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SCIENTIFIC METHOD AND THE MORAL SCIENCES.

GEORGE H. MEAD.

IT had become a commonplace of the psychologist that there is a structure in our experience which runs out beyond what we ordinarily term our consciousness; that this structure of idea determines to a degree not generally recognized the very manner of our perception as well as that of our thinking, and yet that the structure itself is generally not in the focus of our attention and passes unnoticed in our thought and perceiving. It was this dependence of our field of direct experience upon such an unrecognized part of what we call mind that Freud has made the theme of his doctrines, in a realm that lies on the border of the abnormal or just over it. It is one of the valuable by-products of the Freudian psychology that it has brought many people to recognize that we do not only our thinking but also our perceiving with minds that have already an organized structure which determines in no small degree what the world of our immediate and reflective experience shall be. It is possible to recognize other censors beside those dramatically placed by Freud at the door of so-called consciousness to pass upon the figures that enter our dreams.

It is to one of these that I wish to call attention. It is that the intelligible order of the world implies a determined moral order—and for a moral order we may substitute a
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social order, for morality has to do with the relations of intelligent beings with each other—and that this determined moral or social order is a world as it should be and will be. We may express this as Kant expressed it as a world in which happiness will be proportioned to worth, or as the Utilitarians expressed it by saying that it will be one in which there will be realized the greatest happiness of the greatest number, or we may give it more concreteness by looking to a New Jerusalem that religious doctrine pictures, or we may find it in a perfect Absolute of which we and our finite universe are but imperfect and inadequate parts and expressions. Whatever the conception of this moral order, definite or vague, it always has implied that the process of the universe in which we live in a real sense is akin to and favorable to the most admirable order in human society.

The most definite form which this belief or faith has taken in the western world is that of the plan of salvation as presented in Christian doctrine. The import of this doctrine was that whatever further purposes a divine providence might have in the conduct of the universe, man's moral regeneration and the growth of a society which this made possible was an end which was always involved in the physical world which was man's habitat. This was most succinctly expressed by St. Augustine, and passed into the form which is perhaps most familiar to us in Milton's "Paradise Lost" and "Paradise Regained." The sharpness of outline of the Plan has faded with the entirely new heavens and new earth which natural science, since the time of Galileo, has unfolded before men's eyes and minds, but the idea that the universe is in some way geared to the intelligence and excellence of our social and moral order has not disappeared from the back of men's minds. Scientists such as Huxley have pointed out the incongruities that lie between this conception and the findings of a physical science, that sees in the whole life of the human race but an inconsiderable moment on an inconsiderable speck within the physical universe, that finds in a civilized moral society an

aberration from a biological nature that is red in tooth and claw, and subject to a ruthless law of the survival of the fittest. And yet men, even in moods which were not emotional nor mystical, have rarely regarded their habitat as hostile or indifferent to what was best in their social life and structure.

However, it is very evident that the aspect of this kinship between human society and its secular habitat which belongs to our present scientific age is and must be profoundly different from that of St. Augustine, or St. Thomas Aquinas, or Luther, or Milton. In no one respect is this perhaps more evident than in our attitude toward the evils which the catastrophes of nature, disease and physical suffering entail upon us.

The view that the ordering of the world was primarily for the greater glory of God in the salvation of man, made of every event that affected men a direct action of providence with reference to the members of the human race, and there could be but one intelligent as well as but one pious attitude over against the action of providence, that of acceptance with thanksgiving or with resignation. Suffering and evil came as discipline.

It is hardly necessary to rehearse the steps in the development of the insistent curiosity of recent science, which has refused to accept any given order of nature as final, or to believe that seemingly inevitable events may not conceivably become quite different if we only comprehend what the manner of their happening is, or to forego the hope that human ingenuity may avert misfortunes if we can only understand their causes and conditions.

Here are two quite fundamentally opposed attitudes toward the kinship of the intelligence of men and the order of the world they live in. It is customary to call the one teleological and the other mechanical, to call the one spiritual and the other materialistic. The first attitude takes it pretty definitely for granted that we know what is right and what is wrong, that in certain definite respects we know what the social order should be; that the intelligent man in

his moral conduct, and this is social conduct, starts off with certain truths given in his nature or by revelation, and shows his intelligence by shaping his action to these truths; that the path of righteousness is one that he who runs may read and a man though a fool need not err therein. If the moral order, of which these truths are an essential part, is given, then the kinship of men's intelligence to the order of the physical universe will show itself in the triumph of this moral or social order, and men can themselves start off with this order as a presupposition in their conduct in the world. The end is given in advance, this is the meaning of teleology, and if we are confident that the universe is so constituted as to achieve this end, we will be intelligent in acting on this assumption.

We have seen that Huxley quite frankly denies, in the name of science, any justification for this faith. He saw nothing in nature that was akin to the social or moral order. In fact he regarded what he called altruistic conduct as an abandonment of the road along which nature was going. This view of Huxley arose in part out of an interpretation of biological evolution that is seen to be inadequate. Kropotkin could point out that social organization, with just that sort of conduct which Huxley called altruistic, is as legitimately to be considered an outcome of an evolutionary process as is the survival of the fittest individual in the struggle for existence. But Huxley's position is of interest because it so ingenuously assumes that a moral order must be an order which is given in advance, while our knowledge of nature is all drawn from what has happened. In our acquaintance with nature we can never assume a determining idea that fixes the result before it happens, as is the case when our ideas determine what the results of our conduct will be. So we speak of nature as mechanical or materialistic. This is just where the break seems to come between what we consider men's intelligence in moral and social conduct, and in men's understanding of nature. We can still believe, of course, that in the end the process of the universe will further

ideals of a morally ordered society, and probably most men who are conversant with the findings of science and committed to its methods of research, still in the back of their minds carry this faith, or attitude of mind, but this attitude can be of no service in understanding objects about us in the everyday life of the scientifically minded. It is reserved for religious moods, when we try to bring together what are in their logic incompatible.

Let us state this incompatibility in its simplest form. In our moral conduct we control our actions in considerable degree, *i.e.*, in proportion as we are intelligent, by our purposes, by the ideas of results not yet attained, that is, our conduct is teleological. In our comprehension of nature the result is controlled entirely by antecedent causes, that is nature proceeds mechanically, and there seems to be no kinship between such a nature and the intelligence of men seeking for a better social order.

I have no intention of broaching the metaphysical problem of the relation of a mind that is spiritual and a nature that is material. The question that I want to ask is this: Can the world of natural science provide objects for the world of social and moral conduct?

If we drop back two or three centuries, whether we measure them historically or in present attitudes of mind, we find a view of the physical world which furnished the objects that purposive social and moral conduct demanded. In the first place the physical cosmos as a whole appeared simply as the stage on which the plans of a divine providence were being enacted. In the second place the separate objects with which men's conduct was engaged found their meaning in this providential plan and led to conduct which this plan for human society demanded. Men's attitudes toward disease, toward events which in present legal phraseology are denominated "acts of God," were those of supplication and resignation. In general those things which engaged human personal interest most acutely and which still had to be regarded from the standpoint of the community to which men belonged could always be

conceived of as existing to fulfil the destinies of men in human society. In essence these physical things and occurrences were identical with their import for the success or failure of men's undertakings. They were as physical things and occurrences just what they meant for human conduct. To-day a disease is the history of a bacillus, an earthquake is a shift in surface strata due to gravitational forces, while the incredible vastness of the spread of matter and its inconceivable temporal stretches in comparison with the inconsequential minuteness of humanity and its momentary duration rob the physical universe of any seeming relevancy to the fortunes of our race.

This is the more striking because the period within which this shift of cosmical values has taken place is that within which physical things and their forces have become subservient to men's purposes, to an extent that would have been beyond the imaginational stretch of the medieval or ancient world. The physical universe which by its enormity has crushed the human insect into disappearing insignificance has like a jinn in the Arabian tale shown itself infinitely complaisant in magnifying man's mechanical capacity. In accepting his negligible crevice in the physical whole man has found access to the minute structure of things and by this route has reached both the storehouse and powerhouse of nature. The heraldic device of man's conquering intelligence should be a design blending differential x , the bacillus, and the electron. If humanity has fled shivering from the starry spaces, it has become minutely at home in the interstices of the speck that it inhabits for an instant.

But if we have succeeded in applying science to our mechanical task, and in this have accomplished prodigies, we do not seem to have succeeded in applying scientific method to the formulation of our ends and purposes. Consider the Great War. The ideas that plunged Europe and then dragged the rest of the world into that catastrophe, the imperialisms, national, militaristic and economic, are roughly identical with those that embroiled Christendom

in the seventeenth century. It was only the weapons that crashed through those four years that belonged to the intellect of the twentieth century. There attaches to it the grotesquerie of a Yankee at the Court of King Arthur. Or consider the government of a cosmopolitan city, or of a great nation. There is at the disposal of the community for the carrying out of its policies the apparatus of a hundred sciences, but to secure the bare formulation of a policy we are forced to involve ourselves in the factional interests of parties that are psychologically closely parallel to the turbulent politics of an ancient or a medieval commonwealth. We are enormously clever at fashioning our means, but we are still in no small measure dependent for conceiving our ends upon outworn mental structures that our very science has invalidated.

But it would be a mistake to assume that scientific method is applicable only in the fashioning and selection of means, and may not be used where the problem involves conflicting social ends or values. The advance of scientific medicine in dealing with public health amply substantiates this.

In this advance numerous social values embodied or championed by various institutions, government, the church, the school and the family, have sought to maintain themselves against scientific procedure in combating disease and safeguarding health. Individual rights, religious dogmas and cults, family control of children, the economic advantage of cheap child labor for business, and many other accepted social values have been set up as absolute, across the path of progress of scientific public health conservation. But the demonstrated results of the hospital, vaccination, quarantine, and other means of medical service to the health of the community have forced men to bring these values into the field of other public goods and restate them so that public health could be the better preserved.

I imagine that the scientific advance of medicine presents as enlightening an illustration as could be found of

the issue that seems to exist between scientific method and our conduct in social and moral affairs. The human community did not wait for a medical science to convince it that health is a community good. Combating disease by its medicine men has been one of the chief common concerns even in primitive societies whose technique was entirely magical. We do not turn to scientific method to determine what is a common good, though we have learned to avail ourselves of it in some of our common efforts and practices in pursuit of the good. However, scientific method is not an agent foreign to the mind, that may be called in and dismissed at will. It is an integral part of human intelligence, and when it has once been set at work it can only be dismissed by dismissing the intelligence itself. Unfortunately men have committed this sin against their intelligence again and again. They have incontinently rejected the very method which human intelligence has learned to employ because its results came in conflict with other social goods which they were unwilling to either sacrifice or restate. But again and again when they have undertaken to use their minds thereafter, they have found that their minds had become committed to the method they had rejected. The past history of and the present struggle with venereal disease illustrate this, chapter for chapter. Scientific method does not undertake to say what the good is, but when it has been employed, it is uncompromising in its demand that that good is no less a good because the scientific pursuit of it brings us within the taboos of institutions that we have regarded as inviolable. Nor does scientific method assert that the family and the church are not goods because its pursuit of public health has trenched upon conceptions of them which men have held to be practically absolute. What scientific method does require, if it is to be consistently used, is that all the conflicting ends, the institutions and their hitherto inviolable values, be brought together and so restated and reconstructed that intelligent conduct may be possible, with reference to *all* of them. Scientific method requires

this because it is nothing but a highly developed form of impartial intelligence.

Here, then, is the issue, so far as an issue exists, between scientific method and social and moral conduct. If the community is seeking an end by the intelligent method of science and in doing this runs counter to its habits in attaining and maintaining other ends, these ends are just as subject to restatement and reconstruction as are the means themselves. Nor does science pretend to say what this restatement or reconstruction must be. Its one insistent demand is that all the ends, all the valuable objects, institutions, and practices which are involved, must be taken into account. In other words, its attitude toward conflicting ends is the same as its attitude toward conflicting facts and theories in the field of research. It does not state what hypothesis must be adopted. It does insist that any acceptable hypothesis must take into account all the facts involved.

Now such a method can be in conflict with social conduct only if that conduct sets up certain ends, institutions and their values, which are to be considered as inviolable in the form in which they have been received and are now accepted. There is no issue between scientific method and moral and social conduct that springs from the fact that science deals with the relation of past facts to each other while conduct deals with future ends.

Science does not attempt to formulate the end which social and moral conduct ought to pursue, any more than it pretends to announce what hypothesis will be found by the research scientist to solve his problem. It only insists that the object of our conduct must take into account and do justice to all of the values that prove to be involved in the enterprise, just as it insists that every fact involved in the research problem must be taken into account in an acceptable hypothesis. Scientific method is at war with dogmatism whether it appears in doctrine, or cult, or in social practice. Scientific method is not teleological in the sense of setting up a final cause that should determine

our action, but it is as categorical in insisting upon our considering all factors in problems of conduct, as it is in demanding the recognition of all of the data that constitute the research problem.

Scientific method does not insure the satisfactory solution of the problem of conduct, any more than it insures the construction of an adequate hypothesis for the research problem. It is restricted to formulating rigorously the conditions for the solution. And here appears a profound difference between the two situations, that of moral and social conduct, and that of so-called scientific research. In problems of conduct we must act, however inadequate our plan of action may be. The research problem may be left because of our inability to find a satisfactory hypothesis. Furthermore, there are many values involved in our problems of social conduct to which we feel that we are unable to do justice in their whole import, and yet when they are once envisaged they appear too precious to be ignored, so that in our action we do homage to them. We do not do justice to them. They constitute our ideals. They abide in our conduct as prophecies of the day in which we can do them the justice they claim. They take on the form of institutions that presuppose situations which we admit are not realized, but which *demand* realization.

Such an ideal is democracy written into our governmental institutions. It implies a social situation so highly organized that the import of a protective tariff, a minimum wage, or of a League of Nations, to all individuals in the community may be sufficiently evident to them all, to permit the formation of an intelligent public sentiment that will in the end pass decisively upon the issue before the country. This is what democratic government means, for the issue does not actually exist as such, until the members of the community realize something of what it means to them individually and collectively. There cannot be self-government until there can be an intelligent will expressed in the community, growing out of the intelligent attitudes of the individuals and groups in whose experience the com-

munity exists. Our institutions are in so far democratic that when a public sentiment is definitely formed and expressed it is authoritative. But an authoritative public sentiment upon a public issue is very infrequent. My guess is that the number of instances of that in the history of the United States of America could be told upon the fingers of two hands, perhaps upon the fingers of one hand. In the meantime, as the then President Taft assured us on an historic occasion, we are governed by minorities, and the relatively intelligent minorities are swayed by the import of the issue to these minorities.

However, we are unwilling to surrender the ideal of such a government, if only for the sake of the exceptional occasions upon which it is realized, but more profoundly because we cherish the hope that the form of the institution in some way helps toward the realization of what it promises. The most grandiose of these community ideals is that which lies behind the structure of what was called Christendom, and found its historic expression in the Sermon on the Mount, in the parable of the Good Samaritan, and in the Golden Rule. These affirm that the interests of all men are so identical, that the man who acts in the interest of his neighbors will act in his own interest. Actually the history of Christendom has been a history of war and strife, and we are forced to admit that in these wars dynastic, national, and civil has arisen the intensive consciousness of the larger communities. It was the horror of the Great War that aroused, perhaps for the first time in the human race, a public sentiment passing all national bounds and demanding some organization that could express this sentiment and avert a still more terrible horror. The history of Christianity is the history of men's refusal to surrender this ideal.

To indicate in what concrete ways, psychological, social, and technological, the presence of these ideals in men's minds may have directly or indirectly favored their realization lies beyond the scope of this paper. What must be indicated is that they have only been kept in men's minds

by institutions set up for this specific purpose. An institution should arise and be kept alive by its own function, but in so far as it does not function, the ideal of it can be kept alive only by some cult, whose aim is not the functioning of the institution, but the continued presence of the idea of it in the minds of those that cherish it.

The church is the outstanding illustration of such an institution. Its most important function has been the preservation in the minds of the community of the faith in a social order which did not exist. At the other end of the scale may be placed certain economic institutions, notably that of exchange. The economic man may be an abstraction, but he certainly exists and functions, and we need no cult to keep alive the faith in the functioning of money, though there is hardly an agency that has had more profound effects in bringing all men into association with each other. Between these lie our various institutions. We feel from time to time the necessity of arousing in our souls an emotional appreciation of the value of the family, of democracy, of the common school, of the university, because in their actual operation they do not express that value adequately.

The psychological technique of maintaining such a cult is the presentation by the imagination of a social situation free from the obstacles which forbid the institution being what it should be, and we organize social occasions which in every way favor such a frame of mind. We gather together in a place of worship, where we meet on the single common basis of all being worshippers of one God, or gather at a Thanksgiving, where all the differences and indifferences of family life are ignored, or we turn with affectionate regard to the Little Red School House where all the children were found studying the same books and immersed in the same common school life. Now the emotional and intellectual attitude of these occasions is essentially different from that of any common undertaking to make the institution more effective, to reform it. The attitude implied in the cult of an institution is frankly hostile toward

that which seeks its reform. The mental attitude attending a cult is always conservative, and if we are undertaking its reform we consider it reactionary. The emotional attitude in the cult of an institution flows from the very obstacles that defeat its proper functioning. We may become profoundly interested in the reform of an institution for better service, but if we wish to appraise it emotionally we envisage the wrongs, the vice, the ignorance, the selfishness, which the ideal of the institution condemns, and which frustrate its operation.

Now it is just these factors in social and moral conduct which render the application of scientific method, in that field, so profoundly different from its application in the field of the natural sciences. The formula is simple enough. Your conduct must take into account all of the values which are involved in the social or moral problem. But how are we to define these values? They ought to be defined by the conflict out of which the problem has arisen. In many cases they are sufficiently defined to enable us to act intelligently. If it is a question of visiting distant friends we find out how valuable it is to us, by the sacrifice of other things for which we wish to spend the money which the journey would cost. When we have counted up the cost, we may conclude that it isn't worth what we should have to forego. Of course the mere surrender of the contemplated visit is not the whole result. We have found out how much we want it, and have probably prepared to bring it about under more favorable conditions. For purposes of conduct, values define themselves definitely enough when they are brought into conflict with each other. So facts define themselves in scientific problems. The facts in the problem of the prevention of arteriosclerosis are the observations which indicate that none of the causes that have been supposed to conduce to it do actually account for it. The facts in the hunt for a pneumonia serum are that none of those constructed after the fashion of other successful sera give the desired immunity. The facts are determined by conflict.

But see how different the situation becomes when the problem is not the prevention of a disease, but the prevention of crime. If the problem were simply the determination of the values involved in terms of loss to the victims and to the community, over against the effort and expense involved in catching and punishing the criminal, the problem would not be a difficult one. No civilized community has ever hesitated to take these steps in view of the danger which the existence of crime entails. The difficulties arise over the methods of so-called criminal justice. It is supposed to prevent crime, but it does not prevent it. At least it does not prevent it as vaccination prevents smallpox epidemics. It has some preventive effect. It is a palliative. But we cannot simply surrender criminal justice as inefficient, to use some other method, nor even to reform it simply from the standpoint of rendering it more efficient. For criminal justice has a cult value. We cherish the attitude of public reprobation of crime, or rather let us say of public vengeance upon the criminal, because of the emotional sanction it gives to a community ordered by a common law. We overlook the fact that we cannot keep up this emotional attitude without branding the criminal as an outcast, without in some sense preserving a criminal class or caste, and we are quite unwilling to estimate the value of this branding simply in terms of its preventive power. It has an absolute value too precious to be surrendered. If our social problem were simply that of prevention, we should have a standard by which we could fairly measure the values involved. We could never treat leprosy scientifically if we retained the older attitude of regarding the leper as unclean. The relatively recent history of the scientific treatment of the mentally diseased is one of passing out of a cult attitude toward the insane. Or consider nationalism. We cannot simply set about the elimination of war by methods which history has amply justified, because of the cult value of patriotism. The time-honored and simplest method of arousing the emotional consciousness of national unity is presentation of the common enemy. It is

confessedly most difficult if not impossible to arouse this emotional consciousness out of the common life within the community itself. And at times patriotism seems to have an almost infinite value. The cult values are incommensurable.

And yet these problems are not only real problems, they are insistent problems, and as I have before observed, we cannot defer action with reference to them, although these and most of the other social and moral problems are shot through with these incommensurable cult values. Nor can we take the attitude of the superior person, and affect the pose of one whose higher intelligence has raised himself above these incommensurables. They and what they represent are the most precious part of social heritage. But it is not their incommensurability that constitutes their value, nor should we hesitate to abandon the cult estimate of these institutions if their values can be stated in terms of their functions. The cult value of the institution is legitimate only when the social order for which it stands is hopelessly ideal. In so far as it approaches realization, its functional value must supersede its ideal value in our conduct.

It is to this task that a scientifically trained intelligence must insistently devote itself, that of stating, just as far as possible, our institutions, our social habits and customs, in terms of what they are to do, in terms of their functions. There are no absolute values. There are only values which, on account of incomplete social organization, we cannot as yet estimate, and in face of these the first enterprise should be to complete the organization if only in thought so that some rough sort of estimate in terms of the other values involved becomes conceivable. And there is only one field within which the estimation can be made, and that is within the actual problem. The field within which we can advance our theory of states is that of the effort to avert war. The advance in our doctrine of criminal justice will be found in the undertaking of intelligent crime prevention. The problems of social theory must be

research problems. It is to one group of these problems which I wish particularly to refer. These are the problems of practical politics in the nation and especially in our municipalities.

I have already called attention to the chasm that separates the theory and practice of our democracy. The theory calls for the development of an intelligent public sentiment upon the issues before the community. In practice we depend not upon these to bring the voters to polls, but upon the spirit of party politics. The interest in the issues is so slight that any machine in a great city, that can insure by party organization and patronage a relatively small group of partisans who will always vote with the machine, can continue its hold on the city government for a considerable period no matter how corrupt its administration may be. It is perhaps this situation that leads us to overestimate the somewhat rough and clumsy method of registering public sentiment which the ballot box affords in a democracy. And in our heated efforts to reform corrupt administrations we accept the shibboleths of the professional politician that the essence of democracy is in voting on one side or the other. We attach a cult value to these somewhat crude methods of keeping a government of some sort going. The real hope of democracy, of course, lies in making the issues so immediate and practical that they can appear in the minds of the voter as his own problem. The wide spread of the manager instead of the manger or feed box form of city government is perhaps the most heartening sign of the times that this is beginning to take place. It does not seem to be an impossible task to get the average voter to see that the bulk of the administration of his municipality consists in carrying on a set of operations of vital importance to himself in an efficient businesslike fashion, that the question of public ownership of public utilities is simply a phase of this efficient administration, and that it is perfectly possible for a community to get such an efficient administration. The advance in the practice and theory of democracy depends upon the

successful translation of questions of public policy into the immediate problems of the citizens. It is the intensive growth of social interrelations and intercommunications that alone renders possible the recognition by the individual of the import for his social life of the corporate activity of the whole community. The task of intelligence is to use this growing consciousness of interdependence to formulate the problems of all, in terms of the problem of every one. In so far as this can be accomplished cult values will pass over into functional values.

Finally I wish to recur to the dictum to which I referred at the opening of this paper: That the intelligible order of the world implies a moral or social order, *i.e.*, a world as it should be and may be. What form does this take if we apply scientific method to social conduct?

We have seen that the earliest formulation of it by Christian theology was that the intelligence of the creator and ruler of the world must show itself in bringing about in this world or the next the perfect society which man's moral and social nature implied and that our intelligence consists in accepting the inspired statement of this order. Scientific method has no vision, given in the mount, of a perfected order of society, but it does carry with it the assumption that the intelligence which exhibits itself in the solution of problems in natural science is of the same character as that which we apply or should apply in dealing with our social and moral problems; that the intelligible order of the world is akin to its moral and social order because it is the same intelligence which enters into and controls the physical order and which deals with the problems of human society. Not only is man as an animal and as an inquirer into nature at home in the world, but the society of men is equally a part of the order of the universe. What is called for in the perfection of this society is the same intelligence which he uses in becoming more completely a part of his physical environment and so controlling that environment. It is this frank acceptance of human society as a part of the natural order that scientific

method demands when it is applied to the solution of social problems, and with it comes the demand, that just as far as possible we substitute functional values for cult values in formulating and undertaking to solve our social problems.

The difference in the pictures of the universe presented by these two attitudes is striking enough. The one contemplates a physical world in which man and the society of men are but pilgrims and strangers, seeking an abiding city not made with hands, eternal in the heavens. The goal toward which all creation moves was to be attained through the individual members of the human community becoming good, *i.e.*, living by certain absolute and incommensurable values housed and hallowed by social institutions. This morality or social *dressur* calls for only so much intelligence as is required to recognize these institutions and the claims which their ideals make upon us. Anyone can be good, though but a few can be clever. There is hardly any kinship between this attitude and the age-long struggle of the human community to make itself intelligently at home in the physical habitat in which it finds itself. Man has domesticated the animals now these many centuries. He is but slowly advancing with painful effort in the domestication of the germ, though it is at present much more essential to community life.

The scientific attitude contemplates our physical habitat as primarily the environment of man who is the first cousin once removed of the arboreal anthropoid ape, but it views it as being transformed first through unreflective intelligence and then by reflective intelligence into the environment of a human society, the latest species to appear on the earth. This human society, made up of social individuals that are selves, has been intermittently and slowly digging itself in, burrowing into matter to get to the immediate environment of our cellular structure, and contracting distances and collapsing times to acquire the environment that a self-conscious society of men needs for its distinctive conduct. It is a great secular adventure, that has reached some measure of success, but is still far from accomplish-

ment. The important character of this adventure is that society gets ahead, not by fastening its vision upon a clearly outlined distant goal, but by bringing about the immediate adjustment of itself to its surroundings, which the immediate problem demands. It is the only way in which it can proceed, for with every adjustment the environment has changed, and the society and its individuals have changed in like degree. By its own struggles with its insistent difficulties, the human mind is constantly emerging from one chrysalis after another into constantly new worlds which it could not possibly pre-see. But there is a heartening feature of this social or moral intelligence. It is entirely the same as the intelligence evidenced in the whole upward struggle of life on the earth, with this difference, that the human social animal has acquired a mind, and can bring to bear upon the problem his own past experiences and that of others, and can test the solution that arises in his conduct. He does not know what the solution will be, but he does know the method of the solution. We, none of us, know where we are going, but we do know that we are on the way.

The order of the universe that we live in is the moral order. It has become the moral order by becoming the self-conscious method of the members of a human society. We are not pilgrims and strangers. We are at home in our own world, but it is not ours by inheritance but by conquest. The world that comes to us from the past possesses and controls us. We possess and control the world that we discover and invent. And this is the world of the moral order. It is a splendid adventure if we can rise to it.

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