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A. A. W.

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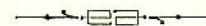
FOR THE

ADVANCEMENT OF WOMEN,

AT ITS

TWELFTH ANNUAL CONGRESS,

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THE PATIENCE OF FAITH.

OPENING ADDRESS BY THE PRESIDENT, MRS. JULIA WARD HOWE.

Dear Friends and Fellow-Workers:—

It occurs to me at the outset, that I have pronounced these words very often. We sometimes become afraid that the repetition of a phrase may grow to be mechanical, and it is indeed a misfortune attendant upon the highest verbal expressions of human experience, that the words become too familiar to challenge our easily lost attention, and so the sense finally escapes us. On the other hand, should we wander ever so much from these high conceptions, the words of our faith should have power to call us back; and to remind us that we were happy enough then to say these things, and to mean them. I mean them now, as well as I can mean anything. We live, most of us, at considerable distances from each other. We meet once in a year for three short days. Each of us has her own belongings, her own personal ends, objects and desires. What is the bond of union between us, seeing that we have no family relationship, no clan-ship of city, state, or even party? It is, I hope, a common devotion to something outside ourselves, to interests which belong to our sex, to the human race.

We all know the current phrase, borrowed from some French speaker or writer, that a man must have the courage of his opinions. This means, I suppose, that he must be willing to stand by what he believes to be true, and if necessary, suffer for it. This courage I may assume most of us have. But there is something more that we should have, viz: the patience of our faith. We must not work at great undertakings, expecting to see their success bloom out like flowers after a summer rain. Such success we may not see at all, but we are bound to believe in it, because truth must succeed. We are bound to believe, too, in honest work, because truth cannot be served by falsehood.

Believing in these things, we are justified in taking courage; and let

me here suggest that the belief so much insisted upon in the New Testament is a belief in these very things—the power of truth, the power of honesty, rather than a literal acceptance of statements in metaphysics, or history. This is the saving faith, which it is shameful not to have. Having it, we can work on resolutely, even though the heathen world around us should furiously rage, and the people, alas! imagine a vain thing.

Our twelfth Congress finds us, as our first one did, in our position of question toward society. Are things as well as they can be for the human race, and especially for our own sex? Have women their proper attitude in society, and if they have not, is it their own fault? I say, their proper attitude, rather than their proper place, because the one depends upon one's own action, the other does not. People train us to an attitude which is out of moral equilibrium, and then put us in a place, where we have neither room, freedom, nor comfort. Let us train ourselves to stand upright, to walk firmly, to think and speak frankly. Then we shall be able to make our own place, and to keep it. And let us, above all, energetically eschew, what we may call the "tree and vine" theory, which makes man the tree, and woman the vine that clings to it, and cannot be lifted without its support. So far as such a simile will hold good, we are all trees, barren or fruitful. Christ's parable of the fig tree that bore no fruit, applies to all human souls that produce no human value. There is no separate lesson given to rebellious vines. And let me remind you that if vines cling and creep, so do serpents.

I wish that we may begin these sittings having "a spirit of power within," resting in a hope strong enough to uplift the world, and with a patient and sweet determination to work out the problem of our own salvation, and to let our work crown us, not our pretension or ambition. The illusions which make a small human creature great in his own eyes, which lead him to labor principally to assert that greatness, are not for us. Neither do we covet the cowardice of spirit which should make us mean and pitiful in our own eyes. The courage of the apostles, the meekness of the saints, are not like them, and as it costs no more to aim at the best things than at the poorest, let these be our mark, these our standard in what we shall endeavor to do and to say. The world around us indeed is full of wickedness which we cannot overthrow, and of misery which we cannot relieve.

What we have done seems so little when compared with what there is to be done, that we may be tempted to pause and ask whether it is

anything at all? Here it is that we need the patience and humility that I spoke of just now. Are these great things for which we work to spring up like a root out of dry ground? Will the deep principles of divine truth oversweep the earth like an army of grasshoppers, which darkens the air for a day, and then disappears? Let us go back, return to our New Testament similes of the planted seed and the hidden leaven. The faith and work of one true human life is like a mustard seed in comparison with the wild elements which surround it. But from that seed in time, a stately tree shall grow to give rest and shelter to myriads of creatures that need it. It is through no fault of ours, but through God's dispensation that the sublime part of our life comes so slowly into recognition and prominence. Let us have patience then, patience with the greatness of great things which swallow up our lives like a drop in the ocean. Still is it most pleasant to work for them, most blessed to believe in them. And small as it may seem, our work as surely tells and abides, as the sun's work tells on the planets.

These are words of greeting, into which I wish that I could put the confidence that I feel, in the good of our coming together. Since we first entered into the Association here represented, many groupings of women have carried the fruitful principle of association far and wide through our land. To many of these our meetings have been a help and an inspiration. From some of them we draw their valued members to our own centre of sympathy and of action. A good work is being done by women throughout our country. They are doing much to lift up the public heart, and to instruct the public conscience. They are become an army, bearing the sacred banners of education, of temperance, and of social purity. From the defense of these holy things they will not go back. Men may be bought, and sold, and cheated; Women hold a pledge from nature which they cannot falsify—the tender love of the children confided to them. They hold this pledge, too, under the highest sanction of our faith: "For it is not the will of your heavenly Father that one of these little ones should perish." I have here touched the chord to which the hearts of women most deeply respond.

We who are met here are met to pray and work not for our own time only, but for all time. The unborn future lays its claim upon us, as the past gives us its rich inheritance. "Be faithful over a little," is our word of command. We know that it carries along with it the great victories that are to be the victories which shall never be overthrown.

MORAL POSITION OF THE A. A. W.

EDNAH DOW CHENEY.

THE present aspect of the political world calls for expression on the part of this Association in regard to the moral questions brought so prominently before the public. While it is a cause of deep mortification that any of the candidates proposed for the first office in our country should be under imputation of grave moral wrong, we feel that the indignation expressed against this evil, however confused it may be by partisan prejudices, is yet encouraging, as showing a widespread feeling in the community, in favor of commanding from political aspirants as much a good moral character, as adherence to measures of policy, or to party. The nation seems to have become a great ethical society, to consider the profoundest moral questions regarding honesty in public affairs, and purity in domestic life. While crimes of violence—of robbery and murder—are more exciting and terrible, no other abuses are more dangerous and corrupting to the state than these on which a large portion of the thinking people of our country have thus expressed their indignation.

Integrity in business, a strict regard for truth and obligation, and the holding of official position as a sacred trust to be used only for the good of the whole and never for personal advantage, is a virtue essential to the well-being of the community. Temptation to violate these duties is to be found everywhere but especially in an era and country full of enterprise and speculation, when fortunes are made and lost rapidly, and the highest prizes of fortune seem within the grasp of all. We deem it to be the duty of women, as lovers of their country and educators of her children, to guard this virtue most jealously; to endeavor to encourage habits of industry, moderation, and thrift; to check the love of excitement, show, and speculation, which leads to the "need of money," and the temptation to crime; to teach that a dollar earned is far more honorable than a dollar "made," and that no brilliant success or showy qualities can gloss over a failure in integrity and uprightness of conduct. Women need to take this lesson home to themselves, for as their opportunities in life are multiplied,

and their sphere is enlarged, temptation comes also, and if they would not see the list of defaulters and swindlers increased by names of their own sex, they must learn to understand business principles, and to apply the great laws of honesty and right to their own transactions in the smallest or greatest matters.

And still more is it well that this association enforce the duty of chastity, which, we rejoice to notice, is henceforth likely to be demanded by the American people, as the crowning gift of a man's character. This virtue concerns the highest relation of one human being to another, that on which the personal purity of the individual as well as the family rests. While a violation of this law often seems slight and venial, its utter contradiction of natural right and duty is shown by the fearful consequences it entails. There is no crime to which it may not lead, and there is rarely one which shocks the community that is not connected with it. How often is the career of the swindler and defaulter based on this vice!—Its immediate consequences not only quickly affect the wrong doers, but they are spread far and wide to blast the health and happiness and self-respect of all connected with them.

Society is awakening to a sense of the greatness of this evil, and as women united for the advancement of our sex, we must recognize that herein lies one great duty. It is not a work to be taken up lightly or carried on by agitation and excitement, but we ought in every way to spread light and knowledge upon this great question, to guard the sacredness of chastity from low gossip and scandal, to keep free from party spirit and a willingness to censure individuals rather than to establish principles, and to recognize that for man and woman there should be one law of purity and fidelity, and that while we may allow for the violence of temptation on the one hand, and compassionate the weakness and the suffering in consequence of wrong on the other, we should never lower the standard of right, or admit that a man is unable to conform to it, or that a woman may not be redeemed who has failed in it.

SPECIALISM IN EDUCATION.

EMMA MONT MCRAE.

IN the progress of civilization, no necessity becomes more imperative than that of special fitness of each individual for the production of something which he can offer in return for the means to satisfy the ever increasing demands of life. When the race was in its infancy—its life simple, its wants few—it was possible for each person to do most of the different kinds of work, necessary to his comfort. When the forest and stream afforded most of the food, and shelter was only a question of fashioning the rudest materials with the most primitive tools, one could fish, hunt, build and form his own implements, and thus support life with little effort. But as society, step by step, assumed a more and more complex form, the individual finds himself unable to keep pace with increasing needs. Then must come division of labor, whereby what each can do best, becomes the means by which he may enjoy what others can do better than himself. He can no longer afford to even attempt to compete with the whole round of producers. Competition has become so keen, that in the effort to obtain everything, he finds himself in the direst need of the superior work of specialists.

So rapid has been the growth and differentiation of industries, that the boy of to-day is living under very different conditions from those his father experienced. Forty years ago, in our own country, with its boundless resources, the boy, with little care and often with the most prodigal expenditure of force, was able to accumulate a competency, where now his son finds it exceedingly difficult to eke out, what he fancies, a very frugal livelihood.

Among thoughtful people there is a realization of the fact that the youth who has a little knowledge of many subjects, but has mastered nothing, is very poorly equipped for the duties of life. Many graduates of colleges find themselves in a measure helpless, after having spent years in obtaining a purely intellectual training. Even in this, they find too often that it has been rather a process of cramming than one of development, and that when they come in competition with

the more practically trained men and women, they are found wanting. In short, they are not able to produce anything society will pay for. Hence they must set themselves to work to acquire skill which should have grown with their growth and strengthened with their strength.

In view of the tendency of our youth to crowd into mercantile and professional life, it is important that both the home and the school do more magnify the advantages of an industrial education. Hitherto, the ambitious parent has sacrificed unflinchingly, that the son might be educated for a learned profession. The regulation speech for the school has been in the line of stimulating the boys with the probability of becoming presidents, and the girls, president's wives. The domestic arts have become too much a thing of the past. The discipline which comes as an outgrowth of the practice of some sort of handiwork, is of inestimable value in any department of the world's work. Every parent can do much through his intimate acquaintance with the child toward the fixing of industrious habits, and developing special aptitudes. When our schools emphasize the fact that the graduates of Polytechnic schools easily find remunerative employment, the pursuit of the industrial arts will be more hopeful. A just demand is being made upon the schools, that they provide a more practical education. By this is meant, such an education as shall give them more special skill in the all-important work of bread-winning. Many among those who most earnestly make this demand, take a very narrow view of what is included in a practical education. They mean by their demand, that more of the same kind of work be done that has already developed to an alarming extent what may be denominated the commercial instinct. A practical education is such as will enable the individual to realize the greatest degree of happiness. The ability to command for value received the means of supplying physical needs, is certainly an important requisite in a practical education. But to exist is one thing, and to live, realizing the highest possibilities of life, is quite another. That knowledge which has to do directly with the preservation of life is certainly of most value. But who can measure the limits of this knowledge of life—its condition, its dangers, its fulfillment of generations passed and its prophecy of generations to come? Were human beings merely vital, if an animal existence were the end, then indeed would the problem be simplified. In the history of the race man had grown little beyond the physical type when, without special aptitude or training other than necessity forced upon him, his simple needs could be supplied.

In measuring progress, the special excellence of the few is apt to be taken as an indication of a high degree of general culture. The toil and thought of the age which culminated in the career of the few exceptional cases, are overlooked in the admiration for the brilliancy of the one genius, who became the poet, prophet, or seer of his time. The old idea was, the subordination of the many to the few, the special culture of the few by means of the sacrifice of the many. But the spirit of our own times demands the general culture of the many, and the special culture of each. There has gone on a process, not of levelling down, but of levelling up. The day of the dazzling magnificence of the individual eclipsing the grandeur of the race as a whole, has passed, and in its stead has arisen a new era wherein is manifest a new life in which the conditions of success demand that each shall have a general knowledge, and at the same time a special training which shall fit him to be master of his own career.

Much as the need of special education has been felt by those far-sighted enough to anticipate the increasing necessity for skill in various kinds of work, public opinion has not yet become assertive enough to make such a demand for it that the conservatism of the state be overcome, and this training, to some extent at least, become a part of the curriculum of the public school. Hitherto this work has been limited to institutions endowed by private munificence. These institutions can, at best, reach a very limited number. Since the school can be only what each community is ready through its representatives to demand and support, it is important that by all available means, a public sentiment be created which shall call upon the nation, state, and municipality, to provide opportunities for obtaining special industrial training for every child. The same arguments which are used against the state providing technical education, apply with equal force to furnishing what have been regarded as the rudiments of an education. The tendency of institutions is toward crystallization. What has been accepted, but anything different is an innovation not to be tolerated. The increasing unrest among the laboring classes has a deep significance. They need a deeper insight which shall enable them to fashion and direct skillfully the machine which has superseded so largely the work of the hand.

"The education of the child must accord both in mode and arrangement with the education of mankind, as considered historically," says Herbert Spencer. The modern child starts from a much higher standpoint than the primitive child. The child of to-day need not

pass through many of the stultifying superstitions that have made childhood a burden in the past. Some still linger and shed their blighting influence upon the sweetness of child-life. In the development of the idea of freedom, it has ceased to be a condition imposed upon the child, that he shall be required to pursue the calling of his father. The American child is to be trained for liberty, hence the greatest possible growth of all his faculties is demanded. The race attained skill of hand very early in its history; men could draw, sew, weave, model in clay and work in stone long before they could read. These then are the natural means of intellectual development, which the child should enjoy before being required to struggle in its attempts to gather knowledge from books. Education does not consist in the accumulation of facts merely, but rather in the natural growth of the mind, which may come from the use of rational methods of leading the child to discover for itself the great truths which are ever present to the thoughtful mind. In the Kindergarten is found the opportunity for that self-activity which is the beginning and end of education. All mental development is based upon the impressions of the outer upon the inner. Self-activity implies freedom of action. In the Kindergarten the child continues in quest of knowledge, as it begins by handling with its hand what it sees with its own eyes, and calling with its own deft little fingers out of pliable materials the most wonderful creations. The stupid, fretful child may be transformed into a quick, self-helpful happy creature, whose consciousness of growth is so pleasurable as to make the acquiring of knowledge a delightful pastime. In this general culture afforded by the Kindergarten, which should be made a part of every child's birth-right, a special aptitude has a chance of manifesting itself and being stimulated. As the little one draws, and weaves, and models in clay, he is treading in the footsteps of his ancestors, and through his finger tips is feeling his way to a rational consideration of life and its highest needs. He is being led into an ever widening sphere of usefulness.

It is difficult to be tolerant with that intolerance which is persistently claiming that American children are being educated out of their spheres. Who can measure the sphere of action and usefulness which shall be possible to the coming boy or girl? Its only limits are the possibilities of a being made in the image of God endowed with an immortal soul. The ideal manhood and womanhood cannot be narrowed down to that sphere of action which includes only the blind digging and hammering which results in keeping the wolf from the

door, but excludes many of the comforts and luxuries of life which it is the right of every family to enjoy. The sphere of the many to-day is what the sphere of the few was in darker days. It is the right and ought to be the privilege of every child, to make its own just as much of the treasures of life as its capabilities will permit. No person or set of persons has a right to fix the sphere of any human being. Whatever the calling chosen, it is but a means to an end,—happiness. Whatever contributes to this is legitimate knowledge. The inculcation of false notions of the use of learning goes far toward degrading manual labor. The boy who has been taught that the chief end of knowledge is to make a living by his wits, will in his getting, secure only that intellectual shrewdness which serves his purpose, and will lose altogether that higher knowledge which is indeed true wisdom. What is needed is not less general education but more of special training and a greater application of the general to the special.

Drawing is an important means of general culture out of which special fitness may grow. While there is in this line of work very great room for individual tendency to show itself in the development of genius, yet much is in the reach of all. The time has passed when it was believed by observing people that it requires any special inspiration to draw a straight line or approximate a circle. The time has passed when the enjoyment of art is relegated to the studio of the divinely endowed artist. While comparatively little may come from the art side of drawing as a part of the regular school work, enough may come to make far more attractive the homes of the people. From the artisan side certainly the results are such as to warrant the expenditure of time and money involved. Until recently our manufacturers were entirely dependent upon foreign designers. Horace Mann was the first to point out the striking contrast between the schools of Germany and those of the U. S., resulting from the teaching of drawing in the schools of the one country and its neglect in those of the other. American manufacturers as a consequence were going to Germany for skilled artisans, and American laborers were doing the unskilled work. In a western city a few years since a school Superintendent had this very gratifying testimony for the value of drawing in the public schools. A boy left school after completing six years of the course and went to learn the trade of blacksmith. At the end of a year the school Superintendent called to inquire how the boy was progressing. His employer said: "Astonishingly well, so well that he is able to earn more than anyone else, man or boy whom I have ever had the same length

of time." "How is this," queried the Superintendent. "Because," said he, "he hits the nail on the head every time." His six years of drawing, though but a few minutes each day, had so trained his hand, that by an economy of both time and material, the work of his labor was thus enhanced.

Much can be done by the observant teacher toward discovering the special inclination of the pupil and directing him in the line of cultivating that particular tendency. I have heard it related that in one of the older universities of the East, a youth had so sorely tried the Professor by his caricatures of him that he was reported to the Faculty as a hopeless case, so near total depravity as that his expulsion seemed a necessity. One of the Faculty however, was wise enough to see that in this gift, lay the boy's salvation from a ruined life. He seized upon it, directed him into channels of thought and investigation, which resulted in the development of a genius second to but few. Nothing is more helpful than a painstaking recognition of fitness for this or that life-work. The diffident, shrinking child needs to be helped to discover that he possesses any ability. How often are these children whose latent powers are marvellous, disheartened by neglect in the home as well as the school. Fortunately the day is fast passing away when it has been considered a crime for the child to take comfort in following out its instincts, in craving what it needs for the growth of its powers.

The era of repression in the teacher's work is also beginning to disappear, and in its stead is coming a greater degree of freedom. The highest results can be attained only when the teacher is left sufficiently free that there may be some spontaneity of action, and he be allowed to work untrammelled by unnecessary machinery in the form of supervision which presumes to say "thus far shalt thou go, and no farther." The teacher who comes in daily, hourly contact with the child, is far better fitted to judge of its special needs than another.

The work-shop should not supercede the school, but in connection with the High School, ought, to some extent, to supplement the general work, that all may have an opportunity to acquire skill in some of the fundamental processes, such as smoothing surfaces, making forms, fitting joints, etc. These elementary steps would be invaluable not only as beginnings towards handicrafts of marketable value, but most certainly would do much toward taking into the home skill of hand, which might make an Eden out of its chaos. In how few homes of the professional and mercantile classes exists the ability to drive a nail,

place a screw, or fit a shelf? So high a degree of specialism have many reached that in following out their special work, many things in the home are left undone because of lack of ability and inclination to apply the hammer, the axe, and the hoe, where they are needed. What a transformation of the home, might be made possible through the knowledge of the use of the simplest tools, the geometry of dress, and the chemistry of bread-making!

There should be as much division of labor in the teacher's work as is consistent with the general good of the school. The more advanced in grade, the greater the division of labor can be. In those below the High School, there should be as much teaching by specialists as is consistent with unity; but that kind of specialization which places children under a different teacher each half hour, cannot produce the best results. While it is clearly desirable for the teacher to pursue fewer lines of work, it is not best for the pupils of fourteen and under, to change as frequently as a complete division of subjects taught would render necessary. In cities of an hundred thousand inhabitants, and over, it becomes an easy matter to have all the special teachers desirable. There may be one each for drawing, music, reading, penmanship, etc. These teachers can give special attention to their different kinds of work, and thus direct it the better, but even then they must depend largely upon the grade-teacher to accomplish the end. In smaller places there may be co-operation, and so they too, may enjoy the advantages of special teaching.

The colleges are recognizing the demand for specialization by providing elective courses of study. Even the most conservative of these are falling into line, and seeking to satisfy the expressed need. The dogmatism of the old is being replaced by the rationalism of the new order of things. The "do as I do" method, is giving way to the idea of development. The new, not in order of time, but in spirit, as taught by Socrates, as well as Pestalozzi, and Froebel, is bringing to the children of today an enlarged outlook which shall enable them to grow into a more perfect manhood and womanhood.

All that can be done in home, and by the school, college, and polytechnic institution in the direction of special training will not be sufficient to furnish full-grown, either the artist or artisan; nothing can ever take the place of experience. An expert becomes such by the most diligent and repeated effort under the guidance of a master. A high degree of excellence is attainable only through some sort of apprenticeship which shall utilize all the acquired power of the indi-

vidual. After all, education consists not so much in the mastery of this or that process, but rather in the growth of conscious ability.

To the Anglo-Saxon race upon American soil has been left the solution of many problems. A highly specialized race, under the most favorable circumstances certainly is likely to develop the highest degree of excellence that the world has yet seen. We have but to look at their marvellous inventions, which have revolutionized the world, to believe that to this race with its inborn love for liberty in its truest sense, it is given to furnish the highest types of special skill, based upon the broadest foundation of general culture. To this race is intrusted the beautiful work of showing to the nations of the earth the grandeur of that liberty which offers to every individual the opportunity of acquiring the fullness of knowledge and fineness of soul which links humanity to God himself.

THE UNITY OF SCIENCE.

LEILA G. BEDELL, M. D.

NOTWITHSTANDING the grand achievements of science during the past few decades, we can only regard our present knowledge upon scientific subjects as a state of slightly less confused ignorance. We have passed, it is true, from that stage of scientific barbarity of staring and wondering at phenomena, to the more intelligent state of being able to compare such phenomena and to collate resultant facts with a view to discovering *laws* by which these are governed. But thus far, the facts which we have been able to discover and make available, are simply as so many stepping stones in one great unsurveyed morass through which we are groping, now slipping, now floundering, and again regaining a foothold upon some friendly fact, where we pause with comforting self-gratulation to take breath. Each separate department of science has essayed to lay out the true path across this morass, and through this wilderness of facts. But their tracks have crossed each other, converged and diverged in such confusion that each is obliged to confess, at last, that the entrance into the heart of its mysteries is not by one, but by many lines of approach. And at the last it is dawning upon the scientific intellect that the perfection of Science will be when all these apparently confused and scattered phenomena shall be found in reality to form a perfect circle whose radii are well-known laws, separating perchance into groups, but still uniting the entire circle to one common centre and source of Truth. Thus the tendency of investigation is not to separate but to *unify* Science. We talk less now of sciences and more of Science, making it a grand entity, embracing many phases of character. In fact the truths of many of its departments so overlap each other that it is difficult to assign them to any special domain of investigation. We must simply content ourselves with calling them truths of Science and recognize the fact that they are of universal application, belonging not alone to the chemist, but also to the biologist, to the naturalist, to the physicist, to the astronomer, to the botanist. Even the word *Science* is returning to its original simplicity of meaning;—knowledge; Truth ascertained and the pursuit of truth, of laws; knowledge classified; and this classification of knowledge proves to be the evolution of this

central idea of *unity*; a tendency toward a grand *one-ness* where individuals are merged into types, and types into kingdoms, and these also, ascending in grand order from inorganic to organic, and lastly to the spiritual. Laws become *Law*. "And that supreme law," says Drummond, "which has guided the development from simple to complex in matter, in individual, in sub-kingdom, and in kingdom until only two or three great kingdoms remain, now begins at the beginning again, directing the evolution of these million-peopled worlds as if they were simple cells or organisms. Thus, what applies to the individual applies to the family, what applies to the family applies to the kingdom, what applies to the kingdom applies to the kingdoms. And so, out of infinite complexity there arises infinite simplicity; the foreshadowing of that final Unity, of that

'One God, one law, one element,
And one far-off divine event,
To which the whole creation moves.' * *

The Book of Nature is the universal text-book of Science; the revelation of its heart-secrets from Nature's Author. It is written in symbols, and we have thus far learned to decipher comparatively few of its words and sentences, to say nothing of paragraphs and pages. We have deciphered something about gravitation; about chemical affinity, and protoplasm; and vital force; and energy; and transmutation of forces; electrical separation; atoms, and atomic weights; molecules, and molecular constitution; nucleated cells; magnetism; heredity, and differentiation; environment. We have tried to classify our knowledge thus gained, and in so doing have referred certain things to the domain of chemistry; this to the domain of physics, and that to biology,—slow to discern that all belong to the domain of universal Science. The terms in one department are not without a common meaning in all its branches, even though they may be represented by different forms of expression used simply for our convenience.

The progress which Science has made in the past fifty years is largely due to this tendency of the chemist, the physicist, or the biologist to leave his special domain, and to follow out some of those lines which cross his own; to trace analogies, discerning the fact that "analogous phenomena are not the fruit of parallel laws, but of the same law;" as well as to the tendency of Science to cease to study phenomena, and to seek after the laws by which these are governed, and which are of universal application.

* Natural Law in the Spiritual World.—Drummond; Page 413.

Lubbock, in an annual address before the British Association for the Advancement of Science, says:—"Indeed one very marked feature in modern discovery is the manner in which distinct branches of Science have thrown and are throwing light upon one another. * * * * In studying the antiquity of man, the archæologist has to invoke the aid of the chemist, the geologist, the physicist and mathematician. The recent progress in astronomy is greatly due to physics and chemistry; the determination of the boundaries of the different formations falls within the limits of geography; while paleontology is the biology of the past. * * * * Summing up the principal results which have been obtained in the last half century, we may mention (over and above the accumulation of valuable facts) the theory of evolution, the antiquity of man, and the far greater antiquity of the world itself; the correlation of physical force and the conservation of energy; spectrum analysis and its application to celestial physics; the higher algebra and the modern geometry; and lastly the innumerable applications of Science to practical life—as for instance in photography, the locomotive engine, the electric telegraph, the spectroscope, and most recently the electric light and the telephone."

These have been the results, chiefly, of the study of the transmutations of the various kinds of energy; and of the application of one branch of Science to the interpretation of the mysteries of another. Thus the prism was taken out of the domain of optics and the realm of radiant energy, and by its use in the spectroscope has been made to subserve the purposes of chemistry in the finest of analyses, making the most subtle substances yield up the secrets of the most intimate relationship of atoms, and constitution of molecules. It has also been made the servant of astronomy in determining the chemical composition of the heavenly bodies; and has most marvelously supplemented the telescope to the extent of furnishing us the positive knowledge that our earth to which we attach so much importance is only one out of at least 75,000,000 similar worlds!—"And all peopled?" is the question which at once rushes to our lips! Why not? With what order or orders of beings who can guess? Verily, "what is man that Thou art mindful of him?"

And thus, while the spectroscope has helped us in the study of "Light—that sweet and heavenly messenger from the depths of Space, telling us all we know of other worlds and giving us all that we enjoy of life and beauty on our own" [Duke of Argyll]—it brings to us also a grander and more far-reaching revelation concerning the Unity of

Science. For when we remember that light is the result of an undulatory vibration of an actual material substance—however etherial it may be, still *positively material*—which stretches itself away through space continuously between our eyes and the luminous body, and when by the aid of the spectroscope we bring in and study this light from worlds and suns, so distant that in comparison our own sun is but "just around the corner," we must reflect that this common material substance by which these worlds are linked to ours and to each of us, may be the vehicle not only of light and heat but of other forces of Nature. And our reflections cannot stop here; for we must conclude that not only are these 75,000,000 discovered worlds—but the unnumbered undiscovered worlds—peopled, but that the same laws which operate in *this* world, are, beyond all question the natural laws of all worlds throughout the universe, and that other intelligences in other worlds seek to penetrate into the mysteries of "that great Pentarchy of Physical Forces constituted by Light, Heat, Magnetism, Electricity and Chemical Affinity."

Gravitation—which our own Newton discovered to us, undoubtedly interests the minds of other worlds, for everywhere where matter is, is gravitation.

The Spectroscope demonstrates to us in all these worlds the existence of at least three of the great forces of nature; Light, Heat, Chemical Affinity; the presence of the remaining two, Magnetism and Electricity, may reasonably be inferred.

The domain, then of Science is the Universe, from whose very outskirts the spectroscope and telescope bring into us truths which are the common property of a Universal Science; truths which we may study in our own laboratories and observatories, and subject to tests having neither variableness nor shadow of turning.

Thus the sciences lose their boundary lines and run into Unity of law and expression. Science is a classified knowledge of Nature; but in its progress it becomes evident that many classifications have been simply arbitrary and not founded upon fact. It is only for our convenience that we divide Science into *Natural*, or that which considers the external *form* and internal *structure* of bodies; and *Physical*, which concerns itself only with the nature of the *matter* of which such bodies are composed, and considers its divisions into *mass*, *molecule*, and *atom*; its attractions, as *gravitation*, *cohesion*, *adhesion*, and *chemism*; and its motions, as *mass motion*, *molecular motion*, and *atomic motion*. The divisions of matter into solids, liquids, and gases are

physical basis of all vital action,—of that mysterious thing which we call Life. At the meeting of the American Scientific Association at Nashville a few years ago Prof. Marsh in his paper on "*Evolution*" said:—"In this long history of ancient life, I have said nothing of what life itself really is; and for the best of reasons, because I know nothing. Here at present our ignorance is dense, and yet we need not despair. Light, Heat, Electricity and Magnetism, Chemical Affinity and Motion, are now considered different forms of the same force; and the opinion is rapidly gaining ground that Life, or vital force is only another phase of the same power."

When Electricity was discovered it was supposed that very few substances contained this subtle agent. It was known as early as six centuries before Christ that amber rubbed with silk is capable of attracting light bodies; and to this day amber beads are supposed to possess some healing virtues; while the word Electricity is derived from the Greek *electron*, meaning amber. In the sixteenth century—some 2000 years later—it was discovered that some other substances, such as sulphur, sealing-wax and glass, also contain electricity. It seems incredible that the human intellect is so slow of comprehension. But here we have one of Nature's forces, playing so prominent a part in the Science of to-day, dimly recognized by the ancients, but not practically discovered for more than twenty centuries later, with still another pause of 250 years before man sufficiently understood its laws to make it of any use!

In the familiar experiment of the pith-ball suspended by a thread, it was found that a glass rod which had been vigorously rubbed with a piece of silk, when brought near the pith-ball, had power to attract it in any direction. But the moment that the glass rod touched the pith-ball, imparting to it its own electricity, at once all attraction ceased. A stick of sealing-wax, however, rubbed with flannel, was found to have power to attract the pith-ball which had refused the glass. But the moment the wax is brought into contact with it, this also is repulsed and finds itself no longer a source of attraction; but the glass rod will again attract the coquettish pith-ball as before. Two conclusions, of course, were reached by this experiment; 1. There are two kinds of electricity, vitreous and resinous; or *positive* and *negative*. 2. Opposite electricities *attract*; and like electricities *repel*. Subsequent study of this force soon proved that glass does not contain only positive, nor wax only negative electricity, but that all substances contain, in greater or less degree, both kinds;—although

certain substances are relatively positive, while others are relatively negative;—and that friction will withdraw one kind from one substance leaving it charged with the other, while similar treatment will produce opposite results in another substance. Friction therefore does not produce electricity, but only produces a state of *electrical separation*—the only condition under which it can manifest itself; while the magnet represents a state of permanent electrical separation—or a substance with its positive at one end and its negative at the other. But the law by which electrical separation is effected, by which electricity in motion is produced, and which renders it such a wonderful force in nature and such a power in applied science, seems to be a common law of nature—the law of *attraction* and *repulsion*—the eternal going out of the positive after the negative! We also find this true in regard to that most mysterious of all the physical forces—Chemical Affinity—that the same general law obtains. The power of this force also depends upon *difference*, or the *heterogeneousness* in the composition of the matter which it affects. We see here an exhibition of the law of attraction as affecting three of Nature's forces which corresponds to many other phases of the law of attraction in the universe.

In the decomposition of compound substances by electrolysis, where electricity is used to overcome the power of chemical affinity, it is found that certain atoms always cluster about the positive pole while others go to the negative. In the electrical analysis of common salt which is the chemical union of chlorine and sodium, it is found that the chlorine atoms always collect at the positive pole, and are therefore negative, and the sodium atoms at the negative pole and are therefore positive, according to this universal law of attraction of opposites. Hence we have all elementary substances classed as positive or negative, and the *quality* of the combining power in chemism depends upon these properties of the atoms thus combining.

Goethe in his "*Elective Affinities*" admirably illustrates chemism, or chemical affinity, in the opening chapter of a book, to read which, is like the dissection of a dead body—full of unclean and repulsive things, and which only the quest of knowledge could justify or render a wholesome occupation.

The *vital* properties of living matter are chiefly *contractility* and *irritability*. What either of these really mean no scientist can tell. If we accept the interpretation which electric and chemical action in inanimate nature would suggest, we might regard contractility as *attraction*, and irritability as *repulsion*; another form of expression

for a common law of animate and inanimate matter. So in like manner the great forces of the universe—the centripetal and centrifugal—which keep the millions of worlds from jostling each other as they perform their annual and diurnal motions, are, after all, only expressions of a law of attraction and repulsion; the negative, or attractive force, the positive, or driving force. So also thermal force acts under the same law. Heat is motion; cold is rest. Heat is the driving force, cold attractive; heat positive, cold negative. A body when cold stops, or absorbs, [attracts] the same ray of light which is driven out of it when heated. Analogous to this phenomenon, we find that a string of a musical instrument when in a state of *rest*, stops, or absorbs, the same note which it gives out when in motion. Passing, we will at least recall the interesting coincidence of the number *seven* in Sound and Light; the seven notes of the musical scale and the seven colors of the spectrum; also the correspondence in the wave-lengths between the lowest note of the scale and the color red, and those of the highest note with the color violet.

We give plurality to the forces of nature, naming this quintuple power Light, Heat, Electricity, Chemical Affinity and Motion. And yet science has demonstrated that electricity alone is convertible into all the others. The correlation of all these is an accepted fact. After all we may reasonably question the existence of so many distinct forces and presume only that of a single force of dual character manifesting itself in different ways now regarded as separate forces. The striking analogies of phenomena under each of these, and the analogies among natural laws hint at *unity* of forces. The two qualities of force so easily demonstrated in Electricity, which we call positive and negative (attraction and repulsion), may be identical with the dual manifestations of all forces. May not all these terms, contractility and irritability; heat, cold; acid, alkali; motion, rest; positive and negative; centripetal and centrifugal; attraction and repulsion, be after all a play of words by which in our state of dense ignorance we seek to express the different manifestations of the same force? And if Science shall demonstrate to us the *unity* of her forces, may it not after all be *vital force*—or that mysterious thing which we call *Life* which acts upon all forms of matter producing these varied phenomena?

It will be objected that we have animate and inanimate nature; organic and inorganic matter; and that the forces which move in the inorganic and inanimate cannot be confounded with vital force which operates only in the organic rendering it animate. And why not?

the one seems analogous to kinetic, the other to potential energy. In the inanimate zinc and carbon slumbers potential energy, which chemism is capable of liberating and imparting to inanimate and inorganic metal, giving to it the power of flashing your living thought beneath the waters of the Atlantic, to friends upon the other side, thus *seeming*, at least, to render inorganic matter *animate*! "Very good!" exults the materialistic scientist; "There you consider the forces of nature sufficient to account for all the operations of matter, animate and inanimate? And you would regard life therefore as only a property of matter?" On the contrary, I would regard Matter as accidental to Life, without which no such thing as matter even could exist. Matter is Life materialized. Says Carlyle*:—"All visible things are emblems. What thou seest is not there on its own account; strictly speaking is not there at all. Matter exists only spiritually, and to represent some idea and body it forth."

Matter is but the scaffolding for the use of the immaterial, upon which it climbs to gain a broader survey of the universe, aided by Science as a field-glass. It were folly to have any quarrel with the materialist over terms, or to feel chagrin when taunted by him with our inability to define Life. Life is not the only word which wanders through Science undefined, nor the only thing beyond the grasp of human knowledge. Even so simple an every-day fact as *gravity* is equally beyond our power to define. We talk learnedly of the centrifugal and centripetal forces of the universe, and yet we are really no wiser concerning them than the little girl who, when asked what keeps the earth in its orbit, replied, "God beckons to it!"

As the elementary form of all animate matter is the cell, so the elementary action or manifestations of many of nature's laws seem to be in a circuit, from the circulation of the vital fluid even in lower forms of life, and the afferent and efferent motions of the nerve current, to the motion of all worlds in the universe. The oxygen so essential to the animal kingdom is exhaled by the vegetable; while the carbonic acid which we throw off in every act of respiration is breathed by the plant which appropriates the carbon and sends us back the oxygen.

The dual activity of the forces of nature which we have assumed to be analogous to the two fluids of the electric current, the positive and the negative, appears also in dual form in that vital force which we call Life, which manifests itself in even the slightly as well as the highly differentiated forms, in two grand divisions both in the animal

* "Sartor Resartus," p. 43.

and vegetable kingdoms which we call *sex*. And sex can no more be accounted for by the scientist than Life. Of the attempts which have been made none rise even to the dignity of inviting intelligent criticism. In a study of the spiritual forces of the male and female character we cannot shut our eyes, even here, to the striking analogy to natural forces; here is the positive, driving force of man, set in opposition to the negative, attractive force in woman. We cannot help recalling Katharine Hanson's "*Spiritual Forces*:"—

CENTRIFUGAL.

With eager impulse outward tending,
Keen to explore the solemn Whole,
Hot life-throbs toward far verges sending,—
What shall restrain this reaching soul?

CENTRIPETAL.

By sweet calm sway of inward might
Held in an orbit's large control,
Illumined by the Light of light,—
What shall mislead this trusting soul?

We also find that in both these kingdoms, the animal and vegetable, a unity in the law of reproduction obtains. Here, also we find the same law of attraction and repulsion; the same eternal going out of the positive after the negative which gives the pollen power to burst its cells, and guides it with its countless antheridia with unswerving certainty to the waiting and attracting stigma of the flower. It is this unerring power of attraction which guides the microscopic antherozoid through the long cells or channels of the stigma and style down to the waiting oosphere, and whose union gives us alike the acorn and the mustard seed. In the Indian corn it is so wonderful a process, and so evidently an expression of the universal law of attraction that the scientist staggers before it under a burden of doubt. But here the wind and the insect are alike discredited as the agent of fertilization. We find here the pollen formed upon the so-called "tassel" of the corn, several feet above the stigmata at the ends of the "corn-silk" growing out of the embryo ears of corn, each separate thread of which is traceable to an embryo-kernel. Yet the pollen-dust falls, lodges upon the silk, its cells burst, and its escaping antherozoids find with unerring accuracy, in spite of unfriendly winds or storms, the open mouths of tubes at the ends of the corn-silk, and make their way through these long pistils each to find its oosphere in the ovum of the embryonic kernel below! And yet this is a process which only the higher power of the microscope can spy out. Is it chance?—*is it the wind?—is it insects that secure this wonderful fertilization of the corn?*—Verily, "*God beckons!*"

It is a theory of materialistic origin that the colored petals of plants are the result of a necessity for the aid of insects in the fertilization of flowers,—that originally there were no petals, only stamens and pistils; but that the bright leaves appeared in response to a need for insect aid. It goes so far as to claim that the different flowers put forth the particular color most pleasing to certain kinds of insects. In other words, that the *longing* of the plant for the perpetuation of its kind, (and being unable to accomplish this without the meddling interference of the insect,) gave it the power to put forth its bright petals as a means of accomplishing this desire. Who shall deny then that the longing for *individual immortality*, "which springs eternal in the human breast," will give us the power to put forth our spiritual wings?

Our *psychical* attractions and repulsions we call *love* and *hate*. In the social sphere man is the centrifugal or driving force, and woman the centripetal or attractive force. Man is the positive; woman the negative. And that peculiar, never-old-and-never-new psychical phenomenon which we call *love*, corresponds with striking analogy to a state of electrical separation in two bodies of opposite polarity, by which the opposite currents attract each other with dual force. Happy the persons in such anthropopsychic, electric state, if they will learn a lesson from the pith-ball, and so preserve their individual electricities by proper reserve, that they shall not become charged with like currents, and *thus change attraction to repulsion*. Chemism furnishes us still other analogies for this psychical attraction which we have been accustomed to regard as not a subject of natural law. In Chemistry we find in accordance with the quality of the combining power of atoms, that *acids* are *negative*, and *bases* and *alkalies* are *positive*. The stronger acid, by its superior attraction, displaces the weaker in a compound already formed, and taking possession of the base forms an entirely new combination. So powerful is the attraction of some elements, as oxygen, for certain others, that a union resulting in a new compound, often of less value than either of the original elements alone, may be the result of *mere propinquity*. On the other hand some of the most valuable and useful compounds, as water, require extreme electric or thermal force to effect the synthesis of the combining elements. Chemical analysis, which is capable of divorcing such a pair, demonstrates to us that in the wedlock of the acid and the base, neither has lost its individuality, though the twain have become one substance. Again, we are familiar with the unstable character of certain com-

pounds and their great susceptibility to the influence of certain elements to which they may be brought near, and the necessity for keeping such compounds carefully isolated from and protected against such influences in order to preserve their fidelity to the original union. On the other hand we are familiar also with the enormous disorganizing power of certain elements, enabling them to break up even the most stable compound with great facility. The well-being of such demands that these too be carefully guarded and restrained. So obvious are the analogies here between natural laws and social laws, that an attempt to point them out would be superfluous.

We will now stop to examine the influence of Modern Science upon Religion. Is the relation of science to religion in its present advanced state that of enmity, or friendship? Is it a help or a hindrance to the moral and spiritual evolution of man?

The man of science, "standing upon actual things among fixed laws," at first grows suspicious of theology, and scoffs at the supernatural. He will have only Nature and Law. Here, he avers, is self lost in amazement over the *supernaturalness* of the *natural*! and before he can fairly recover himself its likeness to revelation leads him kindly and safely back to a new starting point, where in the light which science sheds upon religion he now discovers himself actually looking forward to a time when science shall be called upon to "arbitrate between conflicting creeds," and when theology, stripped of the "adulations and accumulations of centuries of uncontrolled speculation," shall accept the friendly aid of science to "disclose to a waning scepticism the *naturalness* of the *supernatural*,"* and thus justify man's faith in the unseen in the spiritual world upon the ground of his willing acceptance of the equally mysterious in the natural world.

The tendency of Science therefore toward *unity* of law and expression, will be followed by a corresponding and inevitable tendency toward *unity in religion*. In so far as doubt is a conscientious tribute to the inviolability of nature it is entitled to respect; [Drummond] and the honest desire on the part of science to challenge *all* authority deserves a better name than infidelity.

"At this triumphal entry of Science upon the stage of modern thought," says Brackets,† "Religion is the only power that has as yet sounded the note of alarm." The Known and the Unknown, or the

* Natural Law in the Spiritual world.—Drummond. † Popular Science Monthly, vol. 15, p. 166.

realms of Science and Philosophy, are only separated by an imaginary boundary line. Hence, as Science progresses and the Unknown becomes the Known, as the realm of philosophy gives up its mysteries and faith is lost in sight, this boundary line must change. And this no more implies that Philosophy has heretofore usurped unlawful possessions, than that Science has recklessly neglected to take possession of her own. If religion sets up human creeds in the pathway of science, the sappers and miners are liable to level them in their preparation for the onward march of truth. And why should we tremble at their downfall? Do we love our creed better than we love the truth? Said the Christ to his sorrowing disciples:—"I will not leave you comfortless. I will pray the Father and he shall give you another *Comforter*, even the *spirit of Truth*, that he may abide with you *forever*." Are the dead forms of our religion more to us than this living spirit of Truth, hovering ever near us to give us correct answers to the *how* and *why* which are the everlasting "interrogatories so profoundly instinct in humanity—the instinct of cosmic interrogation upon which the evolution of the human mind depends?" And where should we expect to find this Spirit of Truth more than in the real and tangible things of Nature, written all over as they are, with revelation concerning their Author, where, "in the impersonal authority of Law, man may everywhere recognize the authority of God." It is not against Religion, but against human creeds that Science has instituted charges. But *Credo* is such a dear word to us. It gratifies man's natural opinionativeness. "*I believe!*" and after all it is not the "believe" which so infatuates us, as that monument of self-hood—that perpendicular "*I!*"

"As other men have creeds, so I have mine;
I keep the holy faith in God, in man—
And in the angels ministrant between.

"I hold to one true church of all true souls,
Whose churchly seal is neither bread nor wine,
Nor laying on of hands, nor holy oil,
But only the anointing of God's grace.

"I hate all kings, and caste, and pride of birth;
For all the sons of men are sons of God;—
Nor limps a beggar but is nobly born;
Nor wears a slave a yoke, nor czar a crown,
That makes him less or more than just a man.

"I love my country and her righteous cause,
So dare I not keep silent of her sin,—
And after Freedom, may her Bells ring Peace!

"I love one woman with a holy fire,
Whom I revere as priestess of my house;—
I stand with wondering awe before my babes
Till they rebuke me to a nobler life.

"I keep a faithful friendship with my friend
Whom loyally I serve before myself;—
I lock my lips too close to speak a lie;
I wash my hands too white to touch a bribe;
I owe no man a debt I cannot pay—
Except the love that men should always owe.—

"Withal, each day before the blessed Heaven
I open wide the chambers of my soul,
And pray the Holy Ghost to enter in.—

"Thus reads the fair confession of my faith.
So crossed by contradictions of my life
That now may God forgive the written lie!

"Yet still by help of Him who helpeth men
I face two worlds, and fear not life nor death!
O Father! lead me by Thy hand! Amen!"

[Tilton.]

In the great "change of front on the part of the universe," which began in the sixteenth century, when Copernicus "shattered the crystal spheres of Ptolemy; and set the stationary earth in motion and sent it spinning around the sun"—[Savage,] and which the revolution of Science has continued to effect down to the present time, Religion has been slow to adjust itself to its new environment, and many times has failed to use prudent discrimination between a warfare against atheism and the world's spiritual enemies, and a wholesale antagonism toward Science, and the denunciation of scientific truths when uttered, as it avers, by godless materialists. While the infirmity of Science, on the other hand, is beyond doubt, a tendency to arrogance, and to an unreasoning unbelief in what it terms the supernatural. Because it is the testimony of the everlasting rocks that the earth has existed a much longer period than 6000 years; and because evolution teaches us to believe in a subjective rather than an objective creation, and therefore discredits the Mosaic account of the origin of the earth and its occupants as literal scientific truth, must we protest that therefore there was no Creation at all, nor even a Creator? Does not *Evolution* imply also *Involution*? And if man was evolved, through a long series of ages, from a simple primitive cell, does not this imply that the cell involved infinite potentialities, originating with an Infinite Intelligence?

"There can be no objection, of course," says the late Henry James, Sen.,* "to the scientific man's attempt, to reduce, if he can, all organized existence to a common basis; but the objection comes in when he attempts to make any formula of his on this grossly gratuitous and impertinent subject, of vital concern to Philosophy. For in doing this he at once betrays his ignorance of what Philosophy means; confounding, for example, every concept that is proper and dear to it with its exact opposite, *individuality* with *identity*, *life* with *existence*, *form* with *substance*, *cause* with *condition*, *creation* with *constitution*. Philosophy is perfectly indifferent to what naturally constitutes existence or gives it outward body, but reserves all her interest for what *spiritually creates* it, or gives it inward soul. To misconceive and misrepresent this, however, is the inveterate temptation of clever scientific men, and the infirmity has never been more aptly illustrated than in the development of our recent scientific materialism. 'Pursue' says Prof. Huxley, 'the nettle and the oak, the midge and the mammoth, the infant and the adult, Shakespeare and Caliban, to their common root and you have protoplasm for your pains. Beyond this analysis Science cannot go; and any metaphysic of existence consequently which is not fast tethered to this physical substance, which is not firmly anchored in protoplasm is an affront to the scientific understanding.' * * * * Here Prof. Huxley restricts his researches to the principle of *identity* in existence—that point in which all existence becomes essentially chaotic or substantially indistinguishable. The Philosopher, on the other hand, who sees Science to be not the end but the means of the mind's ultimate enfranchisement, enlarges his researches to the principle of *individuality* in existence. We have no reason to doubt, upon Mr. Huxley's own showing, that the initial fact of all organization is protoplasm, but at the same time it is impossible for us to conceive of a fact of less vital significance to Philosophy. *Philosophy, cheerfully takes that and every similar fact for granted.* The initial fact in the edifice of St. Peter's at Rome was a quantity of stone and lime. This fact was assumed by the architect as necessarily included in the *form* of his edifice, about which form alone he was concerned. The *identity* of his edifice or what it possessed of common substance with all other buildings, interested him very little; only its *individuality*, or what it should possess of differential form from all other buildings was what exercised his imagination. To conceive of Michael Angelo concerning himself mainly

* "Society the Redeemed Form of Man."—Henry James.

with the rude protoplasm, or mere flesh and bones of his building, is at once to reduce him from an architect to a mason. And, in like manner, to conceive the Philosopher intent upon running man's immortal destiny, or spiritual form, into the abject slime of protoplasm, out of which his body germinates, is to reduce him from a philosopher to a noodle."

RECENT ASTRONOMICAL PHENOMENA.

PROF. MARIA MITCHELL, PH. D.

THE skies of the last half century have been peculiar; certain expected phenomena have not appeared, the unexpected has been present. Auroral manifestations were predicted for 1880 to 1884; they have not been seen. This prediction was founded upon a supposed connection with sun-spots; the maximum of sun-spots was expected to occur in 1882, but 1883 and the first half of 1884 surpassed 1882 in the number of spots.

Certain irregularities in the position of Mercury led astronomers to suppose that a planet interior to Mercury existed. An observer, before wholly unknown, declared he had seen it; and Leverrier, the French astronomer, calculated an orbit on the data given by this man. Diligent search for this planet, known as Vulcan, has failed to find it. Good observers in the total eclipse of 1878 claim to have seen it, but this certainly needs confirmation. On the other hand, the little moons of Mars, never suspected, never calculated, under the scrutiny of the best telescopes, send their tiny beams to the eye of the most patient observer.

Observers of total eclipses in recent years tell of the wonderful rosy protuberances around the darkened sun, the tongues of colored flame which seem to leap out from the sun at the instant of totality. They were almost unknown until 1842. Mr. Paine, of Boston, who observed the eclipse of Nov. 30, 1834, total at Beaufort, S. C., says, "There was no flame, no irregularity, no disturbance;" while the same observer at Bloomsbury, Iowa, in 1869, says, "During four minutes of totality, the flame around the moon was nearly continuous and of colors varying from the deepest red to the faintest pink." The spectroscope shows these flames to be permanent belongings of the sun; where were they before 1842?

We are certainly passing through a period of comets. Although we have had in the last half-century no comet like that of 1811, which when in the horizon, threw a train thirty degrees past the zenith, the frequency of comets visible to the eye is unusual. The comet of 1843

threw a train from horizon to zenith, the nucleus was faint, and in New England lay near the horizon. This comet has one point of great interest; it passed nearer the sun at perihelion than any other, and is supposed to have penetrated the outer envelopes of the sun. Observers differ widely in the computed orbits. Biela's comet in 1846 separated into two, returned as two in 1852, and later resolved itself into a meteoric shower. The most striking comet since 1843 is that of 1858, known as Donati's. The comet of 1843 had aroused observers, observatories had improved, new ones had started up, and the movements and physical changes were carefully followed. Cambridge Observatory put forth a remarkable volume in regard to this comet of 1858, which is much consulted by young astronomers to-day. The comet swept around the Great Bear, and lighted up the autumn skies all night. For scenic effect, for pose, if we may properly use that word, no other has equalled it. In the period of fifteen months between June, 1881, and October, 1882, four comets became visible to the naked eye. Undoubtedly, the earth passed through a cometary region. Of these, the comet of June, 1881 was first seen by us in the north before twilight was over, and the magnificent one of 1882 rose in the early mornings of October. As observers become more numerous, more and more comets will be found; but this is the only case known to me of four large comets in so short a period of time.

The red glows of 1883 presented new phenomena. At first sight the color struck one as unearthly. To most observers the beautiful and the awful were combined. We made records of the red glows at Vassar College Observatory, when the skies would permit; it was a period of remarkable cloudiness. They were not seen until Nov. 27, 1883; they were last seen Feb. 1, 1884. When first seen, the glow was not immediately following the sun; it swept past Altair, then some thirty degrees from the horizon. There were thin cirrous clouds giving the sky a wrinkled appearance. It is a remarkable peculiarity that the glow was not seen every clear night. Thus, on January 5, the glow was bright. It was faint on the 6th, although the thin clouds were present. On January 7, at 5.30 A. M., the glow reappeared, the sky being very clear. On January 9 there was red glow after sunset, but none the next morning. The intensity of the light lessened, and it gradually paled from week to week. What was the origin of these glows? At first glance one ran through all the possible causes. Certain auroral displays have given color. I have seen the snow-covered earth reflecting the northern lights with a color like that of the Jung-

frau at sunset, but there was no aurora. One thought of the zodiacal light; the zodiacal light lies along the ecliptic; except as it was light, it had no resemblance to the zodiacal light. It might be the coming of a meteor shower, for meteors are at times heralded by a general light; there were no meteors. It might be the oversweeping of a comet's train of enormous size. The train of the comet of 1843 extended from horizon to zenith, its white sweep spread a broadening and well-defined light upon the sky tapering toward the nucleus, and, as usual in the appearance of all comets, toward the sun. In the red glows there was nothing to indicate cometary motion. The observer, who had lived more than a half-century remembered the green sunsets of New England in 1831, when for several weeks the sun gave less than its wonted light at unclouded noons, and set veiled in green. The year was that of the awful prevalence of Cholera in New York, and there were persons who believed in a connection between the two. After the interval of time necessary for the slow travel of that day, it was found that there had been great fires in New Brunswick. The volcanic origin of the red glows is the theory best supported, but to this there are striking objections. First, the intermittent character; it was not seen every fine night. Second, if it started from Sumatra, in two days the glow spread far east and far west with a rapidity of motion unknown in our most violent storms. If it was volcanic in origin, the force of upheaval can be compared only to that of sun-spots in its enormous proportions. What must be the internal force which could throw volcanic dust so high that its effects could be seen from points of the earth so far asunder, and where has the dust fallen? From the absence of observers and in the frequency of clouds, the data are few and irregular, especially in the early autumn. Dust and pumice are reported from the region supposed to be the origin, but not red glows. If it is not a result of the volcano, is it atmosphere at all? We do not know. We know very little of the outside universe, perhaps less of that immediately around us than of that more remote. We know perhaps more of the extent of Jupiter's atmosphere than of our own. We can see the moons of Jupiter pale as they pass behind the planet and are hidden; the paling seems not only the loss of light by contrast of brightness, but the shrouding by the atmosphere of the planet. We know something of the limit of Jupiter's atmosphere, if it has any, by moon, and see of how little depth is its atmosphere, if it has any, by the suddenness of the disappearance of a star passing behind it. We

can see the satellites of Jupiter put on a foggy aspect when far from the planet, and we know that its atmosphere is far extended. We watch the sun in a total eclipse, and we note its wondrously far reaching surrounding layers; but what do we know of the limit of our *own* atmosphere? The blazing meteor gives us a hint of the distance of a *point* in our own atmosphere, but it tells nothing of the boundary of that atmosphere. Two observers who see the same meteor and who are some miles asunder can, by a simple triangle, decide on the height of that meteor above the earth, but not on its distance below the limit of atmosphere; and the first question which comes to us when a new celestial phenomenon appears is: "Is it atmospheric?" What do we know of the region just beyond our atmosphere, of the offing of our planet?

The earth does not repeat its orbit, the elements are changing continually. The points where other bodies cross its plane are all changing. Not annually, but momentarily, we must meet new combinations of infinite variety. And, again, if we know little of the near neighborhood of the earth, what do we know outside of our solar system? We compute the orbits of comets, and we refer them not infrequently to regions outside of our whole solar system, into the dwelling-places of the stars, the nearest of which is two hundred and twenty-six thousand times ninety-two millions of miles away. What do we know of the filling up of these immense distances? Is there filling up or is there empty space?

It is known that our sun, with its accompanying planets, moves toward a point in the constellation of Hercules. The undrawn curve of this orbit among the stars must have it cusps of variation. Is there fixedness even among the fixed stars?

Is it strange that in our ignorance of what is before us, of what we may meet in our rapid motions, the learned as well as the unlearned should sometimes shudder? Is it strange that the predictions of dire disaster have their periods of prevalence, their crowds of believers? If the ignorant predict evil, the scientist cannot deny the possibility. A comet of the future may strike the earth; but in the entire absence of any evidence of such an event in the past, we may anticipate beneficial or baneful results as equally likely. Prof. Peirce, of Harvard, said that the chance was greater for good; it was but expressing his belief that the "precession of our fate is ordered by a Being of infinite benevolence and power, who overcomes all accidents, converting them to good."

THE COMPARATIVE LONGEVITY OF THE SEXES.

MRS. A. B. BLACKWELL.

A new grouping of statistics, the earliest of modern date equally with the latest, proves beyond question that females are endowed with longevity superior to males. Extended tables have been prepared from the census returns of many countries, covering various periods of time; and they uniformly teach the following conclusions:—

1. All ages included, the sexes are about equal in numbers. The old countries have an excess of women, the new of men. Statistics of emigration added to the population of the countries migrated from, or subtracted from those migrated to, confirm this law. So do all aggregates, giving a due proportion of the older and newer States; and the larger the aggregates, the more marked becomes this constant equation.

2. But the sexes are not equal in numbers at the same ages respectively. At all the early ages, males are habitually in excess. At all the late ages females are habitually in excess; and the larger the aggregates at the same ages, the greater is the numerical inequality. At one probably more or less variable period toward early middle life there must, therefore, be a time when, other things equal, the sexes in any country will be numerically equal at the same age.

3. The younger the age compared, the larger, other things equal, is the relative proportion of males. More boys are born; but the excess diminishes from birth onwards in something like a regular gradation, modified, after a few years, by a relatively larger fatality to girls, until numerical equality at the same age is reached. Then an excess on the female side begins, and increases progressively, but much more rapidly, to the end of life. Hence, at all ages, life has a longer average to the female than to the male. Records of births and of deaths confirm and correct the direct count of numbers in all these particulars.

4. The relative proportion of boys and girls is approximately the same in all countries. A large total excess of males or of females has no effect on these ratios. The ratios of adult males and females at specified ages are directly affected by the proportion of the sexes in the total population.

5. The state of statistical science does not enable us to determine satisfactorily at what age the sexes are equal in numbers. The period

lies somewhere between fifteen and thirty-five; but we are obliged to discount an obviously unusual imperfection of the records at about these ages, and varying conditions probably make the time differ in different countries.

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6. There are exclusive feminine ailments, chiefly in middle life, which cause death by thousands in every large community. In most countries, also, women are more subject to all that class of diseases which, like consumption, arise oftener from confined, impure air than from great exposure; and these causes of extra feminine mortality, most active in middle life, have become a steady offset to extra male risks incident to business enterprises, wars, dissipations, and hazards in general, which are incurred in the active period of vigorous manhood. Hence, distinctively during a considerable period of middle life, there is approximate equality of numbers between the sexes in death rates and in life ratios. Taking the whole period from fifteen to eighteen to seventy or seventy-five, the sexes are almost balanced in numbers in every country; allowing, of course, for exact total population of one sex over the other.

7. Mortality tables indicate that girls, like boys, bear hereditary taints, and die, in consequence, at any period of life; and yet, as indicated above, that at every period of life the female has the slightly better chance of survival. I did not say it is survival of the fittest; that phrase originated with Mr. Herbert Spencer. Note that the male is not at the greatest disadvantage during his years of greatest exposure. It is in his protected infancy and in sheltered restful age that his less vitality is conspicuously manifested.

8. The general facts above stated have long been counted on by the census takers with them. Life insurance companies have long counted them, and yet the fact is that the female is almost balanced with the male in every respect, of course, for excess in the one sex over the other.

8. The general facts above stated have long been known. Every census teems with them. Life insurance and annuity tables have discounted them, and yet their cumulative significance and mutual relation seem to have escaped attention. The facts have been treated as results probably incidental and temporary, arising from complex, highly variable causes. But the approximate uniformity of returns gathered from most widely various peoples, half savage and civilized, during a long term of years, points us to constitutional causes beyond the control of ordinary contingencies. Nature's constant method of maintaining a complicated numerical balance, is nature working in accordance with established order and law.

But, let the explanations be what they may, the facts are facts. Tables and Statements, condensed and summarized, are the only way of presenting them. The only way of presenting them is by means of Tables and Statements, condensed and summarized.

But, let the explanations be what they may, the accompanying Tables and Statements, condensed and summarized from a large mass of Tabulated Statistics, will place the main facts alleged beyond question.

Showing Numerical Equality of the Sexes in the Aggregate, with Inverse Inequality at the Early and Late Ages.

Table I. United States in 1880.

All Classes. United States Census.																Colored, Chinese, Japanese, and Civilized Indians.															
Total.				Under 5.				5 to 18.				18 to 75.				75 and over.				Under 5.				5 to 18.				75 and over.			
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.				
622 629	639 978	109 198	213 998	297 380	294 455	322 340	4 908	5 205	51 948	107 052	104 120	2 201	2 610																		
28 202	12 288	2 036	4 205	3 306	21 830	6 670	41	33	223	687	571	4	6																		
518 279	380 246	72 834	135 769	130 306	205 987	16 070	1 719	1 644	18 924	36 145	35 781	555	673																		
47 369	46 057	9 806	106 422	106 422	358 174	132 251	2 197	1 785	1 461	6 000	3 275	257	217																		
305 782	316 918	31 780	101 590	37 679	101 590	37 679	213	173	107	118	265	72	115																		
52 236	52 881	10 029	16 964	15 945	55 038	27 047	205	195	613	1 311	1 376	72	115																		
74 108	72 500	9 185	21 806	20 839	55 038	27 047	205	195	613	1 311	1 376	72	115																		
83 578	84 046	10 385	23 044	24 683	42 387	41 481	725	1 005	1 890	1 919	4 010	119	186																		
136 444	133 040	22 220	41 585	43 900	49 565	58 034	584	1 079	3 815	3 874	8 200	136	473																		
762 981	779 190	133 074	259 468	292 087	364 211	301 507	6 228	7 081	64 238	120 015	126 537	2 690	3 337																		
21 818	10 722	2 173	3 855	3 639	15 753	5 114	27	28	19	104	104	34	2																		
1 586 529	1 491 348	211 103	468 842	806 080	889 486	806 080	11 129	11 237	3 010	6 670	6 825	153	251																		
1 101 361	967 940	130 249	313 924	306 678	358 201	356 736	4 042	5 531	2 390	5 422	5 964	161	208																		
848 135	776 470	177 065	258 655	251 552	404 967	406 351	6 546	5 531	3 716	5 962	1 467	32	34																		
536 667	450 423	171 171	162 655	152 374	294 789	294 789	8 042	7 069	3 152	3 068	7 356	1 061	107																		
839 590	810 106	126 241	276 452	270 005	423 228	418 963	9 039	8 042	20 898	43 358	45 222	1 061	107																		
468 754	471 192	76 249	150 092	150 092	238 981	238 981	2 504	2 504	40 806	40 884	78 822	2 420	2 672																		
324 183	324 680	31 727	84 345	82 511	158 395	158 395	1 737	1 737	15 221	15 221	258	18	27																		
402 187	472 756	61 802	140 107	139 365	256 166	256 166	11 12	11 12	15 221	15 221	258	18	27																		
808 440	924 645	90 647	212 961	212 961	342 551	342 551	12 281	17 917	1 028	1 054	2 089	93	142																		
802 335	774 582	105 631	102 219	228 901	492 903	492 903	8 422	7 258	1 479	1 426	2 258	148	139																		
419 140	391 624	69 475	57 734	110 703	227 881	227 881	2 690	2 453	3 04	3 04	557	9	22																		
564 420	564 420	90 318	195 885	190 251	265 083	265 083	3 801	4 128	58 641	117 122	114 856	2 352	2 662																		
567 177	567 177	90 318	195 885	190 251	265 083	265 083	3 801	4 128	58 641	117 122	114 856	2 352	2 662																		
1 127 181	1 041 193	157 762	153 161	355 438	346 072	608 098	486 045	5 900	5 895	10 470	279 123	210	536																		
28 177	10 982	1 978	3 445	3 251	608 098	608 098	26	26	217	194	376	372	4																		
249 241	263 161	36 585	65 615	65 615	322 213	322 213	101 160	930	785	171	182	388	5																		
42 019	20 247	3 207	5 601	5 601	32 014	32 014	1 459	67	41	161	174	53	2																		
929 925	176 465	15 504	39 572	39 548	14 916	16 117	4 454	6 647	5 731	44	83	93	5																		
569 322	571 194	97 950	158 248	158 248	329 315	338 762	16 117	388 762	7 418	48	83	93	5																		
64 496	55 069	8 266	18 280	17 415	37 458	29 423	33 168	29 423	348	2 320	2 320	2 320	2 320																		
2 605 322	2 577 549	282 615	667 961	667 961	921 578	921 578	5 033 041	5 033 041	38 151	3 450	3 450	3 450	3 450																		
1 613 308	1 711 812	205 981	230 292	230 292	333 260	306 446	6 603	6 603	8 111	47 782	94 416	92 588	527																		
1 613 308	1 584 126	205 981	479 710	471 568	990 520	894 420	18 716	18 692	5 178	3 450	11 912	11 960	368																		
2 133 851	71 387	11 581	11 385	25 566	65 769	85 259	33 259	33 259	18 716	18 692	5 178	3 450	368																		
2 133 851	2 146 236	279 831	633 588	626 798	1 200 892	1 200 892	26 890	26 890	5 069	5 069	10 122	11 145	450																		
1 399 690	143 501	14 349	33 840	34 304	88 171	92 207	32 207	32 207	26 890	26 890	5 069	5 069	450																		
490 495	505 169	87 982	85 569	166 933	163 690	231 052	92 207	92 207	26 890	26 890	5 069	5 069	450																		
769 274	773 962	127 831	122 162	261 404	254 297	289 179	380 789	380 789	55 632	54 985	106 173	104 900	33																		
887 844	142 915	137 108	263 988	254 937	427 347	358 472	3 594	3 594	3 332	36 071	71 136	71 136	185																		
74 509	753 969	12 669	12 669	24 488	23 565	36 494	42 695	42 695	3 332	36 071	71 136	71 136	185																		
166 587	763 589	17 430	16 622	34 843	33 991	50 951	101 814	101 814	4 637	49 137	145	145	33																		
74 509	753 969	12 669	12 669	24 488	23 565	36 494	42 695	42 695	3 332	36 071	71 136	71 136	185																		
166 587	763 589	17 430	16 622	34 843	33 991	50 951	101 814	101 814	4 637	49 137	145	145	33																		
445 973	59 119	118 300	116 237	247 843	242 731	371 251	398 080	398 080	52 257	52 257	109 369	109 369	74																		
314 405	493 093	50 698	10 548	9 873	29 958	29 958	8 162	8 162	52 257	52 257	109 369	109 369	74																		
635 428	635 428	635 428	204 595	201 143	155 690	151 201	2 980	2 980	392 393	392 393	4 068	4 068	18																		
635 428	635 428	635 428	204 595	201 143	155 690	151 201	2 980	2 980	392 393	392 393	4 068	4 068	18																		
14 152	6 627	6 627	204 595	201 143	155 690	151 201	2 980	2 980	392 393	392 393	4 068	4 068	18																		
25 518 890	24 636 863	3 597 709	7 007 123	7 458 641	14 165 942	10 942	16	16	558 250	558 250	113 738	113 738	34 577																		
881 857	100 092	100 092	148 486	148 486	658 482	658 482	238 065	204 076	2 155	2 155	12 488	12 488	26																		
100 000	100 000	100 000	100 000	100 000	100 000	100 000	95 351	95 351	100 000	100 000	100 000	100 000	26 826																		

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	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Alabama.....	622 029	639 876	109 198	105 001	213 998	207 330	294 455	322 340	51 948	51 948	107 052	104 120
Arizona.....	28 202	12 228	2 036	1 906	4 295	4 295	6 070	6 070	18 364	18 364	36 145	33 781
Arkansas.....	416 270	386 246	72 884	69 616	135 769	130 366	205 957	184 080	1 644	1 644	3 275	3 275
California.....	518 170	518 518	47 389	46 037	109 971	106 422	358 174	352 251	1 461	1 461	2 352	2 352
Colorado.....	129 131	63 196	31 780	31 091	78 179	77 333	190 027	201 246	107 118	107 118	1 311	1 311
Connecticut.....	305 782	316 318	31 780	31 091	78 179	77 333	190 027	201 246	107 118	107 118	1 311	1 311
Dakota Territory.....	82 206	82 881	10 029	9 692	15 964	15 964	55 008	57 047	1 949	1 949	4 010	4 010
Delaware.....	74 108	72 500	10 385	10 230	21 806	21 806	42 387	41 481	3 861	3 861	7 217	7 217
District of Columbia.....	136 444	133 049	22 220	21 028	44 458	43 900	68 880	66 578	10 509	10 509	21 083	22 071
Florida.....	762 981	779 199	133 071	128 511	259 408	252 087	364 211	331 507	64 253	64 253	129 015	125 037
Georgia.....	21 818	10 732	2 173	2 011	3 855	3 639	13 753	15 114	37	37	104	34
Idaho Territory.....	1 886 523	1 491 348	211 103	205 211	474 811	408 842	889 486	806 080	3 010	3 010	6 670	6 825
Illinois.....	910 361	967 049	130 249	127 334	313 924	306 678	538 201	526 076	7 957	7 957	15 922	16 161
Indiana.....	848 136	776 479	177 065	173 045	288 538	281 532	404 967	396 351	5 516	5 516	11 465	11 465
Iowa.....	536 697	459 429	77 171	74 533	192 555	183 374	224 739	221 813	1 709	1 709	3 366	3 366
Kansas.....	832 590	816 100	126 241	122 106	276 432	270 003	338 904	328 904	4 065	4 065	40 808	40 808
Kentucky.....	408 754	471 192	76 249	74 854	150 092	150 091	188 565	206 528	8 658	8 658	15 115	15 115
Louisiana.....	324 058	324 878	32 600	31 727	84 345	82 511	188 565	206 528	15 483	15 483	32 254	32 254
Maine.....	402 187	472 756	61 047	58 060	122 961	119 703	237 381	233 381	1 917	1 917	3 901	3 901
Massachusetts.....	862 355	774 582	105 631	102 219	225 391	228 901	492 903	436 111	2 568	2 568	5 557	5 557
Michigan.....	419 149	361 024	69 475	67 734	119 703	117 872	237 381	233 381	1 917	1 917	3 901	3 901
Minnesota.....	567 177	564 420	99 318	96 558	195 886	190 251	608 987	436 045	5 801	5 801	11 483	11 483
Mississippi.....	1 127 187	1 041 193	157 762	153 161	355 438	346 072	608 987	436 045	5 801	5 801	11 483	11 483
Montana.....	28 177	10 982	1 978	1 932	3 445	3 251	22 628	22 628	32	32	194	372
Nebraska.....	240 241	203 161	36 585	35 571	65 613	65 613	92 212	101 160	171	171	338	338
Nevada.....	42 019	20 247	3 207	3 030	5 631	5 631	16 117	16 117	4 364	4 364	8 383	8 383
New Hampshire.....	559 922	571 194	67 950	66 766	158 173	158 173	329 315	338 762	2 816	2 816	5 150	5 150
New Jersey.....	669 922	571 194	67 950	66 766	158 173	158 173	329 315	338 762	2 816	2 816	5 150	5 150
New Mexico.....	55 009	55 009	5 009	5 009	10 018	10 018	20 036	20 036	2 004	2 004	4 008	4 008
New York.....	2 505 322	2 577 549	282 615	276 405	607 901	609 957	1 321 578	1 303 041	3 808	3 808	7 616	7 616
North Carolina.....	687 908	711 842	117 813	115 304	230 232	230 232	332 332	332 332	47 256	47 256	94 512	92 858
Ohio.....	1 613 936	1 584 126	205 981	199 446	479 710	471 568	909 520	894 420	18 092	18 092	35 034	35 034
Oregon.....	103 381	71 387	11 335	11 335	25 506	25 506	65 709	65 709	5 074	5 074	10 148	10 148
Rhode Island.....	2 133 655	2 146 296	279 830	272 243	633 588	626 798	1 200 892	1 220 339	5 009	5 009	10 018	10 018
South Carolina.....	143 501	143 501	14 349	14 349	33 840	33 840	73 177	73 177	2 554	2 554	5 108	5 108
Texas.....	490 408	505 109	87 982	85 509	166 933	163 690	232 162	230 739	55 632	55 632	106 173	104 900
Tennessee.....	760 277	773 082	127 831	122 162	254 207	252 171	389 958	389 958	34 302	34 302	70 536	70 536
Utah.....	837 840	753 909	132 915	137 108	263 988	264 937	427 345	427 345	36 071	36 071	71 146	71 146
Vermont.....	74 500	69 454	12 569	12 569	24 488	23 695	46 494	46 494	6 637	6 637	13 270	13 270
Virginia.....	196 887	165 359	118 390	116 297	247 843	242 731	371 254	368 060	9 292	9 292	18 583	18 583
Washington Territory.....	45 973	29 143	5 310	5 310	10 548	10 548	165 092	151 201	1 911	1 911	4 008	4 008
West Virginia.....	314 495	304 962	50 658	48 682	101 143	101 143	165 092	151 201	1 911	1 911	4 008	4 008
Wisconsin.....	680 003	635 428	91 661	89 632	204 594	201 284	376 370	357 030	2 406	2 406	4 815	4 815
Wyoming Territory.....	14 162	14 162	1 416	1 416	3 416	3 416	6 832	6 832	39	39	78	78
Aggregates.....	25 518 820	24 636 963	3 507 709	3 406 807	7 007 126	7 458 641	14 665 520	13 507 438	558 250	558 250	1 136 738	1 124 250
Males in excess.....	881 857	148 485	148 485	98 048	100 000	98 048	36 351	100 000	110 926	100 000	99 613	98 901
Females in excess.....	100 000	96 544	100 000	97 123	100 000	98 048	36 351	100 000	110 926	100 000	99 613	98 901
Females to 100,000 males.....	100 000	96 544	100 000	97 123	100 000	98 048	36 351	100 000	110 926	100 000	99 613	98 901

Table II. Foreign Countries Previous to 1860.

Condensed from Professor Wappäus' Table, as given in United States Census, 1860.

	Total.		Under 5.		5 to 10.		10 to 15.		15 to 20.		20 to 25.		25 to 30.		30 to 35.		35 to 40.		40 and over.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
France.....1851	17 777 012	17 976 515	1 682 986	1 638 833	1 676 290	1 618 931	1 602 340	1 544 087	12 206 426	12 462 374	504 591	572 886	97 382	129 463	6 697	9 941				
England.....1851	8 781 225	9 146 384	1 176 753	1 171 354	1 050 228	1 042 131	963 995	949 362	6 737 010	5 704 907	179 746	216 518	42 113	57 132	2 816	4 980				
Scotland.....1851	1 375 479	1 513 263	189 055	182 452	172 106	167 747	162 554	154 896	1 555 716	957 375	27 440	37 707	7 569	11 815	679	1 271				
Ireland.....1841	4 016 536	4 152 071	523 727	505 798	544 854	531 351	518 876	499 473	2 094 716	2 447 717	63 323	64 609	21 021	25 944	3 075	4 179				
Netherlands.....1849	1 498 678	1 557 971	173 499	171 028	174 992	171 284	166 252	163 103	1 154 104	1 005 158	29 669	37 813	6 682	8 971	402	614				
Belgium.....1846	2 163 524	2 173 672	254 286	250 755	239 527	233 544	216 687	207 324	1 279 088	1 402 000	54 732	61 810	13 998	16 831	1 048	1 412				
Sweden.....1850	1 687 248	1 795 293	220 089	217 618	185 832	185 515	167 548	168 153	1 043 941	1 166 355	30 591	47 146	6 352	9 978	211	532				
Norway.....1855	729 905	760 142	102 698	98 837	85 994	83 910	75 980	72 981	544 213	475 851	15 569	21 123	4 401	6 541	458	908				
Denmark.....1845	692 440	715 407	86 743	86 389	77 613	75 737	70 634	68 813	350 298	459 625	15 739	19 442	3 317	4 941	191	360				
Schleswig.....1845	179 726	183 174	23 719	22 664	20 517	19 611	18 097	17 930	177 359	116 942	3 907	4 862	883	1 090	58	85				
Holstein.....1845	241 644	237 720	32 994	32 944	29 101	27 855	25 051	24 050	148 897	146 938	4 719	4 880	826	981	56	71				
Spain.....1157	7 670 671	7 793 407	0 and	under 15	237 753	233 407	2 719 831	2 708 265	4 840 503	4 965 429	91 646	96 984	17 418	20 431	1 253	2 298				
Sardinia.....1838	2 072 707	2 053 028	247 953	242 960	237 753	233 407	*429 272	428 992	1 106 303	1 107 254	43 255	34 741	8 580	6 245	582	429				
Papal States.....1833	1 699 729	1 524 440	184 175	171 986	181 024	168 819	*307 957	285 296	882 418	856 778	37 125	35 173	6 679	6 031	354	366				
Upper Canada.....1862	497 664	451 020	86 124	82 968	69 800	68 926	62 268	57 005	274 069	238 194	4 117	3 039	989	757	144	131				
Lower Canada.....1862	444 893	437 749	84 385	82 351	63 509	62 006	53 357	51 282	235 704	234 880	6 127	4 957	1 593	1 437	218	227				
Aggregates.....	51 429 079	52 471 165	5 069 246	4 958 937	4 809 140	4 691 266	7 632 719	7 401 012	32 548 623	33 818 782	1 112 298	1 263 789	238 511	308 584	18 242	27 804				
Males in excess.....			110 309		117 874		231 707													
Females in excess.....																				
Males to 100,000 males.....	100 000	1 042 086	100 000	97 823	100 000	97 648	100 000	96 964	100 000	1 270 159	100 000	151 491	100 000	129 216	100 000	152 416				
Females to 100,000 males.....		102 026								103 962		113 619	100 000							

* From 10 to 20.

Table III. Selected Periods, Classes, and Countries.

	Total.		Under 5.		5 to 10.		10 to 15.		15 to 20.		20 to 25.		25 to 30.		30 to 35.		35 to 40.		40 and over.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
U. S., 1850. All classes.....	11 837 660	11 354 216	1 769 400	1 728 313	1 640 407	1 600 861	1 473 116	1 417 513	6 784 230	6 429 110	127 460	129 774	36 727	40 655	6 260	7 990				
Sex and number in excess.....	483 414		41 147		39 546		55 603		357 120			2 311		3 928		1 739				
Females to 100,000 males.....	100 000	95 916	100 000	97 674	100 000	97 589	100 000	96 225	100 000	94 818	100 000	101 815	100 000	110 695	100 000	127 635				
U. S., 1860. Free Colored.....	234 119	233 951	32 843	33 075	30 700	31 157	29 446	29 953	135 472	153 596	3 198	3 838	1 005	1 570	455	768				
Sex and number in excess.....		19 832		233		457		493		18 124		640		565		313				
Females to 100,000 males.....	100 000	108 470	100 000	100 706	100 000	101 488	100 000	98 380	100 000	113 377	100 000	120 012	100 000	156 218	100 000	169 791				
U. S., 1860. Slaves.....	1 982 625	1 970 135	322 156	331 010	287 239	288 650	276 928	264 320	1 074 194	1 063 483	15 433	15 724	4 627	5 334	1 988	2 614				
Sex and number in excess.....	11 491		8 851		1 351		12 008		10 711			291		707		626				
Females to 100,000 males.....	100 000	99 415	100 000	102 748	100 000	100 472	100 000	95 447	100 000	99 002	100 000	101 885	100 000	115 297	100 000	131 488				
U. S., 1860. Indians.....	23 909	20 085	2 962	2 762	2 734	2 364	2 056	2 272	15 091	12 284	241	172	143	98	82	133				
Sex and number in excess.....	3 824		200		370		384		2 807		69		45		51					
Females to 100,000 males.....	100 000	84 006	100 000	93 247	100 000	86 466	100 000	85 542	100 000	81 399	100 000	71 369	100 000	68 531	100 000	162 195				
U. S., 1870. Native White.....	14 083 509	14 009 156	2 356 293	2 279 587	2 015 664	1 961 818	1 908 699	1 932 224	7 487 225	7 594 065	181 552	186 134	42 075	49 013	4 090	5 756				
Sex and number in excess.....	77 353		76 706		53 846		66 475		106 840			5 582		6 938		1 666				
Females to 100,000 males.....	100 000	99 450	100 000	96 740	100 000	97 323	100 000	96 674	100 000	101 426	100 000	102 523	100 000	116 489	100 000	140 733				
U. S., 1870. Colored.....	2 393 263	2 486 746	396 812	394 609	331 795	328 036	329 339	315 972	1 299 265	1 406 787	25 714	27 292	7 553	9 308	2 785	4 652				
Sex and number in excess.....		93 483		2 203		3 630		13 407		107 522		2 578		1 845		1 867				
Females to 100,000 males.....	100 000	103 966	100 000	99 444	100 000	98 867	100 000	95 941	100 000	108 275	100 000	106 136	100 000	124 427	100 000	167 038				
U. S., 1870. Chinese.....	58 680	4 574	194	152	184	91	1 094	126	57 177	4 103		37		5						
Sex and number in excess.....	54 106		42		93		868		53 074		24		5							
Females to 100,000 males.....	100 000	7 794	100 000	78 350	100 000	4 945	100 000	11 517	100 000	7 001	100 000	5 405	100 000							
U. S., 1870. Indians.....	12 534	13 197	1 636	1 518	1 477	1 415	1 727	1 470	7 494	8 545	129	160	49	49	20	34				
Sex and number in excess.....		1 163		118		62		257		1 061		37				12				
Females to 100,000 males.....	100 000	105 289	100 000	92 787	100 000	95 802	100 000	85 118	100 000	114 024	100 000	128 682	100 000	100 000	100 000	170 000				
Upper Canada, 1861.....	725 875	670 516	126 086	121 600	90 358	88 125	86 267	83 517	313 019	301 662	7 986	6 462	2 017	1 690	305	265				
Sex and number in excess.....	55 059		4 486		2 233		2 750		11 357		1 524		327		57					
Females to 100,000 males.....	100 000	92 411	100 000	96 442	100 000	97 528	100 000	96 800	100 000	96 371	100 000	82 168	100 000	83 787	100 000	87 868				
Lower Canada, 1861.....	567 885	543 701	95 084	90 888	76 844	74 244	70 267	67 806	253 392	242 476	8 333	7 328	2 314	1 917	350	293				
Sex and number in excess.....	24 184		4 196		2 600		2 461		10 916		1 005		397		67					
Females to 100,000 males.....	100 000	95 741	100 000	95 587	100 000	96 616	100 000	96 497	100 000	95 692	100 000	88 203	100 000	82 843	100 000	83 714				
Italy, 1861.....	10 897 237	10 880 098	1 494 564	1 465 127	1 188 775	1 156 926	1 083 993	1 056 452	6 888 780	6 966 202	197 985	195 374	40 458	36 877	2 681	3 140				
Sex and number in excess.....	17 138		29 437		31 849		27 541		77 422		2 611		3 518		459					
Females to 100,000 males.....	100 000	99 842	100 000	98 030	100 000	97 320	100 000	97 459	100 000	101 123	100 000	98 681	100 000	91 148	100 000	117 120				
Italy, 1871.....	13 472 262	13 328 892	1 878 039	1 822 044	1 469 582	1 427 332	1 328 748	1 238 433	8 477 006	8 500 520	263 043	237 436	52 230	48 945	3 594	4 182				
Sex and number in excess.....	143 370		56 015		42 258		40 315		23 514		25 807		3 285		588					
Females to 100,000 males.....	100 000	98 935	100 000	97 017	100 000	97 125	100 000	97 441	100 000	100 277	100 000	90 265	100 000	93 710	100 000	116 380				
France, 1861.....	18 045 271	18 741 037	1 824 404	1 787 753	1 648 168	1 624 591	1 638 644	1 596 776	12 900 682	12 964 636	519 326	624 096	107 866	133 695	6 127	9 490				
Sex and number in excess.....		95 766		36 655		23 577		41 868		63 954		104 770		25 829		3 313				
Females to 100,000 males.....	100 000	100 513	100 000	97 990	100 000	98 569	100 000	97 444	100 000	100 495	100 000	120 174	100 000	123 945	100 000	153 634				
France, 1872.....	17 982 511	18 120 410	1 696 951	1 655 076	1 608 568	1 609 343	1 597 799	1 543 018	12 282 109	12 477 177	224 222	681 414	106 851	145 250	6 011	9 142				
Sex and number in excess.....		137 899		41 885		59 225		54 781		195 008		67 192		38 399		3 181				
Females to 100,000 males.....	100 000	100 766	100 000	97 931	100 000	99 417	100 000	98 561	100 000	101 588	100 000	109 162	100 000	135 936	100 000	152 087				
England and Wales, 1871.....	11 058 934	11 653 332	1 536 464	1 534 812	1 350 819	1 355 707	1 220 770	1 203 469	6 665 833	7 210 889	231 978	273 982	60 258	69 161	2 814	5 312				
Sex and number in excess.....		594 398		1 652		4 888		17 301		544 056		42 004		18 903		2 493				
Females to 100,000 males.....	100 000	105 374	100 000	99 892	100 000	100 361	100 000	98 582	100 000	108 176	100 000	118 106	100 000	137 611	100 000	188 770				
England and Wales, 1881.....	12 639 902	13 334 537	1 757 657	1 763 207	1 568 579	1 578 817	1 402 230	1 398 401	7 607 523	8 172 250	248 180	304 097	53 100	72 637	2 733	5 423				
Sex and number in excess.....		694 635		5 550		10 238		4 129		564 727		55 917		19 587		2 695				
Females to 100,000 males.....	100 000	105 495	100 000	100 310	100 000	100 652	100 000	99 705	100 000	107 423	100 000	122 530	100 000	136 792	100 000	198 699				
British India.....	97 892 135	92 381 592																		
Sex and number in excess.....	5 510 676																			
Females to 100,000 males.....	100 000	94 260																		
			</																	

THE COMPARATIVE LONGEVITY OF THE SEXES.

TABLE IV.

The Numerical Balance of Large Aggregates.

<i>Europe.</i>		<i>Male.</i>	<i>Female.</i>
United Kingdom,	1881	17 254 109	17 988 372
France,	1881	18 656 518	18 748 772
Germany,	1880	22 185 433	23 048 628
Switzerland,	1880	1 394 626	1 451 476
Belgium,	1881	2 790 608	2 795 238
Austria-Hungary,	1880	18 522 547	19 263 699
Norway,	1875	876 762	930 138
Sweden,	1882	2 218 343	2 360 772
Denmark,	1880	967 360	1 001 679
Holland,	1883	2 064 392	2 108 579
Servia,	1874	694 756	657 766
Roumania,	1877	2 618 136	2 454 864
Russia,	1882	49 971 817	50 400 736
Spain,	1877	8 253 293	8 500 292
Portugal,	1878	2 175 829	2 374 870
Italy,	1881	14 265 523	14 193 928
Greece,	1879	881 080	798 695
Malta,	1881	76 959	77 239
Gibraltar,	1881	8 527	9 487
Total Europe,		165 876 618	169 164 230
<i>North America.</i>		<i>Male.</i>	<i>Female.</i>
United States,	1880	25 518 820	24 636 963
Canada,	1881	2 188 854	2 135 956
Newfoundland,	1874	83 283	78 091
Nicaragua,	1883	136 947	138 867
Honduras,	1880	14 108	13 344
British West Indies,	1861	452 372	481 634
Bermuda,	1871	5 302	6 579
Total North America,		28 399 686	27 491 434
<i>South America.</i>		<i>Male.</i>	<i>Female.</i>
Columbia,	1871	1 434 129	1 517 194
Venezuela,	1872	1 005 518	1 069 727
British Guiana,		108 792	84 699
Brazil,		5 176 985	5 362 344
Paraguay,		28 076	106 254
Uruguay,		226 580	211 665
Peru,	1876	1 365 895	1 344 050
Chili,	1880	1 098 628	1 101 552
Falkland Islands,		967	577
Total South America,		10 444 570	10 798 062

THE COMPARATIVE LONGEVITY OF THE SEXES.

<i>Africa.</i>		<i>Male.</i>	<i>Female.</i>
Algeria,	1881	1 772 406	1 538 006
Egypt proper,	1882	3 406 000	3 414 000
Orange Free States,	1880	70 160	62 368
Cape of Good Hope,	1875	369 628	351 356
Gold Coast,	1880	7 215	6 935
Mauritius,	1881	208 340	152 020
Lagos,	1880	31 201	29 345
St. Helena,	1880	2 573	2 486
Total Africa,		5 867 523	5 556 516
<i>Australasia.</i>		<i>Male.</i>	<i>Female.</i>
New Zealand,	1883	307 673	254 133
Tasmania,	1881	61 162	54 543
Victoria,	1881	452 083	410 263
Queensland,	1881	136 044	98 066
New South Wales,	1881	547 193	438 385
South Australia,	1881	155 335	178 174
Western Australia,	1881	17 062	12 646
Oceania,	1878	34 103	23 883
Total Australasia,		1 710 655	1 470 093
<i>Asia.</i>		<i>Male.</i>	<i>Female.</i>
China,		5 312 523	5 206 414
Japan,	1881	18 598 998	18 101 120
Ceylon,	1880	1 470 993	1 290 403
Hong Kong,	1880	115 369	45 033
Straits Settlements,	1880	281 687	141 697
Labuan,		3 927	2 371
Total Asia,		25 783 497	24 787 038
Grand Total,		238 082 549	239 267 373

British India,
Native States of India,

Aggregate, 731,290,776.

Upper Canada in 1784 recorded 24,552 males under fifteen, and 22,513 females under fourteen, the sexes being classed as under and over these ages respectively. Thus, in their degree, earlier records confirm the more modern ones.

The tables show that the various colored races of this country conform to the rules rather less strikingly than the whites, and that each country usually has certain uniformities in the different census years special to itself. How far such variations are due to inaccurate returns and how far to other causes, is not easy to determine.

The relative numbers of the sexes at birth vary considerably with in certain limits; yet civilized and savage, prolific and unprolific nations maintain similar birth-rates, as a few more figures will indicate:—

Relative Numbers of Sexes at Birth.

	Male.	Female.
France (1881),	469 181	450 996
Ireland (1882),	64 819	61 021
Madras (1880),	339 301	320 600
Switzerland (1882),	44 319	41 668
Italy (1881),	557 029	524 096
Punjab (1880),	298 229	246 430
Belgium (1879),	80 339	85 302
Austria (1881),	428 922	404 554
Germany (1880),	898 996	849 690
Oudh (1880),	5 860 960	5 546 665

More males than females are still-born, and many more die at every age under five years. Whether there is any people or condition in which, with large enough numbers and a well-sifted count, there are more girls than boys at birth, is doubtful. The years of special fatality to girls vary greatly in different countries and conditions; and comparative death-rates, like other death-rates, vary with the civilization. India not only burned widows and destroyed female infants, but, like the most of Asia, it is still a vast prison to one sex, which in consequence dwindles to a minority. Fiercer tribes, as in Paraguay, slaughter their men in war; but most of these have no census returns. In all civilized countries, emigration is the great disturbing element in the numerical balance of the sexes. Table IV. embraces multitudes of men on foreign soil. Others are in Turkey, Persia, and at all the ends of the earth not tabulated. The Argentine Confederation in 1875 reported 9,130 Italians, 4,030 Spaniards, 3,238 Frenchmen, 10,709 British, 5,860 Swiss, and 4,997 Germans. The unrecorded wanderers may be properly offset by the surplus men of Asia; though India, having nearly a seventh of the entire population of the globe, with 6,000,000 more men than women, is clearly to be counted out from our estimate.

It is not held that nature maintains a numerical balance of the sexes under all conditions, but that the larger number of males at birth, and the greater longevity of females, so far persistently balance each other that equality of numbers in the aggregate is maintained, other things equal, in all of our best civilizations. The table includes the leading countries of the world and the colonies of Great Britain. The dependencies of other nations would not greatly affect the result. Like conditions give similar returns, and the close balance is remarkable.

There are two possible explanations of the facts given in the above summary and in the tables. One is, that the hereditary results

of male hardships, hazards, or excesses, transmitted to the same sex only, have been so great that the average of life to that sex has become grievously shortened thereby. The other is, that the feminine constitution, much beyond the male constitution, being differentiated in the two classes of organic functions distinguished as individual and reproductive, together with the earlier limitation of the latter, gains thereby a greater reversion of energy toward the close of life, as well as a larger available reserve, which in case of need may be called into vicarious action at all ages. Increased longevity thus resulting, primarily affecting females only, if inherited by both sexes, would tend to the extension of the average life of the race. This result would be parallel to the increase of size and strength to the entire species, superiority in this direction having arisen primarily in the male line of descent.

For one, I cannot find evidence that man has limited his great heritage, has thrown away his birthright of years for worse than a mess of pottage. What, then, are some of the constitutional causes of the superior longevity of women, and what are nature's methods in securing this result?

All organic existence is fundamentally differentiated in the two classes of functions, the individual and the reproductive, with their direct and indirect modes of nutrition and growth. Between these basal divisions organic antagonism arises, because of the common necessity that both systems shall be sustained from the same source of supplies, and because the resulting activities must take opposed directions. But, in the process of evolution, both systems are compelled to mutual adaptations and to many various modes of co-operation for their joint advantage. They are like rival nationalities forced into alliance both offensive and defensive; in league with, but also in ceaseless struggle against, the common environment, which becomes helpful or harmful precisely as they together succeed in adjusting themselves to its helpfulness or in overcoming its harmfulness.

The inevitable, the unpreventable antagonism between these two mutually dependent systems has been recognized, and, as it seems to me, has been pushed into undue prominence by men of science and philosophy, simply because the continuous adaptations and co-operations which also exist have not received from them an equal amount of attention. I think it is quite possible to show you that the active mutual adjustments for mutual benefit have become of such positive advantage to both as to have quite succeeded in annulling, possibly

in something more than merely annulling, all of the disadvantages of the direct antagonism. The advantage gained is like to that of a ship sailing almost in the eye of the wind. If unmanaged, the wind would blow dead against the ship's progress; but by steady proper management and constant shifting of the sails, it is made to propel the ship forward, though with some obliqueness of direction, and thus to become a positive advantage. In a closely parallel way, the innate principle of perpetual plastic adaptation, which pertains to all organisms, has succeeded through this very antagonism in forwarding both individual and race interests. With attention too exclusively directed to the benefits which accrue to the race, individual gain may be easily misinterpreted. It is within the domain of these complex adjustments and to the distinctive methods of their co-operation that I invite you to look, in order to find the reason for the superior longevity of women.

Two general laws govern all organic adaptations:—1. In all orders of organic beings, evolution is always twofold,—individual and reproductive,—with continuous and mutual adjustment between the two, with growing differentiation in each, and with corresponding advance in both. 2. Just in the degree to which characters of whatever kind, acquired by habit or otherwise, have become of a high order, have become of great physical or psychical value or of many classes of values, just in that degree these characters, if transmitted to descendants and thus made permanent to the race, have required and have found responsive and corresponding differentiation and advancement in the organism through which and by which such transmission has been effected.

It is notable that this double-phased, doubly responsive progress in the primary and in the dependent systems has been everywhere steadily and obviously maintained along all of the various lines of development. A low structural condition of the general organism is allied to a low structural condition of the special organism; and a high, widely differentiated, and many featured general organism is always accompanied by a carefully and broadly differentiated reproductive system.

Now, whenever a crystal takes a definite, specific form, we understand that a part of the forces which contribute to this result reside within the material which is crystalized, but, at the same time, that the size and perfection of the crystallization is largely dependent also upon outside forces. In heredity, characters are transmitted both

from, and jointly from, the paternal and the maternal ancestry. But the mother is also largely the environment. If that is of a low order, or inharmonious, the results are unsatisfactory and tend toward dissolution. But if the environment is favorable, if it is highly adapted to foster and carry forward all the many various and often diverse forces which are marvellously grouped, co-operative, and held in growing equipoise, then the result is evolution.

Electricity, in addition to being generated by two unlike metals, must be properly stored, properly conducted, and properly applied through a long, complex series of most delicate yet effective contrivances, in order to achieve good and desired work; how much more the requirements of the living human germ in its progress toward its mature royal heritage! The male of all the higher species has acquired advanced size and many new bony and muscular and mental and moral differentiations. But the female of all species, conversely, has acquired in advance or in exclusive right, a mechanism and functions most delicate yet instinct with subtle, living forces held in readiness for efficient co-operation, for impersonal, organic benevolence in transmitting gifts to the unborn generations; and, also, she is the embodiment of an associated but unique power, more closely intertwined with her own emotional, intellectual, and moral nature, which is uniquely modified accordingly, and in due time is transmitted to the same sex, and, to a large extent, to both sexes. All this means so much in relating her on the one hand to all the past of her race through her adaptations to the masculine development and, on the other, to all the future of her race by her privilege to be the final dispenser of every gift of good or evil, that, in remembrance of this mighty mediatorship between past and future good, between the end, less becoming from one present, to an instantly higher present, the lifeless and unconscious uplifted into the living and conscious, I may surely venture to affirm that, whoever has not given the female due credit in the evolution of her race, he it is who has never given this side of the subject due attention.

But by what methods has Nature succeeded in giving this type of pre-eminence in a lesser degree to the females of the lowest ranks of her living kingdom and in a steadily ascending degree upward, to the mothers of the human race? The answer is both easy and explicit: Simply through the habitual process of nourishing first and best that part of every organism which has been called most into active exercise.

Through the joint aid of the blood circulation and the nerves, especially of the sympathetic nervous system, Nature always gives her special attention to wherever there are special needs. Now, the growth and exercise of muscle and of its various dependencies are pre-eminently attended to in the male economy. In treating of this part of the subject somewhat fully elsewhere, I venture to call the masculine type the "peripheral" type of adapted organic growth and activities. But the general nutrition of the female is conspicuously adapted to, perhaps is subordinated to, her special functions. Hers may be properly designated the "central" type of organic growth and activities. Hence, advantage and differentiation with him are largely peripheral. Male evolution, as Mr. Darwin has illustrated, has been everywhere marked by the development of many external appendages. But advantage and differentiation with the female are much more centralized. Her thoughts and feelings and volitions are more closely interwoven than his, and her whole nature is curiously modified by her feminine organization.

Pre-eminent feminine longevity seems to have prevailed ever since the first differentiation of sexual life. In the flower, the centralized sex element must live to nourish its fruit in place, giving to its direct appendages a better chance of survival. Apparently from a like necessity and from continuance of acquired habit, many female insects are much longer-lived than the males. There is some authority for the assertion that superior longevity pertains to the females of some higher animals, of some domestic animals; and there is small reason for supposing that, if the subject had ever been fully investigated and tested, the law would fail among any living species. Each ascending race probably has progressively increased in length of life, and the habit of one sex been inherited by the other, to the advantage of both; but the superior longevity itself appears to have had, primarily, a direct relation to the special feminine functions, while time has but evolved a much more complex adjustment of means to ends.

With our own race, Nature has handed over to the reproductive system of one sex an exceptionally large amount of work to be done, and yet she has exceptionally restricted the time for doing it. Then, in proportion to the amount of energy permanently retained for individual use, she has carefully diminished the size of the organism. Perhaps we should say rather, in view of our explanation of man's superior bulk, she has not increased the size of the organism beyond a due proportion to the amount of energy permanently devoted to indi-

vidual upholding. It follows that in any and every emergency the two systems, which have been more equally equipped in the feminine than in the masculine economy, can give to each other the more efficient aid and support at all times, and that the secondary can restore to its primary an almost entire reversion of energy in late life.

The two classes of functions are not alike continuously active. Let us recall just here that all kinds and degrees of organic dormancy short of total inactivity chiefly affect certain functions only, while other functions avail themselves of exactly that opportunity for bringing up arrears and making good an advanced position. Thus, simple rest when tired, the rest of sleep, the winter rest of trees, and the hibernation of some animals are only a few of the many forms of dormancy through which all halting energies are enabled to keep within working distance of their numerous co-laborers. Ordinary sleep, a more or less complete dormancy of the senses and the volitions, enables many of the advanced nutritive processes to be more effectually active than is possible in a waking condition. Circulation, respiration and digestion are retarded; but wearied muscles, overwrought nerves, and exhausted brain are all refreshed during sleep, as they never are when there is free expenditure in all directions.

Independent of cold, darkness, and dryness, in adaptation to which dormant habits have, doubtless in part, arisen "plants need a season of rest," in direct growth as opportunity and aid to the indirect growth of the fruit-buds, because vegetable nutrition is not simple, but double-sided, and the two divisions are not in continuous equal action. The female of the polar bear, like the plant, hibernates, that its offspring may reap the benefit; (whether the bear takes up winter quarters voluntarily or involuntarily, the results are equally an economy of nutrition;) and the dormant state of the pupa of the insect, with its sleep of the senses, forwards the development of the higher organism by suspending the use of energy in exhausting muscular and sense processes. Subjectively considered, diversity of functions not entirely adapted to work evenly and continuously together are both the occasion and the final cause of all varieties of dormancy. Excessive activity in one direction conduces to corresponding rest elsewhere, till working and resting have become alternate in all organic functions, with adapted but various periodicity in all, simultaneously or successively.

This class of adjustments, efficient in all vital processes, is conspicuously effective in the feminine constitution. Hence, the stronger

hold on life which the infant girl has in advantage over the boy. Her little life, like his, hangs suspended by a thread to its pitiless new surroundings; but the thread has two strands of nearly equal size, carefully intertwined throughout and ready to give mutual support, and upon the one strand there is almost no present strain. The boy's life is suspended by a much larger main thread, less thoroughly intertwined with its very much smaller companion strand, which is able to give it almost no efficient support. Hence, four hundred and nineteen boys to only three hundred and eighty-one girls out of every thousand died in the United States in 1880; and similar proportions are maintained habitually among all classes and in all times and countries about which we have information. Vital adjustments become more intimate just in proportion to their complexity and differentiation, because the laws of all growth perpetually lead in this direction. Close adaptation and co-operation within and without everywhere lead to the possibility of survival; hence, the slightly better chance of life at all ages to the female. The habitual longevity is preserved by new growing adjustments. The head wind has become the motive power to propel the ship. The antagonism has become transformed to helpful co-partnership.

In middle life, individual well-being becomes less assured to the woman. Her mental life must, in a great degree, conform itself to existing conditions; and, possibly, the whole tone of her activities, physical and psychical, is lowered and her abilities are depressed. But, when the cycle of special activities is completed and permanent dormancy begins, can there be but one result,—increased vigor to all individual power, physical and psychical? Here, we find the farther explanation of woman's pre-eminent longevity, here, the hope of a renewed and prolonged intellectual strength; here, the compensating advantages for all previous disadvantages. Nature cares no more for the female than for the male; she does care something more for the race than for either singly; and her provision for the young has given appreciable extra advantages to that parent with whom their interests are most closely allied, and the reserve of all such advantages is handed back to her late in life. The largest bud of the walnut bears the female flower; the best nurtured silk-worm grub proves to be the female; in all ranks below fishes, reptiles, and birds, the females are always larger often much larger, than the male. Then was it scientific to assume that disadvantage begins for the female among the higher races just where broader differentiations and detailed higher adapta-

tions also begin and progress upward to mankind? Instead of inferring that woman has been placed at a disadvantage in the race of life, when the subject has been brought into the domain of exact science, as it readily can be in certain directions, it may be found that she has various calculable and definite advantages over man, her now demonstrated superior longevity being one case in point. I find no evidence that, as Prof. Ward suggests in his *Dynamic Sociology*, there is an abnormal feature in the feminine constitution which has been in some sense grafted upon Nature, but subsequently adopted and adapted by her in the best way possible. On the contrary, there seems to be the clearly traceable footsteps of one steady progression upward, to the decided and increased advantage of the woman. Whether or not it will be found in time that, all things considered, the male is at a disadvantage as compared with the female of his species, there are not comparative data enough to determine. It seems probable that here, as elsewhere in all the aggregate interests of the sexes, Nature steadily maintains a constant moving equilibrium by diverse adjustments, as she does in maintaining their numerical equality in the aggregate.

Woman has less growth to make, and she has more available power to make it rapidly. She is precocious physically and mentally, and attains an earlier maturity; yet, as we have seen, she does not reach earlier physical decadence. On the contrary, her physical vigor is the more prolonged. Neither has it been found that her psychical powers have fallen below the physical in any unusual degree. In normal conditions, an accession of strength to either means an equal accession to both. The statistics which can establish the prolonged mental vigor of the woman are not abundant; yet, so far as they prove anything, they look strongly in that direction. A large percentage of the few women who have been noted as brain workers have worked easily and well till late in life, and they compare more than favorably in that respect with any equal number of men. Judging from the sustained mental alertness of the women of the last fifty years, some new light may probably be thrown upon that question, even during the lifetime of the existing generation.

WOMAN IN THE BRAHMO SOMAJ.

EDNAH DOW CHENEY.

IT is of one of the most remarkable of these new associations in religious development, the Brahmo Somaj, established in India, that I wish to speak, not on account of the theological reforms which it is seeking to introduce, but because of its relation to our special object,—the advancement of women.

The wide extent of the movement for women indicates the importance of the subject and the fact that the time is ripe for it; that it is not the idle fancy of some dreamer only, or even the prophetic insight of one far in advance of society, but that it is a great tide of moral thought and life, which may seem to recede at times, but is destined to go onward until the whole ocean touches the highest mark.

It would not be appropriate here to discuss the theology of this new church; and yet, in justice to its leaders, I must say that they consider religious truth and spiritual life as the basis of all their work, and that they would not accept any statement of its beneficent social and moral results as adequate, which left this out. As an outward organization, the Brahmo Somaj dates back to 1830, and to the time of Ram Mohun Roy.

Mr. Potter says: "Ram Mohun Roy was one of the historic characters of India. He was a reformer of wide sweep, social, political, moral, religious. Early he abandoned the idolatrous religion of his countrymen, and sought, against the force of deep-rooted prejudices which no one man could sweep away, to restore what he believed to be the original Hindu faith, spiritual monotheism. A society was organized and incorporated under the name of the Brahmo Somaj, which means an 'assembly of worshippers of God'; and a building was secured for its use, the trust deed of which provided that it should be for the use of 'people of all sorts and conditions, without distinction as to creed or color, who should meet there for *the spiritual and no other mode of worship* of the Author and Preserver of the universe.'"

What interests us is the fact that, as soon as this intelligent and earnest body of thinkers began to consider the subject of religious and

social reformation in India, they saw that it necessarily involved the improvement and elevation of women. The recognition of this necessity was gradual, and produced by the contemplation of enormities in the social customs regarding women, actually existing in their country.

While Ram Mohun Roy was contemplating the establishment of his new church, he was so shocked by the then existing barbarity of suttee burning that he was obliged to turn his attention to this practical work before he could go further in building up a religious institution. This horrible custom required that on the death of a husband the wife should be burned alive. She was expected to accept this fearful doom joyfully as a holy sacrifice. But, to feel the full horror of the custom, we must remember that the widow thus obliged to give up her life in agony and torture was not necessarily the loving and beloved wife, who, having found all her joy in the companionship and affection of her husband, might willingly seek to follow his spirit into another world, even by this fiery passage. We can conceive that Vittoria Colonna might, at this price, have been willing to purchase thirty-five millions of years in paradise with the husband whose death left earth a desert to her. But the widows of India were often young girls betrothed before they knew even the meaning of marriage, and having never known the joy of mutual love. The Mohammedans had tried to abolish this custom, but without much success; and the English, of course, viewed it with abhorrence.

A year before the foundation of the Brahmo Somaj, in 1829, and chiefly by the exertions of Ram Mohun Roy, a law was passed by the Legislature forbidding this cruel practice. This was the first step toward the recognition that woman's life had any value except as a sacrifice to her husband. Their creed of today says, "The Brahmo Somaj believes the position and mission of women in the theistic church to be very high; and unless and until men have learned thoroughly to purify their hearts in regard to women and to honor them, theism will not take root in this land," (*Faith and Progress of Brahmo Somaj*). But, even among enlightened Hindus, the old prejudices about women are deeply rooted; and the new society had a long, hard struggle to carry out more liberal ideas. The privileges of caste and the marriage customs were intrenched in the hearts of even many who had advanced ideas on purely theological subjects.

About 1839, the leadership of the new society passed into the hands of Devendra Nath Tagore, a man of great fervor of spirit, who "had strict and highly conservative ideas about the proprieties of

Hindu marriage customs. Widow marriage was to him an abomination, and intermarriage (between different castes) still worse.' He wished to keep the new church up in the regions of spiritual ecstasy, and not expend its power in social reforms. But his pupil and successor, Keshub Chunder Sen, who entered enthusiastically into the work in his early youth, was fortunately broader and more practical, although he shared in the ecstatic devotion of his teacher.

Although Keshub was himself a member of an aristocratic household, he advocated the abolition of caste distinctions in the new church. He also saw that no church could be established for one-half of mankind only, and the first of his important reforms was the instilling of theistic principles into the mind of the female sex. He thus introduced a purer worship and a nobler thought into domestic life, and private prayers and religious services in the house were filled with the new idea. Gradually, all the social festivals connected with idolatry were replaced by annual gatherings, made beautiful with flags and flowers, with brotherly meals and social gatherings. From private prayers, the women were led to take part in public worship. Thus, the women were led to desire higher education, that they might hear and understand their new faith intelligently and speak for it reasonably.

Laying his foundations thus broadly in religious equality, this sagacious leader next turned his attention to the great practical evils of the marriage customs.

Marriage between different castes was entirely forbidden. Still worse, female children were betrothed in a tie as indestructible as marriage, even in infancy; and marriage was consummated at a frightfully early age, the child having no choice or will in the matter, and passing entirely into the control of her husband and his family. If the husband died even before the conclusion of the marriage or after, the child widow became an object for every kind of abuse and scorn, so that we are told that Indian widows say that the abolition of the suttee has brought them only slow torture instead of quick release. Numbers of these wretches perish by suicide as their only escape from an intolerable life. The Brahmo Somaj first attacked the system of caste and abolished it so far as its own influence extended.

They then determined to do away with every evil connected with the marriage system. In 1870, they took the opinion of the best medical men on the proper marriageable age; and their suggestions on this point were adopted. The enforced celibacy of widows was set

aside. Gross idolatry was removed from marriage rites, and absurdities in form and practice eliminated. Strict monogamy was enforced, and the marriage tie was made inviolable. Marriages were solemnized between different castes, the serious responsibilities of marriage were explained, and foolish expense and unnecessary pomp discouraged. After four years of intense struggle and anxiety, the Brahmo marriage act was passed in March, 1872.

When we remember for how many years English reformers have been struggling to pass so simple a measure as the bill to allow marriage with a deceased wife's sister, we must admit that the world sometimes moves as fast in the Eastern as in the Western hemisphere.

By this act polygamy was rendered impossible in the Brahmo Somaj, the new law making it penal. The minimum age of marriageable persons is fixed by law, and thus the bad custom of early marriages is virtually abolished. Caste is simply ignored, and men and women can now unite themselves in wedlock with the perfect sanction of the law. This act protected, not only members of the Brahmo Somaj, but all non-Hindu marriages. As yet, only a small portion of the women of India have been benefited by these excellent reforms. There had been about a hundred Brahmo marriages up to the year 1879, thirty-five being intermarriages between different castes and thirty-six widow marriages.

Of course, those who cling to the old Hindu church still maintain its old customs; but the Brahmo Somaj made a great gain for the whole community in securing from British authority legal sanction for marriages made contrary to Hindu regulations. The first Brahmo marriage ever celebrated was that of Davendra's own daughter, in 1861. This marriage was according to theistic rites laid down by the Somaj, excluding idol worship. The first intermarriage between castes—a still greater blow to conservative ideas—took place in 1862.

When we remember how many questions of inheritance and property are mixed up with marriage laws, we can realize what a service was done by disentangling the whole question and establishing the freedom of marriage on a sound legal basis.

We must confess with deep pain that the great leader, Keshub Chunder Sen, was not entirely consistent in his own practice. The prevention of the premature marriage of maidens, often betrothed at the age of ten or twelve years, was one of the reforms which the Brahmo Somaj was pledged to effect; yet he assented to the marriage of his daughter, a girl of unmarriageable age, to an Indian prince. Alas

for the weakness of human nature everywhere when temptation comes home to it! This unfaithfulness to his pronounced views produced great feeling in the society, and led to a division. All could but feel a loss of courage and strength from this unfortunate lapse of a trusted guide. Up to 1879, as I have before cited, there had been about a hundred Brahmo marriages,—thirty-five intermarriages between different castes and thirty-six marriages of widows. While this latter item does not yet approach to the condition of civilization in England, where according to Mr. Samuel Weller, Sen., "there are more widows married than single women," yet it does show that a small number have been emancipated from the dreadful doom of Indian widowhood. In India, a second marriage is the only door of escape from a doom so dreadful that many Indian women wish for death as a way of escape.

The spirit which animated the Brahmo Somaj could not be satisfied with merely destructive reforms, but endeavored to express its religious feeling in domestic life and in appropriate social festivals, which the Brahmos felt the need of substituting for the idolatrous ones to which they objected. "From annual gatherings, these festivals have come to be held many times a year. Their devotional character has intensified, their social importance has deepened. They repeatedly bring about the unions of Brahmos and their wives from different parts of the country, and they have opened the way to reforms."

This led to the interest of women in the church. "The women, reflecting on their condition, moral, social, intellectual, wanted to know more, see more, enjoy more, and, in short felt the foregleams of a better and brighter social destiny."

Weekly worship was instituted for ladies only, and sermons were preached suited for their special necessities. This grew into a special society called the Aryanari Somaj, which weekly holds its divine services, conducted by one of the ladies. Finally a separate gallery was provided for the ladies in 1869, where they sit in large numbers, and take part in the public worship of the Brahmo Somaj of India. But our Indian brothers have clear vision, and they have already begun to see that the work of the twentieth century, soon coming upon us is to be a work not done *for* women, but in men; for Keshub Chunder Sen says: "With shame and humiliation, I make this confession. Our men by a long course of training in vicious ideas about the other sex are more or less unfit now to mix with women."

Another practical measure was the founding of homes in which families could live, the men and women sharing in family life on a truer basis than in the Hindu homes. By these measures, so much has been accomplished that Mazoomdar can say, "For the real workers in the Brahmo Somaj, it is a matter of no little satisfaction that, if they have been able to do nothing more, they have at least unlocked the door of that ancient prison, the zenana." It is impossible that right relations can be established until one standard of purity and morality is accepted for both sexes.

The next gain for woman was in education, and the Brahmo Somaj has done a noble work for her. The female improvement department was formed in 1870, to raise the intellectual, moral, and social status of Hindu women. In 1871, the female normal and adult school was established. This was the school in whose beginning the late Miss Carpenter was so deeply interested. It opened with fourteen pupils, but the number rose to twenty-four in a year. Four were unmarried, three widows, seventeen married women. A literary association (Bama Helthaishinee Sara) was formed under the presidency of Keshub Chunder Sen. Meetings were held once a month; and the discussions published in the *Bama Bodhini Patika*, or *Ladies' Journal*. Since then the universities have been opened to women; and, as fast as the young Hindus are fitted for it, they can receive a truly liberal education. Mozoomdar says, "The *Paricharika* is a monthly magazine in Bengali published for the benefit of the other sex, among whom it has been popular, and some of whom have contributed to its columns from time to time."

"Weekly lectures are given in the Ladies Institution on History, Natural Theology, Female Biography, and Natural Philosophy. About fifty ladies attend them regularly. A ladies' committee, consisting of English and Hindu ladies of the most distinguished position has been formed."

In confirmation of my own statements, which are mainly drawn from the writings of Mr. Mozoomdar and other publications of the Brahmo Somaj itself, the following notes are kindly furnished me by Dr. S. F. Norris, a medical woman who went to India under the auspices of one of our missionary societies, and who has resided there for many years:—

"A few years ago, no Hindu gentleman dared appear in public with his wife. If they were to go to the same place, they went in separate carriages, *his* a few rods in advance of hers. But, in Bombay

they are now beginning to go out together, both walking and driving. This is partly due to European influences (there are ten thousand Europeans there), but more to the 'Prarthana Somaj' or prayer league. This is similar to the 'Brahmo Somaj' of Calcutta, and its members are nearly all from high castes. They abjure caste and idolatry, eat and drink with Christians, Mussulmans, or Parsis, educate their wives and daughters, and treat them as though they were nearly as good as themselves. They are also striving to do away with the custom of early marriages. Their ladies accompany them to their *mundir*, or church; and one of them plays a harmonium accompaniment to their hymns.

"The members of the 'Prarthana Somaj' take their wives and daughters to public places, walk and drive with them; and now the orthodox Hindus are following their example, to a certain extent. They have one or more private schools for their daughters, and many of their wives are being instructed at home. They are also organizing evening schools for the industrial classes, having already established four of these schools for the people who work in the mills.

"In Calcutta, the Brahmo Somajists are conducting a fine institution for young women, called the 'Victoria Institution,' and a similar one for young men, called the 'Albert Institution.'

"Ramabai, the learned Brahman widow, was a member of the 'Prarthana Somaj' when she left India for England. Through her influence, several associations of women were formed which promise to aid her in carrying out her purpose; namely, to advocate the proper position of women in the land. She headed the procession of two hundred high caste women, when they appeared before the Education Commission with a petition asking that the precious boon of education might be given to Brahman women and a law be enacted against early marriages."

But the movement in India is not a utilitarian movement alone, but confessedly and primarily a religious one. The meditations and philosophy of this spiritual people have led them to the distinct avowal of a doctrine which expresses in theological language the great underlying principle which, if it permeates the thought and life of a people, must lead to a recognition of the equality of woman and her permanent value in her own personality, and not merely as a help and adjunct to man.

The Brahmo Somaj acknowledges the doctrine of the Divine Maternity, and it has become customary to address the Deity as Mother.

This idea is not a wholly new one either to Eastern thought or to some Western churches, but its revival shows how deeply they have felt the importance of doing justice to the feminine principle.

Mr. Mozoomdar, in his closing chapter on "Divine Maternity," says:—"Properly speaking, the Supreme Spirit can neither be our father nor our mother. He is absolutely beyond these and all other human relations. * * * * We, in the littleness of our speech and conception, apply to him names, and realize him in relations that are most sacred and dear to our hearts. And we know of no name and no relation nearer or more sacred than that of mother. * * * If all women could be viewed as incarnations of the motherhood of God, feminine beauty, refinement, and affection would become holier objects than they now are." He closes with these words:—"God as mother shall rule in our hearts, in our homes, and in our church, drawing men and women together as one holy family."

One of the devotional hymns of the Brahmo Somaj contains these tender words:—

"Hold, hold thy patience, contain thy tears,
Have hope, do not despair.
The cry of the sinner will be heard by the
Mother, sorrow will not last all thy days.

"On the lap of mercy, giving thee rest, the
Mother will wash thee in waters of joy.
And console thee with sweet words,
Therefore cease to mourn."

It has seemed to me worth while to occupy an hour in recounting the brave work done by a little band of men and women in a distant country, because it gives us strength and courage in our own struggle. It shows us how it is connected with every great uplifting in thought and life. We may find also that we can learn much from those whom we have often despised and rejected. And, as we catch in these deeds and utterances some faint echoes of words spoken and brave acts done on our own continent, we may remember that we are not working for ourselves alone, but that everything done for the good of woman here is felt around the globe. For twenty-five years we have demanded the medical education of women. Now, the woman physician enters the zenana to carry comfort and healing where no man is allowed to enter; and women from Japan and China and India are coming to our schools, to carry back this precious knowledge with them.

Let us work with our brothers and sisters for the emancipation of women from all false restrictions, for higher ideas and simpler forms of marriage, for the purity of man, the companion of woman, for the elevation and happiness of domestic life, for the education of woman in all that can enable her to serve the highest and best, with heart, mind, and soul, in the recognition of her great mission on earth and of her maternity as the representative of the divine life and Love.

A STUDY OF HEGEL.

ELLEN M. MITCHELL.

WITH a full knowledge of my inability to treat the subject adequately, I hope to give in the following paper some faint reflection of Hegel's significance in the world of thought. But why study philosophy, I hear some one ask, when the world of to-day is full of practical problems waiting for solution? Why seek to penetrate that realm of mystery which transcends the finite, which it is impossible for the eye to see, for the ear to hear, for the imagination to conceive? Why, except that man is forced to think as well as live and enjoy; that there comes a time when he inquires why he and the world are here, whence they come, whither they go? He demands explanation, and the sciences come to his aid,—astronomy solving other questions regarding the stars, chemistry and physics solving other problems, and so on,—yet all alike pausing on the threshold of what is called the Unknowable, the *why*, the *whence*, the *whither*. Is it impossible, then, for human thought to transcend the objects which exist in space and time? Are we to renounce the study of speculative philosophy, renounce all those inquiries which have occupied the attention of great thinkers in all ages, disregarding their fundamental agreement in essentials, which of itself is one of the strongest proofs that they have read aright the "secret of the universe"? "Whatever is real is rational," says Dr. Caird, "and with all that is rational philosophy claims to deal." What is scientific progress except the discovery of rational laws in the world of matter? What is it but seeking of intelligence in nature, to which the intelligence in man responds? Reason is the eternal centre and root of things,—reason, thought, or self-consciousness, to use Hegel's explanation. Apply this key to nature, and you behold an evolution in its forms and processes, from the inorganic up to the organic, and then again up and up to man. "All is explained only when it is converted into thought, only when it is converted into ourselves, only when it is converted into consciousness." We communicate with the outward world through the organs of sense; but the impressions received by

this means are confused and unrelated, and do not of themselves constitute knowledge, until they have been referred to the unifying power of thought, the self-conscious *ego*, pre-supposed in all experience. For instance, what is it that enables me to apply the common name of rose to this flower, that of heliothrope to another, etc.? So far as regards the report of the senses, the rose I have to-day differs in many respects from the rose I had yesterday. What is it that enables me to compare the separate impressions produced yesterday and to-day, discovering an identity underneath differences which justifies the common name of rose? What is it but thought, the thinking *ego*, some-thing not given by sense, which remains steady amid the flux of impressions, identifying, relating, and combining them into objects of knowledge? The common name of rose is itself an abstraction, an unreality. There is no rose which is not a particular rose, no plant which is not a particular plant, no man who is not an individual man, —John or James or Henry. Rose, plant, man, are abstractions without any correspondent reality capable of manifesting itself to the senses. The farther we carry this process of generalization, the more abstract our thought becomes. The common name of flower includes both rose and heliothrope; that of plant, flower and vegetable; that of organic being, plant and animal; and finally we reach the ultimate abstraction, being, without predicates and without significance, equivalent to nothing. This is the famous paradox at the beginning of Hegel's logic. The two conceptions, Being and Nothing, absolutely identical and absolutely opposed, disappear the one in the other constituting the Becoming. To illustrate what is meant, take the verb corresponding to Being, remembering that neither verb or noun is synonymous with Exist and Existence. What do we say, when we say simply *is*? Might we not as well say *is not*? The rose *is*. Is what, —existing or non-existing, fragrant or odorless, white or red? Until I say what the rose is, I say nothing. More than this, in order to have a clear conception of the rose as a living organism, I must know both what it is and what it is not. Its notion includes negation as well as affirmation. At every stage of its growth, the plant not only is this, that, or the other, but is constantly developing new phases and appearances, putting forth fresh leaves and blossoms or shedding the old ones, —changing, passing away from life to death, from death to life, from affirmation to negation, from negation to affirmation. The seed must lose its individual life in the life of the plant, leaves must wither and blossoms fade, to sustain the growth of

the organism, whose idea can never be reached by abstraction and generalization, by separating the particular parts, disregarding their differences, and observing what they have in common. Abstract the differences of the individual members, and you abstract the life of the organism, which can only realize itself through their diversity and harmony. Thought must rise to a deeper universality than that of abstract generalization, in order to comprehend the ideal unity of the plant, which is a continuous process of affirmation and negation, annulling the previous stage of its history, —as, for instance, the seed, in order to absorb and reaffirm it in leaf and blossom and fruit, and again in seed.

The organic life of reason may be compared to that of the plant. Matter and mind, the world without and the world within, are parts of one harmonious whole, related in their very essence each to the other. Were there no intelligence in nature, no law or order in its processes, no reason corresponding to the reason in man, no relation between matter and mind, how would it be possible to bridge the gulf between the two, to institute scientific investigation or know anything at all of an object shut up in rigid self-inclusion? Nature is not the antithesis, but the reflection of mind; this is the explanation of the problem. "To him who looks upon the world rationally, the world in its turn presents a rational aspect." But the mind must not isolate itself independently, setting up as truth its individual thoughts and opinions. On the contrary, these must be renounced, in order to attain scientific knowledge. Participation and renunciation are the laws of spiritual being, —participation in the life and consciousness which is universal, renunciation of all that is limiting and particular to the individual. Man cannot separate his single self from the selves of other men, his fellow-beings in the world, any more than he can live a life distinct from the universal life of nature. The individual human being presupposes the family and the state, just as the leaves presuppose the plant. The universal is first, not last, the idea of the organism, explaining, but not explained by its particular members. Isolated from all other human spirits, the individual man is a pure abstraction, an absolute nonentity. I must renounce the thoughts and fancies special to myself as this particular human being, before I can enter the domain of scientific truth. I must lose this single, separate self of mine in the larger self of the family, of the state, of the race, in order to attain spiritual growth and development. The social institutions that surround me, instead of limiting my freedom, enable me to trans-

cend all that is narrow and selfish, to identify myself with other human beings and make their life my own. True, they impose upon me certain duties and obligations, they require me to renounce my private interest for the general good, they demand pain and self-denial; but apart from them, apart from the civil and political organization to which I belong and of which I am a part, this self of mine has no reality, the pulse of my spiritual life ceases to beat.

Renunciation and participation are the principles embodied in human institutions, realized more and more as individual members are penetrated more and more with their divine significance. For it is not enough that I give up my private wishes to benefit others, that I fulfil my social and political obligations, unless I do so freely, spontaneously, converting the external restraint into an inward inclination. This is the supreme spiritual law, the law of love, the self-sacrifice or negation which is the highest spiritual affirmation. It is the soul of Hegel's system, vivifying the abstract reasoning of the *Logic*; explaining the phenomena of nature and its progressive ascent from the lifeless dust of the field through mineral, plant, and animal to man; finding the truth of matter in mind, conscious reason capable of abstracting itself from everything else, of separating the outward objective world from the inner subjective self, of absorbing in its development all that seems to limit its activity, and of winning at last true freedom by the spiritual abnegation of selfish desires and volitions, by absolute surrender to that Universal Reason or Self-consciousness, which is not mine nor yours, but in which all alike have their being. Hegel proves that thought, self-consciousness, is the highest principle in the world; that it cannot be evolved from material forces, since it is itself their presupposition, tacitly assumed at the outset of scientific investigation. You cannot eliminate the thinking self from your experience and observation of nature, or make it a function of matter without making it a function of itself, because matter, force, etc., are abstractions which have no independent existence outside of mind. "Intelligence and will triumph in the struggle for existence," said Dr. Harris, in one of his Concord lectures, "and prove themselves the goal toward which all creation moves."

Nature, according to Hegel, passes through the different stages of the mineral, the vegetable, and the animal world, before the spirit within it reaches complete self-emancipation. The stone, or mineral, is entirely dependent on external conditions, and shows the first trace of subjectivity, in the attraction of gravity,—an ideal point of unity.

The plant possesses a higher degree of freedom and individuality: it can react on its environment, absorbing a portion of it in the process of nutrition, converting it into vegetable cells through its own self-activity. This is the beginning of life and of spirit in its higher manifestations, compelling the mind to pass from the conception of mechanical force to that of self-causation, self-development; revealing a unity which maintains itself amid continual differences,—the unity of the species, not of the individual. From seed to leaf and flower and fruit and again to seed, this is the process of vegetable life, unexplainable by any theory of physical causation, since here is a cause which lives in its effects, and effects which exist to perpetuate a cause. The animal reaches a higher stage of self-activity than the plant. It has feeling, and is capable of locomotion. It can not only react on its environment in the process of nutrition, but can reproduce upon its sense-perception, the impression made by that environment upon its soul. But the animal is not the highest term in the series of nature; to feeling and locomotion is added reason, which constitutes the peculiarity of the human soul. The spirit that works through nature first attains true freedom, conscious individuality in man. This is a result which it is impossible for materialistic theories to explain, a transition even more wonderful than that from the inorganic to the organic world. "If thought can in any sense be said to be evolved from organization," says Dr. Caird, "it can only be because the animal organization contains in it implicitly something more than animal higher than organic relations,—namely, the germ of that perfect return upon itself, which mind in its self-consciousness for the first time explicitly reveals; and so, if you insist on seeing in matter as of mind, it is because you have already conceived of matter as more than matter, as containing in it virtually all that mind is. But a materialism which starts from a matter which is virtually mental or spiritual ceases to be materialism in anything but the name. What it really means is, not that matter, conceived of as something independent, is the cause of mind, but that mind in the germ is that from which mind springs, that intelligence has its origin in that which implicitly intelligents. But this is a view of the world which spiritualizes matter rather than materializes mind; for in the whole realm of being, down to the lowest existence in outward nature, it leaves nothing absolutely foreign and heterogeneous to thought, nothing which either actually or virtually, thought cannot claim as its own."

The awakening of the consciousness of self is the emancipation of mind from nature, but mind itself must pass through a process of development before it reaches what Hegel calls universal or rational self-consciousness. Theoretical mind, or intelligence, the spirit that knows, must pass into practical mind, or will, the spirit that acts. Thought and will are really one; thought is potentially will, will is thought in act. But the will at first as it rises out of nature is little more than an instinct; that which it wills is the satisfaction of animal appetites and desires. Even here, reason asserts itself. Though man may pass, like the animal, from one sensuous gratification to another, he soon compares them mentally, and chooses those which produce most enjoyment. Reflection begins; and reflection once begun, can only end in reason. But it is the distinctive characteristic of reason to claim a satisfaction antagonistic to that demanded by the appetites and desires of our lower nature. Hence, the inner warfare between what Hegel calls the universal reason and these particular tendencies of the animal nature, both locked up in the human being. This self of mine is the self that yields to passion and condemns passion, that yields to the lower impulses and condemns the lower impulses. The spontaneous appetites of nature are without moral significance. But spontaneity dies the moment it is made an object of thought, and innocent gratification becomes conscious self-indulgence at the bar of reason. "To have a habit is one thing," says Dr. Stirling, "but to *know* I have a habit is quite another thing." The natural tendencies lose their moral neutrality when related to a self that consciously wills their satisfaction or denial.

Man, like the other animals, receives from nature a variety of desires; but he is able to control and transform them into a rational system, *objectify* them in law, morals, and the state. This is one of Hegel's distinctions between abstract subjectivity and objectivity. That which is merely mine in my thinking and doing is subjective,—is transient and particular, belonging to me as a perishable natural being. That in which all can share, which all can appropriate, is objective, is permanent and universal, belonging to me as a spiritual being. What is mine subjectively sunders me from my fellowmen, sets me apart as a distinct individual, a nonentity. What is mine objectively unites me to my fellow-men, elevates me to the consciousness of freedom and personality. "Hegel ascends to a stand-point," says Dr. Harris, "wherein are united the two antithesis which lead, respectively, the ancient and the modern worlds of thought,—the antithesis of subject-

ive *versus* objective, and the other antithesis of the universal *versus* particular. The constitution of the mind is in reality both subjective and objective."

Man is free, according to Hegel, not because he can do what he likes, but because he must obey the higher principle of his nature, the universal self-consciousness in which his own is rooted. "The perpetually recurring misapprehension of freedom," he says, "consists in regarding that term only in its formal, subjective sense, abstracted from its essential objects and aims. Thus a constraint placed upon impulse, desire, passion,—pertaining to the particular individual as such,—a limitation of caprice and self-will, is regarded as a fettering of freedom. We should, on the contrary, look upon such limitation as the indispensable proviso of emancipation. Society and the state are the only conditions in which freedom is realized. The state is the absolute might in all judicial and ethical relations, the peculiar work of freedom of mind wherein it deals with its own creations. Above it are placed the spheres of art, philosophy, and religion, which in their essence must be left free, though capable of external culture and encouragement. A state founded merely upon abstract right was a horror to Hegel, though he recognized its historical justification with the Romans, to whom we owe the development of the abstract freedom of personality, which constitutes the basis of positive law. Abstract right is simply directed to the free will as free will, the abstract person. It includes the idea of property; I have the right to convert this physical object, this acre of ground, into an embodiment of free will, and make it mine. But my right is limited by the rights of others which I am compelled to respect, our separate wills must be merged into one, and here enters the possibility of conflict between the individual and the universal will. Hence, crimes and trespasses and punishment. "A Crusoe upon a lonely island can live very morally," says Dr. Karl Rosenkranz, in his exposition of Hegel's doctrine; "but right exists for him only potentially, and cannot develop itself actively unless one other person live with him, because only with this other would a recognition of his willing and acting become possible. He might indeed be immoral toward himself, intemperate, unchaste, etc.; but a crime or trespass he could not commit.

The stand-point of abstract right is different from that of morality. Obey the law, says one, whether you agree with it or not, whatever may be your motive; obey the law, says the other, because in obeying it you are obeying the conscience within you, your own highest self.

Observance of law may be simply external. It is possible for me to fulfil every legal enactment, and yet be guilty of immorality. Nevertheless, right and morality are essentially one; and we see their interdependence clearly in the relation of crime and its consequences. To punish the criminal is to endow him with free will and consequent moral responsibility. We do not impute blame to or punish the elements for earthquakes, tornadoes, and similar disasters; we recognize the physical necessity by which they are bound, the laws of nature which they are forced to obey. They had nothing to do with making these laws; they are true slaves of matter. Man, too, is a creature of nature, subject to her laws, and so far finite and perishable; but man is likewise spirit. He can convert material forces into instruments of his own intelligence, and can rise into a realm of freedom, realizing objectively in legal ordinances and social institutions the deepest principle of his own inner being,—reason, thought. This is true freedom, rational self-consciousness. The history of the world is the development of this idea. To the Roman conception of abstract right, Christianity added that of subjective morality, chastening the heart and guiding the soul to obedience through inner righteousness and the law of love. If space permitted, I would like to show how Hegel develops his doctrine in the *Philosophy of History*, finding in man as in nature a progressive revelation of the divine spirit, from the first rude sense-perception of the savage to the enlightened insight of the Christian thinker, proving that the human being is free and immortal, with the power of self-determination, the power to annul all that is finite and to realize the infinite within him, imperfectly, it is true, as regards temporal existence, but victoriously as regards the life which is eternal. The subject has been treated in a series of lectures,—unpublished, I believe,—by Dr. William T. Harris of Concord, to whom I with many others are largely indebted for any knowledge I possess of Hegelian philosophy.

It is strange that Hegel's attitude toward Christianity should ever be mistaken after his emphatic utterances in the *Philosophy of History, Art, and of Religion*. He makes Christianity the principle of modern history, and shows how the Oriental and classic forms of civilization prepared the way for its appearance. Rome is the iron fate that compels abstract personality to display its nothingness, and reveals to man the discord within his own inner nature. This abstract *ego*, this self of mine, fixed in its private right, is a contradiction, and must suffer the misery of separation from that universal divine self, in union with

which it alone possesses true being. Existence for self simply is separation from God. If I hold to my abstract freedom, I adopt the stand-point of evil. Sin is the discerning of good and evil as separation,—separation of the finite from the infinite self. The recognition of the separation brings with it the power to heal the hurt. Infinite loss becomes infinite gain. The words, "to lose the whole world and gain one's own soul," acquire fresh significance. "The distinction between religion and the world," says Hegel, "is this: that religion is reason in the soul and heart, a temple in which truth and freedom in God are presented to the conceptive faculty. The state, on the other hand, regulated by the selfsame reason, is a temple of human freedom concerned with the perception and volition of a reality, whose purport may of itself be called divine. This freedom for the state is preserved and established by religion, since moral rectitude is only the carrying out of that which constitutes the fundamental principle of religion. The process displayed in history is only the manifestation of religion as human reason,—the production of the religious principle which dwells in the heart of man under the form of secular freedom. Thus, the discord between the inner life of the heart and the actual world is removed." Modern civilization, pervaded by the principle of Christianity, differs essentially from that of the Oriental, Greek, and Roman world. Its development is simply a struggle to realize greater freedom and independence for the individual through the mediation of institutions; to elevate all men into a spiritual equality, based not on mere natural distinctions, but on their participation in the common heritage of humanity.

Art, like history, is treated by Hegel as a manifestation of the divine reason, presented to man through his senses as the beautiful. After realizing in Greek sculpture perfect harmony between spirit and matter, "the unalterable serenity of the immortal gods," it aspires in Christian art toward a higher ideal, which it is unable to express sensuously. Christianity emphasizes the infinite importance of the individual soul, and is a deepening of its internal life. Christian art is therefore a reaction against all that is material and external. Art is a manifestation of the divine addressed to the senses; religion is a revelation of the divine addressed to the heart. In the very essence of man's nature as a spiritual being there is that which forces him to rise above the finite and transitory, to seek the infinite and unchanging, and to express and realize the latent consciousness of an absolute Being and Life underlying his own temporal existence. This is the true key

to the outward history of religion; man's religious experience is an endeavor to renounce all finite ends, and make himself one with the Infinite Spirit which his own presupposes. "It is not what the world is, but what it is *not*," says Dr. Caird, "that first stimulates the mind to feel after a reality above and beyond it." "Our life is but a vapor that appeareth for a little and then vanishes away." These words express a feeling old as the history of man,—a feeling that compels the mind to seek some abiding rock on which to plant itself amid the changing current. This sense of the transitoriness, the nothingness of the finite, is a negative that could only present itself to a mind containing implicitly a positive, the conception of something real and permanent underlying these changing appearances. God is identified at first with the life of nature; but, as religious consciousness advances, an attempt is made to transcend this idea, expressed by the Brahmanic thinker in words like these: "A wise man must annihilate all objects of sense, and contemplate continually only the one existence which is like space. Brahma is without dimensions, quality, character, or distinction." Indian thought declares that God is the substance of all things: "I am the light in the sun and moon; I am the brilliancy in flame, the radiance in all shining things, the light in all lights, the sound in air, the fragrance in earth, the eternal seed of all things that exist, the life in all; I am the goodness of the good; I am the beginning, middle, end, the eternal in time, the birth and death of all." But Indian thought affirms also that this world is an empty illusion, an unreality: "There is but One Being, no second."

Christianity, like Brahmanism, sees God in all things, but not in all alike; it is able to distinguish the false from the true, the apparent from the real. The Christian God is not an abstract infinite like Brahma, but an Infinite reflected in finite existences, an Infinite revealing to man his own possibilities as a spiritual being. In Christianity we reach the culminating point of Hegel's system of thought,—Absolute Personality, a Self-conscious and Self-revealing God, who manifests the treasures of his wisdom and goodness in the world of nature, and, creating man in his own image, offers him emancipation from the finite and its contradictions through the mediation of love and self-sacrifice.

THE NEW CIVILIZATION.

MRS. IMOGENE C. FALES.

THE law of evolution is that process in nature whereby the complex is evolved from the simple, the new from the old. And as higher forms of animal life have been developed from out the lower, so a new and higher form of civilization, one of co-operative action, is being rapidly evolved from out our present competitive civilization. It is almost axiomatic that competition is but the trade phrase of the law of the survival of the fittest, and that all commercial rivalry is but a struggle for existence. Natural selection, despite its many concomitant evils, has been and still is a prime factor in the development of morality and intellect. "Nature, red in tooth and claw with rapine," has still a secret in her keeping.

Through trouble and suffering, she slowly evolves types superior to and independent of that trouble and suffering. The necessities which made possible the quadrumana and man were blotted out forever, when these sprang into being. Violence and disorder are stages through which life passes in evolving from one type to another of greater stability and power. The cruelty and horror of a thousand centuries were the conditions precedent of humanity,—conditions once necessarily obeyed, but needful now no longer.

Were the doctrine of evolution really believed in by its professed advocates; if we fully realized that the law by which all things have progressed toward an ever-increasing complexity was still at work, still carrying out its beneficent design, we would be in a position to apply that doctrine to sociologic phenomena, and especially to future social events. But, while accepting the theory of evolution as to the past, most of us are unwilling to recognize it in the social life of mankind to-day. We know that type divergence has required innumerable years of inherited tendencies and accumulated variations, and in the same process has obtained in the growth of religious forms and in the passage of society from barbarism to a highly specialized and individualized civilization. But we virtually refuse to believe that the sum total of these evolved tendencies has produced a condition of affairs where

social reorganization naturally results, and where new principles are to supersede old ones in social and industrial life, and henceforth govern men and nations. In zoölogy, the appearance of any exception to a dominant type has implied and introduced a new and higher type. In the history of comparative religion, the introduction of a new and higher faith has ever been the evolution of an idea contradictory to the established forms of the institution which it supplemented. And in the history of industrialism, so far as we can judge from its vague and incomplete data, progress has been from the elaboration of the old and organized, into the development of the new and at times seemingly sporadic.

The sentiment of love, of justice, of regard for human rights, has grown with the growth of the race. It has influenced thought, expressed itself in literature and art, modified national life, and now demands to infuse itself in all our laws and social institutions, and to transform the nature of our civilization. Increasing intelligence is showing that the interests of mankind are related; that moral qualities are the safeguards of social institutions; that the rights of the individual are the nuclei of national greatness; and that continued social prosperity is impossible, when these fundamental principles are disregarded. From time immemorial, man has warred with man, either with sword and spear, or in the hardly less deadly conflict of opposing interests, the strong holding in subjugation and wretchedness the weak and defenseless. At all times and with all people, the struggle has been for liberty and against oppression. The process of transforming the savage state of isolated interests into the civilized one of independent action, where the good of one naturally becomes the good of all, has been long and painful; and the process is still far from being complete. Whatever may have been the processes and means of growth, the results are of priceless value. An increasing specialization and interdependence of all the parts of the social organism mark every step of society's advance.

The study of sociology teaches that there is an organic unity of the race, that all human interests are correlated; and that social development is the result of a closer co-ordination of men's activities in all industrial affairs. This fact is pregnant with meaning. It shows that the law of correlated forces is of universal scope and application. Biologically, organic processes of development result from an increasing differentiation of parts and specialization of functions, as well as an increasing complexity and refinement of the organism. This same law

somewhat differently expressed is equally applicable to sociology. Social progress results from the increasing individualization and co-ordination of mankind and an increased specialization of industrial functions and activity. The converse of the law of growth, whether considered with reference to biology or sociology, is that dissolution is always through an arrest of motion and an accompanying disintegration of parts. Hence, in summing up the law of life, we may say that it is the co-ordination of all the forces of the organism, whether individual or aggregate; and that the law of death is the arrest of motion, the dissipation of these forces, and their transformation into other forms of action.

Whenever co-ordination is arrested, then in proportion to the arrest does disintegration result. How is it to-day in social life? Is there such a blending and balancing of business interests that the great wheels of industry move noiselessly and without jar or friction? Do we find the peace, the order, the stability, the rhythmic beauty, which come with the proper adjustment of things? Do we find that the social engine utilizes every foot-pound of the force contained in its members? On the contrary it is evident that in all business relations more energy is expended upon conflict than upon production and supply; that, in society, the activity lost from the impossibility of its utilization, and from the inefficiency of the modes in which it is employed, outweighs that consumed in the continuance of the race; and that from this accumulated waste and loss, with their accumulated concomitant evils, we are nearing a period of unstable equilibrium and of the gravest menace. It may be seriously questioned if the social mechanism of to-day utilizes one-hundredth part of the work power of its component individuals. Although in nature there is no real waste of force, yet this conservation is attained by a book-keeping account, in which loss in one direction is balanced by gain in another; but, in society, this rule does not apply. The measureless force lost every day through the imperfection, the inefficiency, the rust and friction of the social mechanism, is lost forever to the race. Nay, more: the life-force of the individual, when not utilized, turns and utilizes itself at society's expense. Outside the realm of man's activities there is a perfect correlation of forces and conservation of energy; and in that realm, despite the wanton recklessness of human actions, there is a subtle and constantly occurring metamorphosis, whereby material loss is transmuted into spiritual gain, sorrow into peace and joy, and death itself into life.

Nature, the great economist, suffers nothing to be lost. Her aim is, the greatest results with the least possible expenditure of energy; and, although she carries on her work with boundless prodigality, her aim never ceases, her law is inviolable. And the danger which threatens civilization to day is, that the forces of social life—no longer in harmony with man's advancing nature and needs—cannot be transmuted into other activities without great expenditure of life. For we are reversing the process of growth, which is a maximum of gain at a minimum of loss, and are reverting to a condition where a minimum of gain is obtained at a maximum of loss,—a condition of waste, of disintegration, of decay and death. The balance between human needs and their supply is being disturbed by the augmenting powers of a highly complex civilization. Laws whereby the energy of the race was conserved and translated into higher forms of action have ceased to be productive of the greatest good, and now work in the interests of the few alone.

There are culminating periods in social life, when out of old conditions new forces are brought into play. These are periods of decomposition and recombination,—the breaking up of the old and the ushering in of the new. Such a period we are now entering, in the change from a competitive to a co-operative civilization. Although, up to the present time, competition has been the ruling force in life and co-operation has been wholly in abeyance, yet all advance has been through a restriction of the action of the former and an enlargement of the action of the latter, and the conversion of isolated into associated interests. Society has reached a stage where the law of growth is being arrested by industrial competition, and a counteracting movement is setting in,—that of labor organization, which is the initial step of a universal system of co-operation.

"This change from competition to combination," says Henry D. Lloyd, in the *North American Review*, "is nothing less than one of those revolutions which march through history with giant strides. When Stephenson said of railroads that where combination was possible competition was impossible, he was unconsciously declaring the law of all industry." Wherever the relations of capital and labor are involved, there is an increasing resistance on the part of labor to the cheapening of its service and the further encroachment of capital to avail itself of the law of demand and supply, and keep wages down to the lowest figure, irrespective of the well-being of the laborer.

According to statistics from the last census, the average rate of wages for skilled and unskilled labor suffered a reduction of sixteen per cent. in the decade 1870-80. And, at this moment, the financial depression is such as to throw out of employment, it is estimated, more than a million of men; while, throughout the country, the reduction of wages from ten to twenty per cent. is almost universal. In this land of plenty, the limit has already reached many of our trades. The wages of sewing-women, shop-girls, cigar-makers, shoe-makers, tailors, diggers, linen workers, cotton-spinners, miners, iron, leather, lumber, and paper workers, have been reduced so low that further reduction means despair and death. Wealth, while it is the product of capital and labor, is in a deeper sense indicative solely of labor; for it was primarily in thought and labor that all wealth was developed. Under the competitive system, where the law of demand and supply regulates the rates of wages, the laborer, because of the lack of trade organization, competes with the laborer in order to earn his daily bread; and now that the portals of the world are being opened, and immigration is pouring its vast tide in upon this country, now that machinery is lessening the demand for labor, the problem of the rights of man to life, liberty and happiness, begins to assume an awful significance. The question is no longer, How can life be properly sustained? it is, What is the minimum of wages to which a human being can adjust himself? The struggle for existence will become harder and harder as the wages of the New World begin to tend toward those of the Old, as inevitably they will, under the combined pressure of immigration and competition.

When our working classes see that we go under the present rate of wages by the substitution of cheaper and equally skilled labor from abroad; when they find the starving hordes from Ireland, Hungary, Italy, China, and Japan, glad to obtain work at any price,—there will be engendered a race and a class hostility of which we little dream.

Unless labor undergoes more thorough and rapid organization, unless there is co-operation between capital and labor, unless government legislates directly in the interests of the people by establishing greater facilities for the proper distribution of those who seek these shores, and by the prohibition of all forms of contract labor, so that the pauper labor of Europe and Asia and the prison labor of our own land shall not compete with honest, native labor, there will be something more than discordant elements in our midst; there will be, sooner or later, a war of races, a war of classes. Republican institu-

tions can only continue to exist, as they faithfully embody the rights of all the people, and not those of a few. The higher classes are wedded to the old caste system of thought,—that there must always prevail the same sharp distinctions that now unhappily characterize social life. The many have their rights when they can get them, is the tacit assumption which the whole force of our civilization bears out.

Since all value is the result of labor, and since labor is a consumer as well as producer, and since, by reason of insufficiency of wages, it cannot consume what it helps to produce, it follows that the relations of capital and labor involve the well-being of the entire industrial system. Political economy concerns itself with the production and distribution of wealth, as it is under the present wage system; but, as this system is only a temporary phase of social evolution, and is destined to give way to a full and free expression of co-operative principles, there is necessary a new system of political economy, based upon the identity of human interests. We use terms without fully realizing their meaning. In the words "political economy" the natural inference would be that we had brought into play a system of fundamental economic principles upon which all business interests were based, and which naturally tended toward individual, social, and national development. But we simply find a system which has been relatively right, a system adapted to a lower degree of civilization than that which at present obtains: we find a temporary form, expressing temporary conditions. And now that a new phase of life is being evolved there is an imperative need of a new system of social and political economy.

The old order of things is breaking up. Labor and capital, those interacting forces in social growth whose mutual dependence is absolute, are tending day by day toward a state of open hostility. Class distinctions are appearing in this Western World. Poverty, pauperism, vice, and crime are on the increase. Monopoly, the final outcome of competition, is controlling industrial life and absorbing the wealth of our civilization. The competitive system must go on concentrating wealth and power in the hands of the few, to the detriment of the many; it must still further reduce the value of labor; it must decrease consumption, while increasing production; and it must finally bring about an irrepressible conflict between capital and labor. For the cause of over-production is under-consumption, is wealth-concentration, and the cause of wealth-concentration lies in the wage-system. It lies in obtaining labor at the lowest market rate, selling its product in the highest, and placing to capital that which belongs to labor. It

lies in a wrong system of distribution. There is co-operation in production but not in division of the product. Out of this struggle for existence are arising forces of such a nature as to render a continuance of the present state of affairs for any length of time utterly impossible. The one fact of the organization of labor, which is going on and must continue to go on, since it is the counteracting movement to the incorporation of wealth, will in time induce a new system of industrial and political economy. More than that.

When, through increasing population and the use of machinery, the supply of labor continues to far exceed demand, and the majority of men can only obtain the means of securing the necessities of life by underselling one another and forcing wages and profits down to the lowest possible point, then the instinct of self-preservation will compel complete industrial organization and the introduction of a universal system of co-operation. *The starvation limit of competition is the beginning of the new life of associated interests.* In the long run nature constrains us to right action. Action and reaction, cause and effect, are as true ethically as they are in the world of matter.

We are rapidly nearing that momentous period when, out of old conditions, a new order of life is being evolved; when a great natural law of conflicting interests is giving way to a higher one of reconciliation and harmony; when the fact of human equality, irrespective of the accident of birth, is manifesting itself; and when the inequalities of nature, which birth, station, and education have entailed, are disappearing before the spread of liberal institutions and democratic ideas.

Liberty is not an accident. It is not the result of man's ingenuity or man's planning. It is part of nature's laws, nature's forces. In the fulness of time, nations ripen into liberty, as the flower, under fostering care, ripens into beauty of bloom. Progress is the road to liberty,—liberty, not for the few, but for all. Liberty is not liberty when it centres in one and many are held in bondage. It is despotism. It is not liberty, when the many toil that the few may live in selfish ease. It is license, child of power, but not of love. Liberty can only exist when the rights of one are determined by the rights of all. It can only continue to exist when men are sufficiently advanced to become free men. We are apt to forget that growth, despite reactionary periods, is a continuous process, bearing us away from things of the past to higher states and conditions. We are apt to relegate all progress to the past, and deny it to the present, because, living in the very centre of activity, we do not perceive the flow of the current.

There is also another reason why we do not place the proper value upon what is happening round about us. We are being taught by the leaders of scientific thought that growth is so imperceptibly slow that it is well-nigh impossible for those who form part of the moving panorama of time to know to what extent and in what direction the forces of nature are moving. They take the length of time required to transform inorganic into organic life, the thousands of years necessary to the deposition of a delta, and argue that the same length of time is necessary for profound and entire sociologic changes. From one point of view, the reasoning is correct. If we reckon from the time when society was simply a mass of warring atoms to where it is to-day, thousands of years have doubtless been required to bring about the change. But there is a point which the leaders of scientific thought overlook; and that is, that while growth is gradual, there are involved in the process critical periods when new forms of life, albeit germinal, are ushered in. Such a period we are now entering, when old forms and institutions are being sloughed off, in order that new and better ones may take their place. This process will not require thousands or even hundreds of years, because present conditions are the culmination of all that have gone before; and, when we reach a culminating epoch, change is rapid, and as it were instantaneous.

The motive power of the world to-day is thought applied to social relations; that of the past, natural forces working without the aid of an enlightened human reason. In this transition from one order of life to another and higher, we can even now see the beginning of better things. We can see it in the efforts being made to reclaim society by caring for the children of outcasts, in individual efforts to found kindergartens and industrial schools and engraft them upon our present school system. We can see it in an increased moral sentiment that boldly confronts the evils in our midst, and demands that individual rights shall be subordinate to public good. More than all, we can see that the laws governing social growth are moral laws, and that the process of industrial organization will arrest the law of competition, and bring in the higher law of associated interests, of mutual helpfulness, of regard for the rights of others.

Thus, the new civilization of correlated human forces evolves from out the old, and evil becomes a means of good. And if the forces of nature are correlated, if her elemental energy is always the same, if the universal equation of value forever persists, it is because there is in all things an unknown element involved, which forever

acts as a regulating determining force, "a Power not ourselves, which makes for righteousness."

"Earth casts off its slough of darkness,
An eclipse of hell and sin,
In each cycle of her being,
As an adder casts its skin.

"Lo, I see long blissful ages,
When these Mammon days are done,
Stretching like a golden evening
On toward the setting sun!"

HOW TO EXTEND THE SYMPATHIES OF WOMEN.

JULIA WARD HOWE.

THIS great problem is given me to solve in the space of forty minutes, the utmost length allowed for papers presented at this Congress. The human race, with all its philosophy and religion, has not solved it in the thousands of years of which history takes cognizance. If I should fail to do so, you will not consider it the heaviest of disgraces. "She hath done what she could," is a plea of divine wisdom and justice. Let me therefore in the present instance, do what I can, and try so to do it that some one, coming after me, may be able to use my work as the foundation of something better than itself. And first, let me say that the failures in the past should not limit our efforts in the future.

Among the many important lessons which are overlooked in the common teaching of Christianity is this, so much insisted upon by the Master, that every day of the world has its new light, and its fresh obligation. By its greater opportunity and increased inheritance shall each generation be judged. "For I say unto you that, except your righteousness shall exceed the righteousness of the scribes and pharisees, ye shall in no case enter the kingdom of heaven." The scribes and pharisees were religious according to prescription and tradition, and endeavored to judge and order their own time by the laws and measures of another time. I mention these matters in order that we may start on our present endeavor with the admission that some things are required of us to-day which could not have been held as obligatory in other periods. And while, in this Woman question we shall find much to uphold in the past, we must also acknowledge that our later age has brought with it things new and strange, which must be dealt with by new devices and combinations.

The theme assigned me, as I remember it, was, in the first instance, "How to broaden the views of Society Women." To this was added the second clause, "How to elevate Women of the Lower Classes." I am not sure whether the limits of my paper will allow me to pass from the first to the second of these questions, and will therefore begin

by as thorough a treatment of the first as I may find myself able to give.

A physician's first question concerning a patient regards the nature and antecedents of his disease. The social disease for which we are called upon to prescribe, is narrowness of view and of sympathy. The patients are women who have had in some sorts the widest opportunity. Whence comes their narrowness? How it is shown? How can it be remedied?

Narrowness in human character appears in an uninstructed mind, and in a heart afflicted with poverty of feeling. The mind of which we speak may be acquainted with all received rules of conduct, and with the facts of history and of science. The deeper spirit which underlies these rules and these facts are unknown to it. Such minds will constantly set up the tradition and letter of law against the spirit of right and justice out of which all law primarily springs. They are right in their memory, wrong in their application; and by the opposition which they endeavor to maintain and justify between the letter and the spirit they become the occasion of endless confusion and misunderstanding in human affairs. Great social tragedies have sprung out of these misapprehensions. Classes that refuse to learn the logic of events are swept away. The world yet sees that frightful spectre of a French revolution, with its bloody guillotine, its fiery torch, and its irresistible argument, making wild havoc of the mediæval formulas which resisted the sweeping tide of progress. We see in Russia of to-day a form of the same murderous protest. It is then worth while for us to bestow some study upon the social narrowness which resists progress, since this resistance, if prolonged and exaggerated, will surely bring upon society evils whose extent cannot be measured.

How wide, in the first place, is any one of us? Each of us is born with the limitations of our own character, and our own interests. The selfish principle is the most intense element in us, at the start. It is the source of much of our power. It is inseparable from our individual existence. I have it for my business, first of all, to be myself. With the sense of self comes that of personal advantage, to be sought in wealth, distinction, amusement, in a word, in the furtherance of our natural inclinations and desires.

Upon these inclinations and desires education is at once obliged to impose a limit. Its first business is to teach us what really belongs to us. "Not all that thou seest is thine. Not all that thou canst imagine mayst thou do." Is the later narrowness which we complain of the result of this early limitation? It is rather the result of the want

of it. For people who are narrow do not show this quality in their judgment of their own claims and merits, but in regard to those of others. Spreading themselves abroad in their own vanity, they make the world narrow for their fellow-creatures. They are wide in pretension, narrow in sympathy. And this, though partly chargeable to nature and inheritance, is in a good degree attributable to their want of true education.

I will treat of this sort of ignorance under two heads, viz: economic ignorance and religious ignorance. Economic ignorance is most largely shown, socially, in reverence for inherited wealth, and in contempt for the labor through which all wealth is acquired. All the money in the world has either been earned or stolen. The ancient military rule placed the thief above the artisan. Through some strange wisdom, the artisan knew the slow and secret values of industry, and stuck to his plough, his anvil, his loom, feeding the men of war, and making it possible for his country to be protected and governed. This important and redeeming wisdom the aristocracies of the world do not possess. In the Europe which is so largely our social model, the ambition of descent seeks out some destructive, freebooting ancestor. In the England of our own time, even the great poet Browning makes public the fact that his immediate ancestors were not engaged in trade. When the Germans wish to be most bitter against the English, they call them a nation of shop-keepers. The old saying was: "keep your shop and your shop will keep you." The modern feeling is: "my people never kept a shop." Then, if they left you rich, they robbed somebody else's shop. That is all. This brings us naturally to the remedy for ignorance of this sort, which would be instruction in social values. Every woman should know enough of these to respect every department of labor, and to visit with her cordial good will all who contribute to the world's wealth,—the hind in the furrows, the factory hand, the small shop-keeper, the journeyman mechanic. We who are not producers, owe them deference. Their handiwork feeds, clothes, and shelters us. We owe to their industry and frugality the leisure which we enjoy, and no small part of it should be employed in studying and promoting their interests.

Religious ignorance. How shall I deal with this mighty subject? Where all are ignorant, whom should I instance as the most so? Those who do not know that the abstract propositions of duty and belief are living realities. Their Christianity teaches them that every human soul has its value in the sight of God. Yes,—that is to them a mere

abstraction. It does not mean anything. The beggar at their door, the Magdalen in their street, the convict in the penitentiary, all have this value, which if lost to them, is lost also to society. This does not trouble our friends, who do not feel bound to make any effort in behalf of these unfortunates. Christianity tells these people that they have souls of their own, whose very life consists in the experience and entertainment of all worthy and benevolent interests. They do not treat their own souls any better than they treat those of their fellow-creatures.

I have spoken just now of the limitations which education, even of the plainest sort, is bound to impose. Now let me ask, where is the enlargement which education can give? Beyond the limitation of our own character, with its little good and much evil, it shows us all the moral good which the historic ages have seen and recorded,—the magnificent attainments of humanity, the heroes, the saints, the martyrs. We are their heirs. Education preserves for us their splendid merits. And when our own meanness and poverty of soul afflict us, we can turn to the record of those who have greatly loved and greatly served their fellow-men. We can feel the lift of their high aspiration. We can make their virtues ours by generous emulation. From the world's empty honors we can turn to envy the glory of the cross, of the rack and torture. Those who were slain at Thermopylæ have left us their patriotism,—he who died on Calvary has bequeathed to us his divine love for God and man. Such enlargement as this leaves no excuse for narrowness.

If true education enlarges the natural limits of our character, it enlarges equally the sphere of our interests. Indeed, the one naturally follows the other, for as we become conscious of the heroic in human nature, we feel a response to it in our own hearts. Walking in the light of the great souls which have illumined the world, we seek for circumstances akin to those which prompted their high deeds. All noble enterprises now command our sympathy. We try to find our place in the great battle of good against evil. This heavenly warfare recruits us in its ranks, and our work begins and never ceases.

We all recognize the distinction between those of either sex who have public spirit, and those who have not. History shows us that public talent does not necessarily bring with it public spirit. The Medici, Napoleon, and many others, have shown themselves rich in the one, and poor in the other. Exceptional talent, involving public recognition, is not limited to either sex. It is rare, but public spirit is rarer.

The distinction of talent is not attainable at will, but do we know that the greater distinction of character is within the reach of all who consider it worth the seeking? We cannot be Shakespeare, or Milton, or Robert Browning. We can be of the communion of all great and noble souls. Beginning with lion-hearted Moses, whose life-long labor metamorphosed a race of slaves into one of the leading nations of the earth, we can take our way down to the philanthropies of our own time. This is the true ladder between heaven and earth, and our endeavors in this mortal sphere claim continuity with the efforts of those who have already ascended, with all that men have done or sacrificed for the advancement of truth, and the good of their fellow-men.

I think that you will all expect to hear from me some statement concerning the influences which may induce narrowness of mind among a class of women who are commonly supposed to represent a superior stage of social culture. It may appear strange to you that I can find in this artificial narrowness no more potent agent than those traits of human nature which are common to all of us. The lesson I have to teach is this, that every circumstance which enlarges our opportunities for action and observation, should make us more liberal, but may have the contrary effect. The privilege of an assured position ought to make a woman easy and cordial in her intercourse with others. The enjoyment of a greater or less superfluity of resources ought to make her generous. The advantage of education, even if partially enjoyed and improved, ought to make the best education the first object in her eyes. Any understanding of true breeding should lead her to seek and to respect worthy and high-toned people, who are never devotees of high fashion, and who are oftener poor than rich in this world's goods.

To prevent these happy results of a prosperous start in life, may prevail those moral ills that flesh is heir to. Our well-placed woman may easily look upon the deference accorded to her position as a recognition of some innate superiority in herself. She may think it desirable to heighten her own prominence by a certain degree of isolation, and may gradually seek to impose upon those around her that worship of herself which in herself is natural. Our rich woman will acquire or inherit, with the possession of money, a multitude of supposed obligations which may absorb a great part of what she can spend. She finds herself pledged to much unnecessary expense in clothing, equipage, and style of living. Comfort is rightly held to be an important condition of civilized life. But who does not know that Lux-

ury and Display dare to invade this sacred domain of comfort, and to rack the human body with inhuman dress, with poisonous stimulants, with privation of wholesome sleep and exercise. To recognize as binding a whole system of doing and abstaining which is not only quite independent of all ethical duty, but which is, in many points, in opposition to the real and sacred obligations of reasonable human beings, is a course very dangerous to that better part of our nature which, though willing, is often weak.

Perhaps we should not hug these golden chains so fondly if we knew exactly how they are forged for us, how imposed upon us. I cannot help thinking that our tradespeople and servants exercise a good deal of power in determining what we shall spend, and how we shall spend it. This dictation of wardrobe, stable, and kitchen is older than we are. It is handed down from generation to generation. What is expected of us in these directions may leave us but little money wherewith to meet higher and more urgent demands upon our purse. More than this:—our following of a system of pseudo-obligation may so absorb the interest of our daily lives as to sap and dry up in our breast the very fountain of charity and good will from which all Christian graces emanate.

The social instinct which cannot be eradicated from human nature will lead even the most self-absorbed of us to seek, more or less, the companionship of other people. But with the artificial standard which would be adopted with such a life as we are now considering, we shall be apt to limit our association to the people, comparatively few in number, who dress, and eat, and live as we do. This limited circle will become the world to us. Its people will be our people and its gods our gods. Inevitably, we shall come to fear any departure from its customs and prescriptions. We shall admire recognized talent and merit, not through any appreciation of their value, but because their possessor is a social prize, worthy to be caught and exhibited. The lion-hunter comes out of this state of things,—the woman with a shallow craze for entertaining celebrities. The snob comes out of it,—the woman who is ashamed and afraid of everyone who is unfashionable, even to her own father, mother, sister, or brother. The worldling comes out of it,—the woman whose face is as hard as her heart, whose veins there is not a drop of human blood, the essence of calls, shops and parties circulating in its stead, filling her feeble brain with whimsies, and making her vapid heart beat with the silliest emotions. And the *parvenue* comes out of it—the woman who plots, and pushes,

and edges her way; who marries herself and her children with a view to a rise in the social scale, and who, when she is fairly up, is as poor, and mean, and false in character as when she was down. And this gallery of horrors, smiling and smirking over their murder of life, is all made out of simple, honest, wholesome human nature, misinformed and ill-directed. Where shall we find a prayer against these evils? A clause from the litany of my youth here comes to my mind:—"From all the deceits of the world, the flesh and the devil, good Lord, deliver us!"

The simplest cure for all this unreality, I should think, would lie in its opposite, reality—reality of thought and conviction, of duty and relation. That human life is a miraculous gift, and equally given to all, is a substantial fact, not a fanciful statement;—that each of us is solemnly bound to make the best use of such life as he has, and that much of it should be devoted to objects beyond the limits of self-interest;—these truths lie at the foundation of our morality, and cannot be set aside or ignored without overturning its whole fabric. Reality of relation—the bond of faith, kinship with its claims and helps, friendship with its heroism, marriage and parentage, with their happy and honorable burthens, citizenship, priesthood, government, all realities, all of them present in every human life, all of them blessing and binding each one of us to reciprocal honor and service. True education should build this machinery in every bark destined for the voyage of life, whether its figure-head be male or female. And, let us say that here as elsewhere, prevention is easier than cure. You need not put unreal notions into the mind of your daughter. If you do, it may be difficult or impossible to eradicate them. Let her grow up in the strength of nature's simplicity. Explain, interpret life to her, but do not force on her a plan of thought as far from common sense as the flat-head Indian's cranium is from nature's outline.

I said at the beginning of this paper, that the progress of the ages brought to view things new and strange, and the newest and strangest thing I know of to-day is the dispensation of Fate which is beginning to open to women, all over the world, the doors of the most substantial education, of the most availing discipline. It would be trite to say that these new opportunities greatly enhance the moral obligations of our sex. But it is all-important that we should study how they are to be made available for our own good and that of society. And we must expect the first instruction in this respect from those who have most largely enjoyed and improved these advantages. In the most fashionable cir-

cles, the college-bred woman is still considered somewhat too bold, somewhat in the position of those women of ancient Greece who broke limits to attend schools of philosophy and the wondrous dramas, and who in consequence, ceased to be "the thing."

Strange solidarity of the same class in all lands and ages! The conservative mothers of India to-day keep back the reformation of their land by throwing all their influence, which is very great, against the young girls to whom something of European education has been vouchsafed. They will not allow their sons to marry these educated girls, but force upon them still the child-wife who never grows up, whose vacancy of mind and superstitious ignorance build around the youth of the country an impregnable fortress of barbarism, which the subtle philosophy of Brahminism has no power to break through. For all this the educated Hindoo woman is destined to change the status of her country-women. And our girl-graduates of colleges, ridiculed in fashion-papers, ignored or shunned in fashionable life, are yet marking a new level for the efforts and energies of women. Thus far have you, the pioneers, gone? Then all must come on.

We all know the common saying that "one-half of the world does not know how the other half lives." We might extend this by saying that, in civilized countries even, a twentieth part of society neither know nor care how the rest live. It would be difficult to imagine a more limited or defective view of humanity in general than that usually entertained within the bounds of what is technically called society. Here the division accepted is simple enough, into rich and poor, high and low, orthodox and heterodox, fashionable and common. For the moralist and sociologist, those divisions do not avail at all. These will draw their distinctions between the high-toned and low-toned, between the profligate and the stupid, between pious and profane, between the intelligent and the highest human values quite independent of fashion or fortune. Knowledge gives breadth of view. In some individuals and in some classes, prejudice and self-hood are so strong that ignorance only annexes facts to itself, instead of yielding to the unfolding of truth, and thus ceasing to be ignorance. For the fact lies on the surface, while the meaning of the fact is far within, and can only be learned by right analysis. Such education as women have had in the past has not only discouraged but incapacitated many of them from making any availing analysis of the social elements which surround them. The privileged among them have been taught to ex-

aggerate class-limits, and to regard them as absolutely binding. The female mind thus becomes the hot-bed of intolerance, the very nursery of ignorance and superstition.

In active civilized life, men are obliged to learn something of social analysis, though, where class-privilege is rampant, their analysis may be very poor and defective. In trade and politics, business and profession, men must know something of real values, must be able to outgo the mere limits of "my sort and your sort." No man can be a leader of men unless he truly appreciates his subordinates. From the captain of a mining crew to the commander in chief of a state or army, controlling power is founded upon right esteem, and without this condition, the most autocratic and energetic will leads only to final failure. Among men, this point is conceded and recognized, and needs not to be argued.

But among women a very different view is held and inculcated. There is no reason under heaven why women of any class should be pledged and bound to narrowness and limitation of view. This narrowness, on the contrary, implies ignorance of much that they are bound to know, and of much that they cannot know if Mrs. A. or B. is to dictate the limit of their observation and sympathy. These social limitations, are seen now-a-days to have a fatal result in our American life.

The distinction of wealth being generally accepted and upheld among women of position, the ambition of riches receives the highest sanction which society has in its power to confer. Wealth as the first essential of social standing means wealth acquired by fair means or by foul. Instead of "our country right or wrong," the motto is now, "our money, right or wrong," and under such a battle-cry, it will oftener be wrong than right.

I know that many will rise up to say that, in really good society, family is the true distinction. I know the smile that sneers down as a class the "*nouveau riche*." But let me here say that the distinction of family sometimes comes to mean the distinction between wealth inherited, which constitutes it, and wealth earned, which does not. How many names which pass for illustrious are only the inherited names of robbers and cut-throats! I glory in the boldness with which Mr. Emerson, in his "English Traits," calls the warriors of the Norman Conquest an army of "filthy thieves." I wish that American women knew better the character of the feudal institutions for whose lingering representatives they show such a craze. Look at the principalities of Italy, built up

simply out of the plunder of the people! That magnificent race of men and women, the Italian people, have inherited poverty and ignorance so long, that all the vices which accompany these evils are ingrained in every drop of their blood, in every fibre of their being. What are the palaces we so much admire? Rooms of state for the prince, with guard-rooms for the bands of mercenaries who helped him to keep what he or his father had stolen from other peoples or wrung from his own. What the castles whose architecture so appeals to our sense of the romantic? Strongholds of free-booters, too rich and luxurious to live in caves. Beneath their blazoned halls were the torture chamber, the dungeon, and the *oubliette*. There are regions in Europe which have never recovered from some single visitation of one of these miscreants with his devastating bands. I know a part of Brittany in which the peasant's mud floor hut shows in its walls the fragments of arches and mullions of carven stone which once adorned the shrines and houses of a prosperous town. He who wrought its ruin unprovoked, was a man of family. If we will make family a test of desert, for God's sake let us do it advisedly. Let us honor descent in those whose ancestors have been honest, high-minded and patriotic. But we shall most honor this descent by upholding and cultivating the virtues which have made it illustrious, and which, while found in all classes, are common in none.

I am one of those who hope that the active intervention of women in public affairs may open up the way to the better understanding of many social questions. We who hold this faith, found it upon the special gifts and qualities which distinguish our sex. But much as we believe in these gifts and qualities, we believe also that they will never do what they are bound to do for the betterment of society until the foremost and most favored women shall entertain a large and liberal concern for their own sex. So long as women occupy themselves chiefly with their relation to men, so long will they attain only a second-rate ability, a second-rate character. They will take their measure from the minds of those who do not and cannot know the true extent and nature of their capacity. But if they will seriously consider the interests of women in the different grades and classes of society, the generous effort and desire will give them an enlargement which may seem almost miraculous.

The present administration of social interests is largely founded upon the supposed ignorance and indifference of women regarding all questions of an outside and general scope. Men arrange for them-

selves the conveniences of vice. They set their trap and dig their pit-fall for the young, the ignorant, the unwary. Unworthy as they know this course to be, they consider it safe. Decent women will never venture so far from their own bounds as to come where they can take personal cognizance of these offences, and of their victims.

The dead-lock between capital and labor is another matter in which the ignorance and indifference of women is relied upon by men. Look at the slop-shop work and at the wretched women who do it at starvation prices, thankful indeed to get it, since the choice for them, if they would be honest, lies between that and death. Their employer cannot pay them better wages because he is bent, not upon earning a comfortable living, but upon accumulating a large fortune. So he takes the working woman by the throat, and compels her, through her poverty, to give him the maximum of work for the minimum of recompence. He is safe in doing this—his wife and daughters will not care, will not inquire. The society-ladies will not get further than to say that they are very sorry, but suppose it must always be so.

See the female teacher doing the same work that the male teacher does, doing it as well or better, and receiving a salary equal to half of his. The old supposition which excused this state of things, is no longer even a supposition. It is known that the women-workers of the community not only have no men to maintain them but are themselves often obliged to support infant sons or brothers and aged parents. Men have no better account to give of this than their very imperfect theory of supply and demand. Women are, in most communities, more numerous than men. This lowers their market value. They are more easily over-reached and intimidated—this makes them weaker. They can be got to work and live upon a pittance which the most worthless man would reject. Who is then to prevent their being ground down to this extremity? The powerful among their own sex will not step in to protect them. To oppress them is not only safe but reputable, aye, even necessary, since wealth is not to be attained otherwise. This safety, this immunity, has Wickedness, all the world over. Women, if they can have money, and what it gives, will not be over nice as to where it comes from or how it was got.

Now, I am far from saying, that women could by any effort or exertion of theirs, at once make all of these things better; but I do think that they are as well able as men are, to make thorough and

scientific inquiry into all the evils which surround them, and especially into all the forms of law and custom by virtue of which the strong oppress the weak, and drive them to the wall. May they not undertake this in the hope that their united study will bring them within sight of some finer principle than this mere market maxim which, equally with undisguised slavery, considers human beings merely in the light of merchandise? How would the golden rule, "do as you would be done by," answer in place of "a thing is worth what it will bring," *i. e.*, worth the cash which can be got for it. What would be by this estimate, the value of a crying baby, of a sick neighbor, of a superannuated parent?

A very enlarging influence for our well situated ladies will be found in the adoption, as early in life as possible, of some one serious business, or study, with the determination to make one's pursuit of it profitable in some way to others, as well as to oneself. Among the advantages of study one of the greatest is that it soon carries us out of that shallow conceit of ourself which makes us satisfied with very poor efforts and attainments, and which tends to group our life-interest more and more closely about our own personality. We go but a little way in any study without finding in it hard things, matters that task our mental powers. If we persevere, we indeed may find these very things easy in the end. But in getting to this point we shall have a valuable lesson concerning our smallness, contrasted with the depth and magnitude of the principles which underlie our life, of the things which it greatly imports to us to know.

Well it is for those of us who, in our beginnings, seem to be Fortune's favorites, if we can resolve to put far from us the indulgent judgments of those who love us best, and the almost inevitable flatteries with which society greets the smallest achievements of its young people. Unhappy, fatal it is to mistake these flatteries for the recognition of real merit. If we would attain this, we must judge ourselves by a severer standard, and must especially not shun the comparison of our work with that of others who may excel us. Much of the good of school and college discipline is in this comparison, which, grievous to the short-comer, is calculated to rouse him to efforts of which he would not have dreamed if studying merely for his own pleasure. Art and its literature, History and its philosophy, Charity and its *rationale*, are among the most inviting departments of study that we can here recommend. The physical sciences and classical literature have had some devotees among society women. In all these

things, a shallow smattering acquired with a frivolous aim is worse than nothing. But ever so little real knowledge, sought with a desire to know more, is of inestimable value.

Two ladies who had once been intimate met after a lapse of years. One of them, on this occasion, showed her jewels, and talked of her enlarged list of fashionable acquaintance. The other said: "in these years, I have learned something of the Greek language and literature. That is my diamond necklace. That is my fashion."

The great Apostle Paul has wisely enumerated the gifts and talents which men may owe to Nature, improved by cultivation. But more wisely has he said that, without charity, these gifts profit their possessors nothing. Now, charity, in common thought, has two meanings. The first is alms-giving, the second is leniency of judgment concerning the conduct of those with whom we have to do. But not either or both of these can fill up the measure of that heavenly grace which is the soul and spirit of Christianity. Charity, in Paul's sense, I must think to mean a deep and loving concern for our fellow-creatures. Now, I will not say how far women attain or come short of this divine grace, but I will say that without it, they must always lack the crown and glory of true womanhood. I will say too that, in the present day, the especial and providential subject of this charity is their own sex.

How does our record stand in this particular? We are held to be the very depository of personal purity, but we give up a frightful proportion of our sex to recognized pollution and degradation. Some of us live and move on a high table-land of circumstance and opportunity. All about us are the deep vales of misery and privation. The wail of women who cannot feed their children, who break their health with over-work, or waste it in ignorant idleness comes up to us. We shrug our shoulders, fling an alms, fill up a subscription, are very sorry,—that is all. But if we had charity, Paul's charity, we should go down into those low places, and inquire into the causes of all this misery and degradation. And then, the superfluity of our wealth would all be directed to the true alchemy, the turning of society dross into human gold. We should know what are the minds of the women who sink so low. If they are ignorant, we should have them taught. If they have no skill, they should have the chance to acquire it. If they have no faith in God, they should be instructed in His wondrous revelations. If they have nowhere a source of sympathetic help and counsel, we women who affect to know something of life and of duty from a high standpoint, must be to them a body of helpers and counsellors.

And here, at last, I come to the point where the two themes given me to treat become one. You, society women, apply yourselves to lifting up the women of the poorer classes. Young ladies, let each one of you help some young girl who stands on the threshold of life unprovided with the skill and knowledge which are requisite to make a woman's life pure, honorable, and self-supporting. Mothers, who lay your infants in a silken bed, or gather around you your well-grown children, have a care for the mothers whose infants pine in unwholesome dens, whose children, if left to themselves, will learn only the road to the gallows. Rise to the entertainment of this true thought: "The evil which we could prevent and do not, is in that degree our fault."

The epidemics which from time to time desolate the world, usually spring from the poverty and filth of the neglected classes. They afflict society without discrimination, rich and poor alike, and so they should, so long as the rich are careless of the miserable conditions which engender them. The moral pestilence which has its victims in every city, and whose deadly influence may invade any household is also generated in these same neglected classes. Its mysterious extent seems so vast and deep that we shudder at the thought of exploring it. Well might we fear to approach it in carelessness and ignorance. But to-day, we women, thank God, have the keys of knowledge and of freedom in our own hands. The greatest masters are at our disposal if we wish to study the problems of society, its moral diseases and their remedy.

The prophetess of a barbarous age, Deborah, judge of Israel, praised as blessed among women the wife of the Kenite who slew with her own hand the enemy of her people. We, wives and mothers of America, must deal too with the deadly enemies of the human race. The evil that desolates society will sweep into our dwellings, and encounter us in the sacredness of our own home and hearth. Let us learn to deserve a Christian blessing for work Christianly done. Ours not the cruel nail and treacherous hammer, ours the strength of true discipline, the war against vice and frivolity in every shape, the league of love and charity, under whose banner we can indeed return good for evil, and so bless those who would curse us, that they cannot but bless us again.