female sex. On the contrary, we find many terms of reproach, such as *wench*, *hag*, etc., for which there are no corresponding ones applicable to man.

Notwithstanding all this vast network of bonds that have been contrived for holding woman down, it is peculiar and significant that everywhere and always she has been tacitly credited with a certain mysterious power in which the world has, as it were, stood in awe and fear. While perpetually proclaiming her inferiority, insignificance, and weakness, it has by its precautions virtually recognized her potential importance and real strength. She is the cause of wars and race hostilities. There are always powerful female deities. Minerva is even made the goddess of wisdom. Ever and anon a great female personage, real or fictitious, appears, a Semiramis, a Cleopatra, a Joan of Arc, a Queen Elizabeth, or a Queen Victoria; Scheherazade with her thousand and one tales, Sibyls with their divinations and oracles, Furies, and Gorgons; and finally the witches with all their powers for evil. Although woman is usually pictured as bad, still there is no uncertainty about the supposed possession by her of some occult power, and the impression is constantly conveyed that she must be strenuously kept down, lest should she by any accident or remissness chance to "get loose," she would certainly do something dreadful.

One of the arguments most relied upon for the justification of the continued subjection of woman is that, in addition to being physically inferior to man, the differences between the sexes have been widening during past ages and are greater in civilized than in savage peoples. The investigations of Professor Le Bon have been widely quoted by all writers on the general subject. He found that the difference between the respective weight of the brain in man and woman constantly goes on increasing as we rise in the scale of civilization, so that as regards the mass of the brain, and consequently the intelligence, woman becomes more and more differentiated from man. The difference which exists between the mean of the crania of contemporary Parisian men and that of contemporary Parisian women is almost double the difference which existed in ancient Egypt. Topinard finds the same to be true of the fossil crania of prehistoric times. In certain South American tribes the

sexes scarcely differ except in sex itself.¹ According to Manouvrier, the cranial capacity of women has diminished from 1422 cubic centimeters in the stone age to 1338 cubic centimeters at the present day.²

Accepting these statements as in all probability correct, what is the lesson that should really be drawn from them? Letourneau argues that the difference between the life that women must lead in roving hordes and bands, doing most of the work to relieve the men for hunting and war, necessitated stronger bodies than modern civilized life requires for women. This is also doubtless true, and civilized woman would quickly succumb to such hardships. But is this an adequate explanation? I think not. We must remember how much nearer savage man is to the gynæocratic stage, in which there is every reason to believe woman was nearly equal in strength to man. If the prehuman or animal stage saw the excessive development of the male, the earliest human stage found woman unchanged and in the full vigor of her natural strength, still choosing her mates and governing the life of the horde. But with the advent of the androcratic stage, while woman lost her power of selection, so that man could develop no farther, the abuses to which he subjected her soon began to tell upon her and produce degeneracy. In Chapter X we considered the effect of adverse conditions upon man in general, and saw how the status of a class might be lowered by insufficient nourishment and undue toil and exposure, which accounts for the superiority of the ruling and leisure classes. Now in the androcratic régime woman dropped into the condition of a subject class and was denied much that was necessary to maintain her normal existence. It is well known that savage women are usually underfed, that they are allowed no luxuries, made to subsist on the leavings of the men at whose table they are never permitted to sit, often have no meat or fish when the men have these articles, that they have little rest, must carry wood and water, drag lodge poles, and care for the children, besides preparing the meals for all, that they are insufficiently clothed in countries where clothing is needed, and that they are during their entire lives subjected to perpetual hardships and privations. Of course, as they bear the children all this reacts upon both sexes, but in the long run it affects the women more than the men

¹ References to the works and memoirs in which those statements occur, as well as numerous others to the same general effect, are given by Durkheim, "De la Division du Travail Social," Paris, 1893, pp. 58, 59.

² *Revue Internationale de Sociologie*, 1899, p. 604.

who have ways of offsetting it, and in the course of generations it arrests female development and stunts the growth of women.

When we come to the historic period we have seen how universal and systematic has always been the suppression of woman and her legal and social exclusion and ostracism from everything that tends to build up either body or mind. When I reflect upon it the wonder to me is rather that woman has accomplished anything at all. The small amount that she has been allowed to use her mind has almost caused it to be atrophied. This alone is sufficient to account for all the facts enumerated above as supporting the androcentric theory, so far as the intellectual achievements of women are concerned. M. Jacques Lourbet in his "Problème des Sexes" (Paris, 1900) says:—

Let no one insist longer on the modest contribution of woman to the creative work of art and science. She suffers to this day from the ostracism of centuries that man has imposed upon her, from the network of exclusions and prohibitions of every kind in which she has been enveloped, and which have ended in producing that apparent inferiority, which is not natural but purely hereditary.

Professor Huxley in a letter to the *London Times* relative to the failure of a certain lady in her examination, remarked:—

Without seeing any reason to believe that women are, on the average, so strong physically, intellectually, or morally, as men, I cannot shut my eyes to the obvious fact that many women are much better endowed in all these respects than many men, and I am at a loss to understand on what grounds of justice or public policy a career which is open to the weakest and most foolish of the male sex should be forcibly closed to women of vigor and capacity. We have heard a great deal lately about the physical disabilities of women. Some of these alleged impediments, no doubt, are really inherent in their organization, but nine-tenths of them are artificial—the product of their mode of life. I believe that nothing would tend so effectually to get rid of these creations of idleness, weariness, and that "over-stimulation of the emotions," which, in plainer-spoken days, used to be called wantonness, than a fair share of healthy work, directed toward a definite object, combined with an equally fair share of healthy play, during the years of adolescence; and those who are best acquainted with the acquirements of an average medical practitioner, will find it hardest to believe that the attempt to reach that standard is likely to prove exhausting to an ordinarily intelligent and well-educated young woman.¹

It would seem that the treatment that woman has received and still receives under the operation of the androcentric world view is

¹ *Popular Science Monthly*, Vol. V, October, 1874, p. 764.

Origin of male -

amply sufficient of itself to account for all the observed differences between the sexes physically and mentally, and that the widening of those differences during the historic period is abundantly accounted for by the fact that the gynæocratic stage persisted far into the human period, during which women were the equals of men except in respect of certain embellishments attending male efflorescence due to prolonged female sexual selection or gyneclexis. When this was withdrawn man ceased to advance and woman began to decline under the depressing effects of male abuse. But there was another element that contributed in the main to the same result. This was male sexual selection or andreclexis, which, as we have seen, was confined to physical characters, and while it has given to woman all the beauty and grace that she possesses, it tended rather to dwarf her stature, sap her strength, contract her brain, and enfeeble her mind. In these two principles, the first dating from the origin of the patriarchate during the protosocial stage, and the other dating from the origin of the leisure class early in the meta-social stage, and both therefore in operation at least twice as long, probably many times as long, as the entire historic period, we certainly have a surplus of influence bearing on the deterioration of woman, and a more than adequate cause for all inferiority ever claimed or alleged by the supporters of the androcentric theory. Indeed, as we contemplate these factors the wonder grows why woman did not sink still lower. The only possible reason is that, despite all, she is and remains the human race.

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Recapitulation.—It may be advantageous briefly to recapitulate this necessarily prolonged survey of the gynæocentric theory. Many of the heads are, it is true, sufficiently self-explaining, and a glance at them in their order will recall the steps in the chain of events, but others are more obscure, and a rapid survey of the whole field, though needless for some, will be useful to others.

First of all, it was found that all organisms, whether unicellular or multicellular, are capable not only of supplying the waste of their substance through nutrition proper, but also of that form of nutrition which goes beyond the individual (*ultra-nutrition*) and carries the process into another individual (*altro-nutrition*), and this is called *reproduction*.

In the second place, the manifest advantage of crossing strains and infusing into life elements that come from outside the organism, or even from a specialized organ of the same organism, was seized upon by natural selection, and a process was inaugurated that is called *fertilization*, first through an organ belonging to the organism itself (*hermaphroditism*), and then by the detachment of this organ and its erection into an independent, but miniature organism wholly unlike the primary one. This last was at first parasitic upon the primary organism, then complementary to it and carried about in a sac provided for the purpose. Its simplest

The whole of the organ was not detached - witness woman's vestigial remnant in a state of suspended animation -

form was a sac filled with spermatozoa in a liquid or gelatinous medium. Later it was endowed with an ephemeral independent existence, and so adjusted that its contained sperm cells were at the proper time brought into contact with the germ cells of the organism proper. This fertilizing organ or miniature sperm sac was the primitive form of what subsequently developed into the male sex, the female sex being the organism proper, which remained practically unchanged. The remaining steps in the entire process consisted therefore in the subsequent modification and creation, as it were, of the male organism.

The development of a male organism out of this formless sperm sac, or testicle, was accomplished through the continuous selection by the organism proper, ultimately called the female, of such forms, among many varying forms of the fertilizing agent as best conformed to the tastes or vaguely-felt preferences of the organism, and the exclusion of all other forms from any part in the process of fertilization. The peculiarities of form thus selected are transmitted by heredity and, while they do not affect the female, they transform the male in harmony with these preferences of the female or organism proper. As the male fertilizer is a product of reproduction by the organism, it naturally inherits the general qualities of the organism. The preferences of the organism are also likely to be a form similar to itself. The organism, or female, therefore, literally creates the male in its own image, and from a shapeless sac it gradually assumes a definite form agreeing in general characteristics with that of the original organism. There is no other reason why the male should in the least resemble the female, and but for these causes a male animal might belong to an entirely different type from the female. Even as it is the resemblance is often not close and the sexes differ enormously.

The introduction of fertilization in connection with reproduction was gradual and was not at first at all necessary to it. It came in at the outset as an occasional resort for infusing new elements after a long series of generations through normal reproduction. This occasional fertilization is called the alternation of generations. It is common to many of the lower organisms and to all plants, reproduction by buds being the normal form, and that by seeds being the result of fertilization. So great was the advantage of fertilization that in the animal kingdom it first came to accompany each separate act of reproduction, and finally became a condition to reproduction itself. From the fact that such is the case in all the higher animals, which are the ones best known to all, the error arose that fertilization is an essential part of reproduction, and that sex is necessary to reproduction, an error difficult to dislodge.

The male having been thus created at a comparatively late period in the history of organic life, it soon advanced under the influences described and began to assume more or less the form and character of the primary organism, which is then called the female. It lost its

character of a formless mass of sperm cells and assumed definite shape. For a long time it did not exist for itself, but simply for its function, and was exceedingly small, frail, and ephemeral, often possessing no organs of nutrition or powers of self-preservation, and perishing as soon as it had performed its function, or without performing it, if not selected from among a multitude of males. This selection of the best examples and rejection of the inferior ones caused the male to rise in the scale and resemble more and more the primary organism, or female. But other qualities were also selected than those that the female possessed. This was due to the early development of the esthetic faculty in the female, and these qualities were in the nature of embellishments. The male, therefore, while approaching the form and stature of the female, began to differ from her in these esthetic qualities. The result was that in the two highest classes of animals, birds and mammals, the male became in many cases, but not in all, highly ornamental, and endowed with numerous peculiar organs, called secondary sexual characters. To further selection a plurality of males often occurred, and these became rivals for female favor. This led to battles among the males, which further developed the latter, especially in the direction of size, strength, weapons of offense, and general fighting capacity. These qualities were never used to force the female into submission, but always and solely to gain her favor and insure the selection of the successful rivals. In many birds and mammals these qualities thus became greatly over-developed, resulting in what I have called male efflorescence. To a considerable extent, but less than in many other species, the immediate ancestors of man possessed this over-development of the male, and in most primates the male is larger, stronger, and more highly ornamented than the female.

When the human race finally appeared through gradual emergence from the great simian stock, this difference in the sexes existed, and sexual selection was still going on. Primitive woman, though somewhat smaller, physically weaker, and esthetically plainer than man, still possessed the power of selection, and was mistress of the kinship group. Neither sex had any more idea of the connection between fertilization and reproduction than do animals, and therefore the mother alone claimed and cared for the offspring, as is done throughout the animal kingdom below man. So long as this state of things endured the race remained in the stage called gynæocracy, or female rule. That this was a very long stage is attested by a great number of facts, many of which have been considered.

As it was brain development which alone made man out of an animal by enabling him to break over faunal barriers and overspread the globe, so it was brain development that finally suggested the causal nexus between fertilization and reproduction, and led to the recognition by man of his paternity and joint proprietorship with woman in the offspring of their loins. This produced a profound social revolution, overthrew

the authority of woman, destroyed her power of selection, and finally reduced her to the condition of a mere slave of the stronger sex, although that strength had been conferred by her. The stage of gynæocracy was succeeded by the stage of androcracy, and the subjection of woman was rendered complete.

The patriarchate, or patriarchal family, prevailed throughout the remainder of the protosocial stage, woman being reduced to a mere chattel, bought and sold, enslaved, and abused beyond any power of description. With the metasocial stage, brought about by the collision of primitive hordes and by a general system of wars and conquests resulting in race amalgamation, forms of marriage more or less ceremonial arose, which, though all in the nature of the transfer of women for a consideration, still somewhat mitigated the horrors of earlier periods, and resulted in a general state of polygyny among the upper classes. The powerful effect of this race mixture in hastening brain development, coupled with its other effect in creating a leisure class in which the physical wants, including the sexual, were fully supplied, resulted in a high esthetic sense in man, and led to a widespread system of male sexual selection, or androcleris, through which the physical nature of woman began to be modified. Although this could affect only a comparatively small percentage of all women, it was sufficient to produce types of female beauty, and it is chiefly to this cause that woman has acquired the quality of a "fair sex," in so far as this term is applicable. The general effect of male sexual selection, however, was rather to diminish than to increase her real value, and to lower than to raise her general status. It increased her dependence upon man while at the same time reducing her power to labor or in any way protect or preserve herself.

Throughout all human history woman has been powerfully discriminated against and held down by custom, law, literature, and public opinion. All opportunity has been denied her to make any trial of her powers in any direction. In savagery she was underfed, overworked, unduly exposed, and mercilessly abused, so that in so far as these influences could be confined to one sex, they tended to stunt her physical and mental powers. During later ages her social ostracism has been so universal and complete that, whatever powers she may have had, it was impossible for her to make any use of them, and they have naturally atrophied and shriveled. Only during the last two centuries and in the most advanced nations, under the growing power of the sociogenetic energies of society, has some slight relief from her long thralldom been grudgingly and reluctantly vouchsafed. What a continued and increasing tendency in this direction will accomplish it is difficult to presage, but all signs are at present hopeful.

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