

✧ Antoinette Brown Blackwell: ✧ Sex and Evolution

It is the central theory of the present volume that the sexes in each species of beings compared upon the same plane, from the lowest to the highest, are always true equivalents—equals but not identicals in development and in relative amounts of all normal force. This is an hypothesis which must be decided upon the simple basis of fact.

If the special class of feminine instincts and tendencies is a fair offset in every grade of life to corresponding masculine traits, this is a subject for direct scientific investigation. It is a question of pure quantity; of comparing unlike but strictly measurable terms. In time it can be experimentally decided, and settled by rigidly mathematical tests. We do not weigh lead and sunbeams in the same balance; yet the *savants* can estimate their equivalent forces on some other basis than *avoidsupois*. So if the average female animal is the natural equivalent of the average male of its own type in the whole aggregate of their differentiated qualities, science, by turning concentrated attention to this problem, and applying the adequate tests, can yet demonstrate this fact beyond controversy.

Or if the male is everywhere the established superior, then science in time can undoubtedly affirm that truth upon a basis of such careful and exact calculation that every opponent must learn to acquiesce.

But the question is still very far from reaching the point of accurate solution. It is decided on both sides by inferences drawn from yet untested data. . . .

. . . [E]ach writer can best treat of any subject from his own standpoint, and hence, in the present paper, the equivalence of the sexes is considered in the light of certain theories of development.

Mr. Spencer and Mr. Darwin, the accredited exponents of Evolution, are both constructive reasoners. Each, with a special line of investigation, is intent upon the unfolding of related facts and conclusions; and every fresh topic is

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destined to be examined as to its bearing upon the central points of *the system*.

Any positive thinker is compelled to see everything in the light of his own convictions. The more active and dominant one's opinions, the more liable they must be to modify his rendering of related facts—roping them inadvertently into the undue service of his theories. Add to this the immense concentrated work which both these famous investigators have undertaken for years past, and one may readily understand that on certain points to which they have not given special attention, these great men may be equally liable with lesser ones to form mistaken judgments. When, therefore, Mr. Spencer argues that women are inferior to men because their development must be earlier arrested by reproductive functions, and Mr. Darwin claims that males have evolved muscle and brains much superior to females, and entailed their pre-eminent qualities chiefly on their male descendants, these conclusions need not be accepted without question, even by their own school of evolutionists. . . .

Mr. Darwin, . . . eminently a student of organic structures, and of the causes which have produced them, with their past and present characters, has failed to hold definitely before his mind the principle that the difference of sex, whatever it may consist in, must itself be subject to *natural selection* and to evolution. Nothing but the exacting task before him of settling the Origin of all Species and the Descent of Man, through all the ages, could have prevented his recognition of ever-widening organic differences evolved in two distinct lines. With great wealth of detail, he has illustrated his theory of how the male has probably acquired additional masculine characters; but he seems never to have thought of looking to see whether or not the females had developed equivalent feminine characters.

The older physiologists not only studied nature chiefly, being generally men—but they interpreted facts by the accepted theory that the male is the representative type of the species—the female a modification preordained in the interest of reproduction, and in that interest only or chiefly. To them, physiology was an adjunct of the special creation theory. They believed that Sovereign Power and Wisdom had created one vessel to honor, and the other to dishonor. Evolutionists

depart widely from this time-honored basis. But how are we to understand the want of balance in their interpretation of natural methods? It is difficult to perceive what self-adjusting forces, in the organic world, have developed men everywhere the superiors of women, males characteristically the superiors of females.

Other things equal, children of the same parents must begin embryo life on the same plane. As many successive stages of growth have arisen between primordial forms and women, as between these and men. Mr. Spencer reasons, that the cost of reproduction being greater for the female than the male, female development is earlier arrested in proportion. Hence woman can never equal man, physically or mentally.

Mr. Darwin's theory of Sexual Selection supposes that a male superiority has been evolved in the male line, and entailed chiefly to the male descendants. The females, sometimes, inherit characters originally acquired by the males; but this form of evolution is carried forward principally from father to son, from variety to variety, and from species to species, beginning with the lowest unisexual beings and continuing upwards to man. With a few inconsiderable exceptions, the more active progressive male bears off the palm, among all higher animals in size, and among all animals high and low, in development of muscles, in ornamentation, in general brightness and beauty, in strength of feeling, and in vigor of intellect. Weighed, measured, or calculated, the masculine force always predominates.

Possibly the cause to which Mr. Spencer assigns the *earlier arrest of feminine development* may be alleged as the sufficient reason for Mr. Darwin's *male evolution*. At any rate, Mr. Spencer scientifically *subtracts from the female*, and Mr. Darwin as scientifically *adds to the male*. The inequality between them is steadily increasing along the whole length of all the internodes; and it seems to grow both upwards and downwards, as plants do, from all the nodes. Unless it meet with a check in some unknown law, the causes which originally superinduced the inequality between the sexes must continue to increase it to a degree which it is startling to contemplate!

These philosophers both believe that inheritance is limited in a large degree to the same sex, and both believe in mathematical progression. Where, then, is male superiority to end? Are all the races, because of it, threatened with de-

cadence and death somewhere in the remote future? Or must the time arrive when inferior males will be systematically chosen, and the superior ones thus eliminated from existence? But would this be Evolution? Moreover, if we must fall back upon certain natural checks which will be able in the future to prevent too great an inequality between the sexes, it cannot be preposterous to suppose that in the past and in the present similar natural checks always have been, and still are, in active operation. These, from the beginning, may have been able, progressively, to maintain a due balance, an approximate equilibrium and equivalence of forces, between the males and females of each species, as it has been successively evolved. To point out the nature of these functional checks, to show that they have produced many various structural modifications in different species, corresponding in each with varying habits and development, but all tending to maintain a virtual equivalence of the sexes, is the aim of the present paper.

The facts of Evolution may have been misinterpreted, by giving undue prominence to such as have been evolved in the male line; and by overlooking equally essential modifications which have arisen in the diverging female line. It is claimed that average males and females, in every species, always have been approximately equals, both physically and mentally. It is claimed that the extra size, the greater beauty of color, and wealth of appendages, and the greater physical strength and activity in males, have been in each species mathematically offset in the females by corresponding advantages—such as more highly differentiated structural development; greater rapidity of organic processes; larger relative endurance, dependent upon a more facile adjustment of functions among themselves, thus insuring a more prompt recuperation after every severe tax on the energies. It is claimed that the stronger passion force in the male finds its equivalent in the deeper parental and conjugal affection of the female; and that, in man, the more aggressive and constructive intellect of the male, is balanced by a higher intellectual insight, combined with a greater facility in coping with details and reducing them to harmonious adjustment, in the female. It is also claimed that in morals—development still modified by the correlative influences of sex—unlike practical virtues and vices and varied moral perceptions, must still be regarded as scientific equivalents.

All characters, being equally transmitted to descendants of both sexes, may remain undeveloped in either, or may be developed subject to sexual modifications; and yet, as a whole, the males and females of the same species, from mollusk up to man, may continue their related evolution, as true equivalents in all modes of force, physical and psychical. If this hypothesis can be shown to have a sufficient basis in nature, then Mr. Spencer and Mr. Darwin are both wrong in the conclusion that, in the processes of Evolution, man has become the superior of woman.

I do not underrate the charge of presumption which must attach to any woman who will attempt to controvert the great masters of science and of scientific inference. But there is no alternative! Only a woman can approach the subject from a feminine standpoint; and there are none but beginners among us in this class of investigations. However great the disadvantages under which we are placed, these will never be lessened by waiting. . . .

. . . [A]dult males and females of every species are differentiated *just in proportion to their general development*. They are evolved not in parallel but in adapted diverging lines. Apparently there exists a definite ratio between the evolution of a species and its sexual divergence. Every detail of each structure becomes somewhat diversely modified, and every function, with its related organs, more definitely unlike its analogue in the opposite sex. In the highest group, the mammals, the sexes differ more widely than with birds or fishes, and these than any class of invertebrates. At the head of the ascending series, men and women are more broadly unlike physiologically and psychologically than any lower class. . . .

If we consider *external characters only*, the larger relative size, brighter plumage, and more showy ornaments of male birds distinguish them from their females more obviously than any kindred differences among the mammalia. But when we turn to the *facts of structure and their related modifications in function*, no physiologist can doubt for a moment that wider differences of sex have been evolved in correlation with the general development. These "differentiations" increase in number, and are more elaborately wrought out in detail, extending to slight but well-defined modifications in

the whole general system, in addition to becoming more distinctive in primary and secondary sexual characters. . . .

. . . No male of any species, high or low, is known to afford *direct nutriment* to the young—to first assimilate the food, and then transfer it to the offspring. The nearest approach to this is among pigeons. With these birds, both parents eject half digested food from the crop to feed their young. But there is no female of any species, plant, or animal, which does not in some form elaborate food and effect a direct transfer of it to the seed, the egg, the growing embryo, or the living young. This distinction is universal: *The male never affords direct nurture to offspring; the female always affords direct nurture to offspring*. . . .

The terrestrial carnivora are nearly always monogamous. The male forages for the family—that is, while the female supplies the *direct nurture* of offspring, the male provides largely for their *indirect nurture*. Among vegetable-eaters, this division of labor is impracticable; then natural selection fixes upon some other division of commensurate duties or acquirements which will be of greatest benefit to the particular species, such as greater beauty of coloring, superior size and strength of muscle, and increased activity of brain. In brief, the evolution of secondary sexual characters developed in the male line, which Mr. Darwin has recognized and followed out extensively, assigning their origin chiefly to sexual selection, we may attribute chiefly to the broader Natural Selection, which, *securing both the survival and the advancement of the fittest, gradually selects secondary or indirect characters which enable average males, equally with average females, to contribute to the general advancement of offspring*. . . .

By the survival of the fittest, the nearest approximations to equivalents in the sexes would leave the greatest number of offspring, and those best adapted to survive. The higher the development of the species and the more differentiated in structure and functions, the greater need would there be of a complex opposite polarity of activities in the uniting elements. Therefore natural selection, acting during immense periods of time, would be able to maintain, through the survival of the fittest, an approximate equality between the sexes at all stages of their development. It would be a differentiated and mutually adjusted equivalence—ultimating in an unlike modification of each which must extend to every function and to

every adapted organ, to every thought and action of either sex. . . .

Finally, complex organisms are differentiated to perpetuate—not each one, another entire organism like itself—but dividing the work: one perpetuates the class of elements which may be called the incident forces of the new organism, and the other the opposed or complimentary forces. Thus, with unlike functions acted upon by unlike conditions, the sexes become more and more widely, though definitely, differentiated; each tending always to the perpetuation of all acquired characters, by transmitting those elements which are the incident forces to the opposite sex.

The status of each new resulting unit must be determined by the ability or the inability of the co-operative elements each to balance the other in their entirety. If their mutual adaptations enable them to do this, the child will combine in modified form all the qualities of both parents at their best. This is Evolution in its highest definite significance. . . .

Somewhere within the division Vertebrate runs a dividing line separating the more highly organized animals on the one side, and all the more lowly organized classes, including vegetable life, on the other. On the upper side of this line the males are habitually larger than the females; on the lower side the law is reversed—the females are habitually larger than the males. A fact so broad and well defined as this must be significant in its bearing upon the equilibrium of the sexes. Moreover, in the division where the males predominate in size, the females are invariably the more heterogeneous in structure and in functions. In the lower division, the characteristic structure of the females is still sometimes the more heterogeneous, but in a comparatively less degree; and there are counteracting conditions to be pointed out hereafter which obviously must influence their comparative size. With some small quadrupeds, birds, and reptiles, the size of the two sexes is about the same; but it is in the neighborhood of these classes that our dividing line threads its winding way.

Mr. Darwin is himself the authority for the following statements. Among quadrupeds, when there is any marked difference in the size of the sexes, the males are always the larger. This whole division, therefore, lies either upon or above the line. Birds also are generally, not always, on the upper side. Reptiles are grouped more immediately about the line,

above or below. The females of all snakes are slightly the larger. The rule is reversed with lizards. Some male turtles are the larger, and among frogs, toads, etc., neither sex greatly excels.

Below the line are all fishes; for no male of any species is known to exceed the female in size. Here also are all invertebrates of every class, a very few insects excepted. The rule holds equally in the sea with its hosts of curious swarming tribes, and, on land, with every variety of crawling, jumping, or flying creatures without jointed backbones. . . .

This law would continue up to the point at which *heterogeneity of structure and functions* is able to balance *direct nutrition* in importance as means to the advancement of the species. At some fixed point, varying within certain limits, according to the conditions and habits of the species, there would arise an equilibrium between these two antagonisms—the direct and the indirect sustenance of offspring. So long as the conditions of life are simple, nature directly favors the female; and it is she who attains the larger growth. But with added complexity of functions and a higher division of labor, the indirect sustenance of the species, represented by the raw material of food, and by the greater strength and activity of muscle and brain to meet the higher conditions of existence, becomes of equal or even of paramount importance. Here, selecting characters according to varying conditions of the species, it becomes useful that the male should attain to the larger growth and the greater activity.

But this antagonism or opposition of the functions of sex, though real and continuous, is in reality a balance of activities—an equilibrium which requires that at all stages of development there shall be a virtual equivalence of sex in every species. This is claimed to be the true meaning of all the curious and varied modifications on either side. *Nature is forced to provide for a balanced expenditure between the sexes of all the greater divisions of force—to maintain not only a differentiated moving equilibrium in each, but also a still wider equilibrium between the two.* . . .

. . . There is, then, a wide sense in which it may be said that the feminine and the masculine, with their opposed tensions and polarities of forces, are combined in every organism; but among all higher beings begins from the first *the division of functions* analogous to that which we see in the flower with its separation of stamens and pistils. The en-

tire organism and all modes of activity being, then, necessarily modified diversely in correspondence with one or other of the two phases of the differentiated function, this resulting modification, and this only, whether greater or less in degree—as in high or low organisms—may be properly called *the difference* arising from sex. We do not consider that the balanced actions and reactions which work together in the inorganic world are distinctions of sex; that of the two elements in a compound one is masculine and the other feminine. Nor can we so regard them, for these elements and these forces are continually changing sides, entering into indefinite rearrangements in conjunction with other forces. Thus what might be distinguished as masculine in one case, would become feminine in the next.

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Mr. Spencer designates a "stable equilibrium" as that in which "any excess of one of the forces at work, itself generates, by the deviation it produces, certain counter forces that eventually outbalance it, and initiate an opposite deviation." This is an admirable statement of my idea of the balanced relations of the opposite sexes. In every type of beings the sexes are necessarily in "stable equilibrium." Thus, in the flower of a plant, as the pistil is in the central, best nourished, and most protected position, the stamens are usually many more in number, even when the pistil is compound or several in a group. An ouale has gathered about the germ an expensive supply of nutriment; but, on the other hand, the pollen grains are a multitude, most of which are wasted of necessity. We may regard this simply as an extra provision for insuring the fructification of the seed; but there is also some ground for supposing that it is a mode of expending equal amounts of the unlike forces, in maintenance of the necessary equilibrium; for when the two sexes are borne upon separate plants, the amount of pollen is enormously increased, while on the companion tree the flower is more or less shorn of all superfluous parts, and is sometimes reduced, as in the cones, to a simple naked scale.

Comparisons can be also made among the higher types where sex and individuality are both complete and associated. And yet here the equation must be much less direct and simple. As both sexes become more complex in structure and functions, and also more characteristically unlike in propor-

tion, one class of activities must be often balanced by some very different class. Thus greater complexity of structure may be offset by greater bulk and strength, or by any excess of activity in one or in several directions. From the conservation of force, the convertibility of like modes of force, a perpetual readjustment is essential. The many possible combinations, varying with unlike conditions, often render the equation extremely difficult of statement. Of course it can be only approximate as applied to individuals; but in a species, or in a large number of averages, it may be literally accurate. . . .

MAN.	
Males.	Females.
<ul style="list-style-type: none"> — Structure, + Size, + Strength, + Amount of Activity, — Rate of Activity, + Amount of Circulation, — Rate of Circulation, — Endurance, — Products, — Direct Nurture, + Indirect Nurture, + Sexual Love, ± Parental Love, + Reasoning Powers, — Direct Insight of Facts, — Direct Insight of Relations, + Thought, ± Feeling, ± Moral Powers, 	<ul style="list-style-type: none"> + Structure, — Size, — Strength, — Amount of Activity, + Rate of Activity, — Amount of Circulation, + Rate of Circulation, + Endurance, + Products, + Direct Nurture, — Indirect Nurture, — Sexual Love, + Parental Love, — Reasoning Powers, + Direct Insight of Facts, + Direct Insight of Relations, ± Thought, ± Feeling, ± Moral Powers.

Result in every Species.

The Females = The Males.

Comprehensive Result.

Sex = Sex.

Or,

Organic Equilibrium in Physiological and Psychological Equivalence of the Sexes.

These approximate equations are largely collated from Mr. Darwin's extended comparisons of secondary sexual characters. Fixing attention, as he does, upon masculine characters only, there seems to be no equilibrium of sex; but, holding the feminine characters up beside the others in a balanced view, the equilibrium is restored. The two leading philosophers of Evolution, each after his own method of investigation, being intent upon explaining the wider equilibrium between organic nature and its external conditions, it becomes fairly credible that they may have failed to give satisfactory attention to the lesser equilibria of sex, of each individual organism, and of every organic cell. If these are not each moving points of simpler adjustments within wider and wider systems of more complex adjustments, then I fail utterly to comprehend the first principle of organization. . . .

. . . [I]f all those instincts tending to the propagation of the race, on which Mr. Darwin has laid such stress in "Sexual Selection," are most active in the male line, there are corresponding traits in nearly all females, equally important and of equal significance in mental evolution. All insect mothers act with the utmost wisdom and good faith, and with a beautiful instinctive love towards a posterity which they are directly never to caress or nurture, as mothers do who are higher up in the scale of being. These tiny creatures work with the skill of carpenters and masons, and often with a prudence and forethought which is even more than human; for they never suffer personal ease or advantage to prevent their making proper provision for their young. Some of them merely deposit their eggs where there will be abundant nourishment for the larva; others search for the proper food—perhaps the young of other creatures—and seal them up together in nests, or by similar marvellous devices promote the survival of their race. . . .

. . . [A]ll the accessories, physical and psychical, which accompany female instincts in the invertebrates (parental love) must be considered as fairly equal to correlative male instincts (sexual love). The one impels to the initiation, the other to the preservation, of offspring; the one leads to vivid, concentrated impulses; the other to calmer, self-forgetting, steady affection: both united, to the higher and higher development of the race. We need only compare one such picture of instinctive parental love, as that drawn by Professor Agassiz, of the common horse-hair worm, sewing

herself like a living threaded needle again and again through the mass of eggs she was trying to protect, when they were successively broken up and taken from her, with Mr. Darwin's repeated citations of courtship, as a strong phase of Evolution. We shall comprehend that the more placid love of offspring is an equivalent equally needed in combination in all higher development, male and female; and everywhere accompanied with at least as much intelligence in its manifestations. The great majority of the "homes without hands," among the highest evidences that we have of animal intelligence, as expended in their construction, are in whole or in part the work of females. The undeveloped female constructs the cell of the bee, and probably of all kindred species; and birds work together in nest-building, the little mother generally taking upon herself the larger share of duty. It requires a great amount of male surplus activity, to be expended physically in motion and psychically in emotion, as well as a good deal of extra ornamentation and brilliancy of coloring, to balance the extra direct and indirect nurture, the love, and the ingenuity which the mother birds, and even the insects, bestow upon their young.

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Now as to the balance of qualities in men and women. The special adaptations and economies of Nature are in active operation from the first. The future woman is not destined to attain to the size of the man; Nature therefore adds atom to atom in the new organism with dainty care, rejecting the unfit more rigidly than with the boy. But the work is done with equal energy; for within a smaller compass there is to be wrought out a structure, part for part the analogue of his, not less perfect in every detail, but supplemented by yet other organs which are unique—the male developing only their merest rudiments. This smaller, more complex structure must therefore be the more delicately elaborated. . . .

But when nearly grown, the girl, who has never before equalled her brother in size, suddenly overtakes or even outstrips him in bulk. Why? Because, the work of organic development completed, the simpler task of adding like increments can be rapidly accomplished. Nature has already begun the process of storing up force, which is on demand, should it be needed in the growth of offspring. If it is not

needed, there shortly begins the periodical work of elimination. If it is needed, it is appropriated as provided. It appears that the appropriation is not made—is not intended to be made, at least—at the expense of the mother's own proper supply of nutritive force, or of force devoted to any other purpose in the economy of the feminine organism, with its totality of functions. An elaborate, highly-developed reproductive system, with its own proper and complete nutritive relations, has been evolved as one special function of the feminine organism.

The nutrition which is continually and functionally stored up for reproductive processes can doubtless in any exigency—so close is the relation of every function to every other—be diverted from its appropriate use. When the system is over-taxed, underfed, impaired by sickness or by any other course, this provision may be drawn upon for general purposes; yet the abnormal diversion will be accompanied by the same kind of disturbance as follows the perversion of any other nutriment. When the brain is excessively used, it robs the body, which is weakened in proportion; or if muscle is over-exercised, the brain suffers; or if there is an over-tax of the reproductive functions, the whole organism is depleted. Physiologists now admit that every great nervous centre must be maintained in balanced activity, that it may draw its proper nutritive supply. The digestive organs themselves must work and rest alternately, so must every nerve and member; for all act in correlation. The feminine functions find their place in the system, co-ordinated with all the others; equally normal, equally healthful, and even more fundamental. Periodicity of function, maternity, lactation, all being organically provided for, each in relation to the other, neither should cause the least disturbance to health; neither should subtract anything from the general functions of nutrition, and all should add, as all other balanced activity does, to a larger vigor both of mind and body. The legitimate use of any and of every faculty is strengthening, not exhausting. How can there exist a more fundamental antagonism between individual wellbeing and the balanced exercise of one function, than between it and any or every other function? They have all grown together in mutual adaptation. A disturbance of one is the disturbance of all.

The girl attains physical maturity earlier than the boy. May not this be because there is less to mature, because all

the processes, smaller in quantity, yet driven with equal force, have been accelerated in activity. Her circulation and respiration are more rapid. So are her mental processes. Why? Let science investigate the whole subject quantitatively. It may be found, process for process, in detail and in totality, that the average woman is equal to the average man. By all means let the sexes be studied mathematically.

At present, under the prevailing theory of the proper weakness and helplessness of the girl, we forget that food and oxygen are measures of force, and exercise largely the measure of appetite and digestion. The girl, starved by conventionality in body and mind, hinders the evolution of the race, or entails upon it a weak and unbalanced constitution. One writer says: "The monster who is in the way of woman's progress is not man, so much as the idle women who want somebody else to think for them, work for them, do for them, and even dress them." True; but the great underlying cause of all is a false theory that, because women are to be the mothers of the race, therefore they are not to be the thinkers or the pioneers in enterprise. This ancient dogma enfeebles one class of women and degrades the other. We believe in a fairly equal division of duties between men and women; but not that the wife of a laboring man, who accepts ten hours of daily toil as his share of family duty, is bound by her duty to spend twenty-four hours among the pots and the children, with no absolute rest and without fitting recreation. If woman's sole responsibility is of the domestic type, one class will be crushed by it, and the other throw it off as a badge of poverty. The poor man's motto, "Woman's work is never done," leads inevitably to its antithesis—ladies' work is never begun.

Let us suppose that natural selection has continually averaged the duty of the sexes to offspring, by modification and adjustment of each organism to its appropriate functions. At maturity, then, males and females would be true equivalents, each equally well fortified to meet its own responsibilities. Woman's share of duties must involve direct nutrition, man's indirect nutrition. She should be able to bear and nourish their young children, at a cost of energy equal to the amount expended by him as household provider. Beyond this, if human justice is to supplement Nature's provisions, all family duties must be shared equitably, in person or by proxy. Work, alternated with needful rest, is the salvation of man

or woman. Far be it from me to encourage one human being as an idler! But *in the scientific distribution of work*, the males, not the females, must be held primarily responsible for the proper *cooking of food*, as for the *production* of it. Since we cannot thrive on the raw materials, like the lower animals, culinary processes must be *allied to indirect nutrition*.

In the progress of functions, the human mother must contribute much more towards the direct sustenance of offspring than any class of inferior beings. For many months before and for many months after its birth, her system must elaborate the entire food of her child. Its growth and activity are supplemental to her own, and are as absolutely at her expense as is the growth of her own right arm. But Nature has provided for that by giving her a smaller frame of her own, and less disposition to great activity personally, with less need of it in the interest of perfect health. Nature is just enough; but men and women must comprehend and accept her suggestions. For the best fulfilment of maternal duties, the mother must have comfortable surroundings provided for her without a large personal tax on her own energies. Therefore it seems to me to be scientifically demonstrable that fathers are equitably bound to contribute indirect sustenance to offspring in the shape of good edible food for the mother. To this we might add ready-made clothing and fires lighted on cold winter mornings!

Undoubtedly, in the division of the many complex duties of life, it may be equitable and decidedly best in many households that the wives should be responsible for the family cooking and sewing; yet it should be understood that they both belong more properly to the category of masculine function, and pertain to the indirect nurture of the youthful scions of the household. Every nursing mother, in the midst of her little dependent brood, has far more right to whine, sulk, or scold, as temperament dictates, because beefsteak and coffee are not prepared for her and exactly to her taste, than any man ever had or ever can have during the present stage of human evolution. Other things equal—during the whole child-bearing age, at least—if family necessity compels to extra hours of toil or care, these must belong to the husband, never to the wife. The interests of their children *must not be sacrificed* by her over-exhaustion, even though she were willing and eager for the sacrifice of herself.

On the other hand, as highly complex beings, women

must be taught to exercise all their functions, that they may develop and strengthen all their faculties healthfully and symmetrically. *A regimen of sofas* must be as utterly demoralizing as would be a regimen of soft bread and milk, appropriate enough to the yearling baby. Mental torpor must be still more fatal, and aimless restlessness of body or mind, if possible, worse than either. In brief, then, let woman take part in any human enterprise which is at once attractive, feasible, *compatible with a fair division of family duties*, and thoroughly honorable in its character. Let her choose her own work and learn to do it in her own way, instructed only to maintain the natural balance of all her many admirably-appointed faculties; that she and her descendants after her may be alike subject to the laws of health. If anybody's *brain* requires to be sacrificed to those two Molochs, sewing-machine and cooking-stove, it is not hers! Nature's highest law is evolution, and no hereditary evolution is possible except through the prolonged maternal supervision.

The mother may transmit male characters to her son; but there is much evidence that a correlative feminine equivalent must first have found some place in her own nature. The pollen of a widely alien plant cannot fertilize a seed, nor can the wisest man bequeath intellect to children through the agency of a weak-minded or characterless mother. . . .

. . . Thus has Nature been forced to maintain the average equality of sex. Defrauded womanhood, as unwittingly to herself as to man, has been everywhere avenged for the system of arrogant repression under which she has always stifled hitherto; the human race, forever retarding its own advancement, because it could not recognize and promote a genuine, broad, and healthful equilibrium of the sexes. . . .

Fortunately, Nature is so tenacious of her ends, that a vast amount of inherent feminine vitality must persist, though never voluntarily exercised. Organic processes will tend to utilize the latent energies, and a doll or a drudge, with qualities which might have made a noble woman, may possibly become the mother of very noble children. But it must be sheer folly to believe that the offspring of such an one will not be defrauded of the increase which should revert to them from the exercise of parental talent.

There is a special directness in feminine perception which is in curious correspondence with the organic functions. The rapid intuitions with which women are credited, are simply

direct perceptions. Their minds incline to the *direct reading* of all facts, from the simplest to the most complex and involved. They are quick to detect the dawning sentiments of a little child, or to divine the disguised opinions of the consummate man or woman of the world; to catch the details of a leaf at sight, or to gather at a glance the salient points of a landscape. Some man says, he never made his toilsome way up to any vantage-ground without finding a woman there in advance of him. The statement may be more than a compliment. A woman finds the natural lay of the land almost unconsciously; and not feeling it incumbent on her to be guide and philosopher to any successor, she takes little pains to mark the route by which she is making her ascent. John Stuart Mill, the life-long student of philosophy, must be credited with sincerity when he so earnestly reiterates that his wife was often his leader in abstract thinking, his superior in finding the truths after which they were both searching. He was emphatically a logician; she had quick perceptive powers. The one was a strong man, the other a strong woman.

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There is a convenient hypothesis that the intellect of the female, among all the higher orders of being, has acquired a development intermediate between the young of the species and the males, as their bodies and brains are intermediate in size. It is a theory closely akin to the time-honored assumption that the male is the normal type of his species; the female the modification to a special end. Also, it is nearly allied to any scheme of Evolution which believes that progress is affected chiefly through the acquirement and transmission of masculine characters. . . .

It may be demonstrated that the nervous system, which is the primary organ of mind, has acquired greater *special development* in the woman than in the man. The differentiation between woman and child is much greater *in kind* than between man and child; the difference in *quantity* remains with the man. The female organism, selected during countless ages to elaborate much larger amounts of reproductive elements, in correspondence with this fact, has been progressively furnished with a graduated supply of blood-vessels, feeders of the special organs, and all these have their closely-attendant

nerves. Thus, a progressively modified nervous system has kept pace in growth and development with the evolutions of the reproductive functions, till, in the mammalia, there is more than one nervous plexus well developed in adult females which is only rudimentary in the young and in the mature males. Now, if these nerve-ganglia and their added ramifications must be considered as partially automatic, they are yet allied to consciousness; exerting a profound influence over the whole sentient nature, and capable of elevating or depressing the entire mental activity. The brain is not, and cannot be, the sole or complete organ of thought and feeling.

Herbert Spencer's theory, that, as the male exhales relatively more carbonic acid than the female, this fact must be taken as the measure of oxygen consumed, and therefore of the amount of force evolved, takes no account of a differentiation of functions. The feminine system has other methods of eliminating waste matter along with the surplus nutritive elements, and perhaps even with the waste from the embryonic processes. Besides, at all ages of a woman's life, the skin and other tissues must be the more active in expelling refuse matter.

Conventionality has indeed curtailed feminine force by hindering healthful and varied activity; but Nature is continually devising compensations for that loss. When, from deficient action of mind or body, there is less appetite, less food consumed, and less strength evolved, there is also less expended. And whenever there is an excessive drain on any set of functions, psychical or physical, the feminine economy has made it easier to restore the balance than with men, for whom there is no equal organic provision. It seems to be an offset to his superior strength and activity, and it gives to the weaker and less active of the two the greater relative power of endurance, and the ability to bear a much wider departure from normal conditions comparatively unharmed. Therefore loss of sleep, loss of food, great fatigue, or great indolence of mind or body, are less exhausting to the female organism than to the male—a much-needed provision, especially in the ruder barbaric ages, when might was the most easily-recognized patent of right. It will be also an excellent additional safeguard to the feminine brain-workers of a more intellectual era.

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Possibly, in adaptation to her smaller size, the woman may have a greater relative development of nerve-tissue than the man. The facts need careful investigation. Science has not determined in regard to it. I do not know that it has ever sought to do so, that it has ever raised the question as to woman's actual equality, or as to her relative equality in the total of nerve-tissue and of nerve-force. It has sought to compare the relative size and power of the average male and female brain; but the brain-system is no more shut up within the cranium than the great system of blood-vessels is shut up within the heart. Psychical action can no more be fairly measured or estimated in its modes of activity by the size and action of the brain alone, than the amount and rate of the circulation of the blood could be learned from the heart alone. Harvey discovered the wonderful facts of the blood circulation by tracing it in its whole complicated round through the system. The neurologists have discovered how the nerves act in conducting nerve force to and fro from the nerve-centres, not by watching the brain alone, but by comprehensive investigation of the whole co-operative nervous system. And yet I cannot learn that any scientist has proposed to estimate the psychical force of males and females on any other basis than that of the relative size of their brains and muscles. This mode of inference may suffice in comparing men with the lower animals, because the whole nervous system in its development keeps pace with the increasing size and complexity of the cranial mass; but the male nervous system is progressively differentiated from the female in the rising chain of species. In the human race the difference has become so important that when it is wholly ignored, and the comparison made by taking only two of the factors—size of brain and size of body—great injustice must be done to the female whose nervous system has become the more complex and is not aggregated to an equal extent within the cranium. . . .

It is currently known that the emotional and intellectual processes in woman are *more closely in relation* than in man. A more direct and frequent interchange seems to have been established between them. Thought and feeling work together more inseparably than in man. This is a fact learned by everyday experience, learned by comparing the masculine and feminine methods of working. Comparative anatomy of their modified nervous systems must suggest corresponding facts of structure.

Women's thoughts are impelled by their feelings. Hence the sharp-sightedness, the direct insight, the quick perceptions; hence also their warmer prejudices and more unbalanced judgments, and their infrequent use of the masculine methods of ratiocination. In this the child is like the woman. Its feelings directly impel its actions. The immediate sensation or perception seems also to be the impelling power of the savage and of all animal instincts. Call it automatic activity if you will; yet the incident force is real feeling, is perception, is intelligence, and is, as I believe, ordinarily accompanied by volition which has acquired more or less development towards such mastery of the situation that it may choose or reject on its own sovereign responsibility. . . .

But although thought and feeling are more nearly related in the child and woman than in the man, and though the latter, in his mature development, is thus differentiated from the child, I hold that the woman's mode of thinking and feeling is still more differentiated from that of childhood. The child is pre-eminently self-centred in all his psychical development. The law of grab is the primal law of infancy. "I want it," "I feel like it," is the impelling mainspring of its activity. It knows nothing of duty, and cares nothing for the interests or rights of others, till it is taught these things educationally.

Now the woman is not constitutionally self-centred in thought or feeling. Her sympathies have been functionally carried forward into an objective channel. Her instincts impel her to self-forgetfulness in thinking and acting for her children, and inherited habit has developed and extended the tendency to whatever person or subject demands her care and occupies her thoughts. Thus her nature must have been tending for many ages towards the objective in thought, the impersonal in feeling; towards the abstract in principle. Of course, human development is complex, subject to many cross complications, which neutralize each other. There are women of mature years who never, in mental development, get beyond childhood, with all its absorbing self-centredness or selfishness. We may charitably hope that their volitions, like their perceptive powers, are little more than rudimentary. There are men who have developed the transmitted feminine qualities, and by a more indirect route have become the most disinterested of their species. But, class for class, as the race now is, it is apparently easier for women to practice self-negation than for men, and more normal for them to develop an ob-

jective or perceptive intellect than a subjective or ratiocinative intellect. There are certainly as many points of antithesis between childhood and the highest female development, as between childhood and the highest male development.

The mature woman is not incapable of appreciating the most highly complex fact or the most abstract principle. She learns easily to recognize all these, with their relative bearings; and can perceive existing relations as readily as she sees the objects related. Her outlook is forward and backward, with as wide a reach in either direction as man's. That she is not his peer in all intellectual and moral capabilities, cannot at least be very well proved until she is allowed an equally untrammelled opportunity to test her own strength. It would be possible to carry on a running comparison in detail; to laud her untested powers, prophesying her future success in executive ability, in abstract thinking, or in physical and moral science; but I have no wish to do so. All doors are now measurably open to her. Whatever her hand finds to do, let her do it with her might, in demonstration of her capacity.

Morally certain it is that she will neither forego, nor desire to forego, her domestic relations; nor will the average woman seek to evade an equitable share of the burdens or disabilities of her station, or shrink from sharing honorably all the many duties which arise within the home-life. Evolution has given and is still giving to woman an increasing complexity of development which cannot find a legitimate field for the exercise of all its powers within the household. There is a broader, not a higher, life outside, which she is impelled to enter, taking some share also in its responsibilities.

This need in no wise interfere with the everyday comforts, the fostering mental influences, and the moral sanctities of the home, nor with the highest good of the olive-plants which will continue to bud and blossom in every household. The restless, nervous woman of to-day may rather be expected to attain a more contented and well-poised temperament with the more symmetrical development. She will find opportunity to convert some of the smothered discontent, fostered by superfluous sentiment with inaction, into the energy of wider thought, purpose, and achievement.

If Evolution, as applied to sex, teaches any one lesson plainer than another, it is the lesson that the monogamic marriage is the basis of all progress. Nature, who everywhere holds her balances with even justice, asks only that every

husband and wife shall co-operate to develop her most dilligently-selected characters. When she has endowed any woman with special talents, the balanced development of such a character requires the amplest exercise of these predominant gifts. Any prevailing tendency is itself evidence that the entire organism is adjusted to promote its superior activity. If it is a quality, just, honorable, desirable to be attained by the race, to hinder its highest development is to retard the normal rate of human progress; to interfere unwarrantably with a fundamental law of evolution. No theory of unfitness, no form of conventionality, can have the right to suppress any excellence which Nature has seen fit to evolve. Men and women, in search of the same ends, must co-operate in as many heterogeneous pursuits as the present development of the race enables them both to recognize and appreciate.