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T has been a happy arrangement of Nature in the timing of man's mental development that when his powers were feeblest, and the odds against his survival greatest, he seems to have been least worried about his own future. And this primitive self-confidence, born of ignorance and faith, must have been a factor in lifting him out of the economic cockpit. The same is true of his mental problems: the hardest among these have been the latest to make themselves felt.

Take for example the problem of language. Language is a magazine of signs, for the most part, in early time, of vocal signs for non-vocal meanings. Vocal noises are good materials for such signs because they are under immediate, voluntary control, and can be perceived in the dark and around corners. Most human tribes use gestures to help out their vocal signs, but no human tribe makes the gesture-language primary. But of course not all sounds are signs, not even all vocal sounds. Every human being has had to distinguish between the sounds that are signs and those which are just noises! Imagine the embarrassment of a

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human mother if she had in some way to explain to her infant this distinction: "My dear child, sounds are of two kinds . . . etc." If language had to be used to get language started, we should never have emerged from this circle. Fortunately the problem was unfelt. It is only today that the full force of the difficulties of theory in the everyday use of language are dawning on us: we realize with horror that no child has ever had the primitive and all important words explained to him!

The same situation exists in the problem to which I am inviting your attention, the problem of value. Until very recently there has been no such problem, for we have simply taken the answers for granted; and this happy state of innocence has served practical purposes very well. It is, roughly speaking, the problem of the relation between what we want and what exists. Science is at hand to tell us what exists, not what we want. We are supposed to know what we want, and science then becomes the most systematic and effective magazine of knowledge pertinent to our getting what we want. Science is the repertory upon which technology draws. Science is an independent pursuit: its business is to master nature intellectually, to understand how the vast system operates and to enjoy that understanding. The freer science is the more likely it is to serve technical interests. In the great research laboratory at Schenectady it has been the tradition that men engaged there have been explicitly given free rein to do their investigating without regard for usable results. But the assumption of the whole effort, scientific and technological, is that we men know what we want. In other words, the problem of "values" has not been a conscious problem.

One evidence of this is that the very word "value" is a new word in the sense in which it is now usual to employ it.
It is common and ancient enough in its commercial and quasi-commercial uses. We know the value of the goods we buy, if we are prudent buyers. Every man who works for his wage or his salary is concerned to know what value is placed on his services. And quite apart from income a man desires to know how he is esteemed, that is, what his value is in the eyes of his community. The value of a man or of a thing is its valoir, its strength or power, its utility, how much it can achieve or command, its validity.

We come at once upon a wider use when we consider a problem of which education has only recently begun to take the measure, that of giving a student a just sense of “values.” This includes a wise judgment of quality among the goods on the market, but it goes beyond that to a judgment of the things worth pursuing, of what have been called the “ends” of life. Education in America has been highly useful: we have been supplying our students with the fundamental techniques and with highly competent information about the means to attain their ends. In all this we have been taking for granted that they too know what they want, know what ends they intend to pursue, know the relative values of these ends. We are only now awakening to the fact that the knowledge of the values of ends is what the ancients called “wisdom”; and that we have been assuming either that wisdom of this sort is a kind of instinctive gift of the species or that every student will pick it up in the course of his growth, if he has a good home and good company. The extreme difficulty of the problem of teaching values is striking us now with full force.

But the term “value” has taken a further step of generalization. It now includes economic values, moral values, aesthetic values, truth values, as well as the elements of value in the simple pleasures, goods, and activities of the
day’s program. Why is its meaning so broadened? I confess that in this wide scope it has become almost unmanageable. It includes so much that it has become vague and slippery. But there is a reason, namely, that it has come to stand for a deep-going contrast. The world is seen to have two aspects, the aspect of fact and the aspect of value. The term “value” has to spread itself to accommodate everything that is not pure fact, everything that has color, interest, meaning, quality. The word “fact” then has to purify itself of all elements of preference or feeling in order to hold its strict objective and solid character. The work of the jury, as distinct from the work of the judge, was once defined on the basis of this distinction: the jury was to determine the facts, the judge was to estimate the meaning of the facts and attach the due penalty; the judge was the evaluating officer. But although this line has been all but obliterated in judicial procedure, it remains in some of our more recent divisions of the process of enquiry. We have our Fact Finding Commissions, whose work is preliminary to our Commissions of Appraisal. It is assumed that the facts can be determined in abstraction from any commitment as to their worth. This, of course, is not strictly the case; for the fact-finders only know what facts to collect, if they have some idea what they mean. In historical and social matters, one might go so far as to say, there is no such collection as “the facts,” first because the items that might be assembled are infinite in number, and second because we can never find a social fact except through the mouth and eye of some person who has an opinion about it. In traveling through the Near East some years ago, I attempted to get at certain facts about the French administration of Syria: but one Frenchman who sincerely tried to help me said at the end of a long series of questions: “You must remember the saying, which applies with espe-
cial force to everything in the East, 'Ici il n'y a pas des faits, il n'y a que des versions.' " Every so-called fact is an interpretation. The difference of function remains, for the same data will provoke different judgments according to the standards of value of the appraisers. For instance, if you tell me that our state spends fifty million dollars a year on higher education and produces just one man per year of first-rate powers of leadership, I have to say that this fact by itself does not condemn our education; or if you say that the divorce-rate has increased three hundred per cent in a quarter century in America, I have to say that these facts, if they are facts, do not of themselves show that marriage is a failure. You recite the facts as though they settled a question of worth: but the two operations of determining facts and determining values retain a degree of independence.

The pertinence of this distinction to our present theme lies in the circumstance that science has traditionally taken the field of fact for its province and has left the field of value to other agencies. This division of labor has been to some extent deliberate on the part of science and for very good reasons, but its full import has only recently dawned on us because of this slow development in the concept of value and of the problems connected with it.

I. MEANING OF THE TERM "VALUE"

One of the good reasons for the disposition of science to keep clear of value is the lack of precision in the generalized notion of value. It is so difficult to define that it has been judged an indefinable. Perhaps the best definition is the negative one we have already used: value is not fact, fact is not value.

If we were to undertake a positive account, we should be likely to find ourselves working in a circle: a value is that
character of being or experience which requires to be estimated in terms of its worth. This is a definition which anyone will understand if he already knows what worth and value are, not otherwise; yet we might invite anyone to do better.

Shall we say that value is that whose absence would leave the world neutral, devoid of interest, wholly indifferent? Or that value is that which polarizes the whole world of experience into the welcome and the unwelcome, the agreeable and disagreeable, the attractive and the repulsive the good and the evil, and thus banishes all indifference? Or that value is everything that lends quality and therefore calls for preference in the world; everything that makes the world a region in which beings with wills can exist, beings having to choose and act, for without value there would be no conceivable ground for choice or action, there would be no better course and no worse course, no wisdom and no folly? These statements are true; they do not amount to definitions; they merely help us to locate what we mean by value by giving it a context.

If we attempt to make the context the nub of a definition, and say that value is the object of preference, or of emotion, or with my colleague Professor Ralph Perry, of any interest, this would be putting second things first: we are moved by value because it is value; it is not a value because we feel emotion toward it. Otherwise our feelings and interests would determine what values are, and there would be no appeal from our preference. Since there can be an appeal from my taste, or even from my type of conscience, the final and determining point of value cannot be in my mode of response. But this is perhaps as near to a definition as we are likely to come, or need to come for the purposes of our own argument: value is that aspect of the world which appears when there are wills about, that is to say, minds with
choices to effect and decisions to make. It stands in contrast to the purely theoretical aspect of the world; though for conscious beings the two are inseparable. Every sensation we experience is colored to some extent by the qualitative touch of the agreeable or disagreeable, and by that further elusive contrast which, with a touch of mystery, we very probably read into it—the favorable or the unfavorable, the ominous or the propitious. And this is equivalent to saying that there is no phase of experience which is pure fact, none without a capacity to touch the springs of feeling and volition. There are some who would even reverse the order of fact and value, and say that—at least for attention—there are no sensations, no observations, unless there are first concerns, doubts, challenges, fears, hopes, of an enquiring and anxious will. We shall be satisfied with holding the balance even; no fact without value, no value without fact.

2. ASSUMPTIONS ABOUT VALUE

It is perhaps just because value is so difficult to define that we carry on our lives, not by analyzing it nor reasoning about it, but by making assumptions about it. A value-assumption which is neither reasoned nor open to reason may be called a prejudice.

We assume, for example, that it is good to live; or that being alive is, in general, better than not being alive. Schopenhauer tried to prove the contrary; the fact that he made this attempt is an evidence of the prejudice in favor of living.

We assume that it is good to save life; this is the professional prejudice of the physician, made into an element of the fundamental ethical code. This is not a point which either we or the physician attempts to prove.

We are inclined also to assume, as if by way of a corol-
lary from the first prejudice, that it is good to increase life; and that births are therefore always occasions for congratulation. We do not feel it necessary to prove this point.

We assume that the several functions of normal living are good: among others, that the use of one’s head is a good thing, and therefore, if the head is for thinking and thinking is for controlling nature, that it is good to control nature; and hence, that it is right and normal to be in a position of mastery toward nature and toward things, and, therefore, that property is a good thing and a right thing.

Extending this idea a little bit, we find that it is good to extend our control through knowledge, as far as that control can go. There is nothing which we “ought” not to know; and nothing which we “ought” not to control. This prejudice brings us into sharp opposition to the traditional prohibition of the Garden of Eden: it is good to know good, and it is also good to know evil—so we think: it is good to control both of them by knowing them. And if somebody objects that to know evil in any thorough way is to be evil, we are slightly jarred, but persist in our prejudice.

Take a step farther. It is good to master nature; it is good to master ourselves by knowledge. It is good to control life: it is good to control the increase of life—birth control; it is good to control the end of life—death control, which is another name for rational suicide and rational euthanasia. Here our assumptions come into conflict with our earlier assumptions, that life is always good and its increase always good. When assumptions thus conflict with each other, prejudice ceases to be a sufficient guide of life, and we are compelled to begin to do some reasoning about this field of value—a field so self-evident that every college student may be assumed to know what he wants, and so difficult that we cannot even define the term!
3. DIFFICULTIES OF PROOF IN THE FIELD OF VALUE

It is just here, however, that reasoning seems especially futile. What can reason take hold of for a premiss? And if there are no certain premisses, conclusions will differ, and we come into the common despair of our time which accepts the situation that values are to a large extent subjective. The field of taste is given over to relativity; and just as some British worthy gave it out as his opinion that everyone is entitled, as a matter of natural right, to his own notions of spelling, so the common opinion today is that everyone is entitled to his own notions of moral value.

This would constitute one emphatic difference between the field of science and the field of values; for in science the whole meaning of the steady advance is that a corporate acceptance of scientific results can be anticipated, and even compelled, because both the ultimate data and the methods of reasoning from them belong to the field of verifiable evidence.

Some years ago, I attempted to teach a course in ethics at Harvard. Midway in the course, some wild fancy moved me to ask the students, in the course of an examination, to comment on the enterprise, under the promise of diplomatic immunity. A lad named Cohen wrote as follows:

"I do not believe that the teaching of ethics is a useful undertaking. The trouble is that you cannot prove the important points. You cannot prove that a man ought to love his neighbor. And if you could prove it, that proof would not in the least help him to do so." He added, retrospectively, "I can understand how a Jesus Christ or a Nietzsche (neither of whom tried to prove anything) could turn the world upside down; but I cannot see how any college professor could turn the world upside down."
This sagacious comment went directly to the center of the whole problem of thinking about values, that is to say, of rescuing them from the play of prejudice and the despair of subjectivity and relativity. Cohen was evidently inclined to give the matter up. For my part, I was considerably impressed, not to say jarred, by the force of his remark. In reporting the matter to the class, I pointed out that Cohen's view, though despairing of the professor, was not wholly without hope for the race: there were people who could accomplish something in this field; for "turning the world upside down" involves securing some degree of consent to one's proposed transvaluation of values. These men were once called prophets; nowadays we are more likely to call them poets, preachers, or possibly fanatics. They are not philosophers; and they are not scientists. It is this latter point which concerns us here.

The presumption is that science ought not to be expected to help us about values. This is not its field. It has its métier, which is to find the facts, wholly without regard to their value. It is a part of its duty to forget values in the pursuit of objective truth. It is a part of its justified specialization to leave the estimation and use of the facts to others. If this is the case there is no such thing as a "science of values" in the strict sense of the term science.

4. SCIENTIFIC METHOD AS EXCLUDING CONSIDERATIONS OF VALUE

But the most vital reason which leads science to keep clear of questions of value lies in its carefully-built method of procedure. The glory of science is in its method. This method may be summarized in three principles:

First, the observation of fact. Facts must be observed with the utmost care to eliminate all human preference, and
all intrusion of the personal equation, in the effort to be perfectly faithful to what is given.

Second, the discerning of law in fact, the process of induction. An individual fact, for the scientist, is commonly taken not as an item of narrative, but as an example of a type. It reveals some general truth about the behavior of things. The reading of that truth is not a matter of direct perception, but of hypothesis; the hypothesis needs to be verified; and this verification needs to be confirmed by the scientific community.

Third, a principle about the kind of hypothesis which will not be admitted. Purposes will not be considered. Bodies do not fall because of any desire to go downward; nor do bodies approach each other because of any affection for one another, though the words attraction and repulsion seem to register an ancient assumption of this sort. Purposes are replaced first by “forces,” and “forces” by “causes”; and then for the stricter scientific sense, all agencies are excluded from consideration, so that the formulation of the facts of change may be unobscured by any metaphysical conception. Hypotheses must be limited to rules of succession among phenomena or events.

This method is simplicity itself, and yet, during the time it was being worked out, it had to be fought for. The inveterate human disposition to read events in terms of some purpose, whether of God or of man or of the things themselves, died hard: Aristotle was authority for the pertinence of “final causes” to the events of Nature. In his view all things were striving toward something; this inner striving was their life; as running water may be conceived to strive toward a lower level, so for the great Greek all objects were tending toward what he called pure form. Modernity had to dispel this fancy in order to see in its clarity another sort
of pure form, the mathematical form of the actual process of change, not as something aimed at, but as something actually realized in all natural change.

The method which was directed toward this object brought unity and cleanness into the world picture. Everything it relied on was public: its observed facts and inferred laws submitted themselves to verification. There was no guessing what the secret motives of Nature might be; there was no room for black arts, nor for learned doctors of hidden mysteries. Humanity escaped from its own provincialism of value-judgment. Nature contains nothing disorderly, nothing vile—no, nor anything lovely as we count loveliness. The mind of man spares itself the infinite possible false-scent involved in seeking purposes which can never be seen nor verified as explanations for its facts, and from which no predictions can ever be drawn.

Nature seemed cleared as if from pestilence, and the enthusiasm for the sharable and knowable carried the human mind toward an unmatched era of conquest.

5. HAS SCIENCE NOTHING TO SAY ABOUT VALUES?

With the best will in the world, however, science does encounter the field of values in one or two places.

In the first place, like every other human activity, science takes for granted certain values toward which its own work is directed. It assumes the value of knowledge. It lives on that prejudice—among those we have mentioned—that it is better to know than not to know, and to know things as they are, whether they are good facts or evil facts, or facts of mixed possibilities, as most facts are. It also assumes that its own results will be helpful to other men in the pursuit of their ends, into whose value it does not enquire, though it
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makes the general assumption that they will be decent and not noxious: it assumes that many of these ends will be common goods for all mankind, such as the achievements of all the useful arts, medicine, engineering, and the like. And then, further, it sees its own labors as having an incidental value in uniting scientific workers the world over in a common front dealing with the common problems of mankind. Thus, within its own field, it illustrates prophetically the picture of a world-community in which there is a genuine fraternity, a high standard of integrity, and a career open to talents from whatever quarter of mankind. These values are, of course, no part of the contents of science—they are values which gather round the activity of the scientific worker and sustain his toil and sacrifice.

But then science encounters value in a more concrete way, for it comes upon man as a fact in the world, and man is a creature that pursues values. Science therefore is bound to discover the fact of prejudice. It reports the common preferences of mankind: of life to death, of being on friendly rather than on hostile terms with one's neighbor, of affluence to poverty, and the like. In reporting these facts it does not pass judgment upon them. It deals with them with its usual sobriety and detachment. Even in dealing with human passion it must make a dispassionate report, holding the advantage of its "objectivity"; and this making-an-object of our desires and emotions is doubtless a curative attitude, tending to relieve us of our infatuations, and to achieve a greater dignity in our expressions of feeling. Science thus does us the service which any good friend does who kindly laughs at our excitements, and brings us to a steady mind. It does for us something which Stoicism tried to do for its devotees when it admonished them to feel as coolly toward
their own joys and sorrows as they would toward the joys and sorrows of others.

Above all, science in recognizing the facts of human valuations, refrains from using the word "ought." As a reporter, it sees no meaning in judging that the facts ought to be other than they are.

In particular, as a veracious reporter, science has to declare that these facts of valuation are, so far as it can discover, local facts. They appear only in men and animals. They are therefore transitory: the world before the advent of animals showed no sign of concern about values, and if the animal series vanishes from the universe some day, as is most probable, the phenomena of valuation will vanish with it. The "real" world, using this term for the underlying course of things, as revealed in physics and astronomy, is devoid of interest in value and presumably of value itself.

The conclusion is drawn that value is a subjective realm, or as Bertrand Russell puts it, it is our kingdom. It exists only for us, and we are free to make whatever rules our experience may suggest for achieving the most in quantity and the best in quality among what we find to be goods.

For the world outside this private scene, the story is indeed a bleak one. But we have to face it. Let Mr. Russell describe it:

That Man is the product of causes which had no prevision of the end they were achieving; that his origin, his growth, his hopes and fears, his loves and his beliefs, are but the outcome of accidental collocations of atoms; . . . that all the labors of the ages, all the devotion, all the inspiration, all the noonday brightness of human genius, are destined to extinction in the vast death of the solar system, and that the whole temple of Man's achievement must inevitably be buried beneath the débris of a universe in ruins—all these things, if not quite beyond dispute, are yet so nearly certain, that no philosophy which rejects them can hope to stand.¹

So far, the relation of science to values is one of mutual independence. Science has no desire nor need to interfere in the phenomena of human choice. But benevolent neutrality is a hard position to maintain, whether in the field of public affairs or in the field of thought. There is at least one region where there is danger of a clash between science and our value habits. That is the region we have indicated by the word “ought.” Science, we said, has no use for that word in its treatment of values. But more than that, it is doubtful whether it has any use for the word at all, except to record the fact that some men still perversely use it. If men’s valuations are natural phenomena they are what they have to be: it is not only idle, it is perhaps mischievous, to suggest that they ought to be other than they are.

Return to this question of loving one’s neighbor: and let us extend the difficulty we encountered a little while ago. Science, I think, would in general agree with the position of my student thus extended: “You cannot prove that the Nazis ought to love the Poles and the Jews as themselves.” If the facts are that they do not, it is wholly meaningless to import the word “ought” into the picture.

Let us take another step. Is there not an inherent aristocracy in nature, derived from the perspective in which each self views the world? What we call our “social instinct” leads us always to prefer friendly relations and mutual help with anybody who happens along: so much belongs to our original value-prejudice. But any positive concern for other people begins at the center and fades away, both with physical distance and with distance in kind. Every person and every group tends to regard those who are outside the “warm” circle as fit to be exploited. Hence in any large
group, such as a modern state, not connected by any ties of blood, the degrees of regard of man for man run through a wide gamut, and any democracy which assumes a relative equality of regard will have an uphill fight for its life. There was once a religion which made this distribution of regard a duty. But science has no intention of usurping the functions of religion; and for the purely scientific point of view, there is no “ought” in the premisses.

It is enough to say that for science, the word “ought” becomes a word of dubious meaning, since “ought” always quarrels with the facts. The tendency of science is to reinterpret all propositions containing this word into propositions concerning fact. Thus “You ought to pay your debts” becomes something like this:

Most men find that paying their debts is a method of behavior which avoids definite evils, such as friction and legal action, and secures certain goods, such as esteem and good feeling. They accordingly become conditioned to this method, as a secondary habit; and are inclined to formulate it as a law.

Such reinterpretation of “ought” as fact is the direction taken by the most recent school of realists in ethics and law; it prides itself on its accord with the general principles of science. Conscience is reluctant to accept the two proposals as equivalent. We must examine with some care how this difficulty arises.

7. SCIENTIFIC METHOD APPLIED TO MAN

The embarrassment begins when the scientific method, so successful in the fields of physics and astronomy, is turned upon man himself. This was bound to happen, for man, too, is a member of the natural order. And the difficulty is that when man becomes both the observer and the object observed, as is the case with psychology and sociology, not
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one alone but all three of these points of method seem to go wrong.

First, observation. It is not so easy to observe oneself as to observe something else. It is not nearly so easy to observe the mind as it is to observe the body. And if one can be said to observe one's *own* mind, what he there discovers is not a public object—no one else can come along and certify his report. If Tycho Brahe in 1572 sees a new star in Cassiopeia, he can summon his household to witness that his senses are not deceiving him. But no one can testify to the emotions which arise in this trained observer when this first supernova noticed by western eyes appears as if by magic in a quiet neighborhood of the sky! This defect in the very foundations of mental science is so great that psychology drifts inevitably toward behaviorism. One can always observe muscular behavior, and sometimes neural behavior; and one is tempted to disparage consciousness itself in order to furnish the new science with a measurable and verifiable object.

Second, the discerning of law. The difficulty here is in the question whether mental processes follow laws, as physical processes do. There are reflexes and habits which seem as much physiological as mental; but these are the least characteristic phases of the human mind. Feeling, imagination, moral conflict, decision appear to be in some sense irregular and free.

But the chief difficulty lies in the third point. If no natural phenomena are to be explained by purpose, what about these human phenomena which certainly are purposive? Empirical truth itself requires us to report the fact of purpose where we find it. And if one can find no stable causal laws for human activity, the reason may be simply that the law of cause is replaced by the law of purpose. We are put to an
awkward dilemma: we must either go back, in this case, on our hard-earned prohibition of purposive hypotheses, or else on what the plain facts of the case appear to show. We must disobey principle 1 or principle 3! It is not surprising that in such a conflict of loyalties, some scientists of the mind have taken the line that purpose is a sort of subjective illusion—that cause rules the world, as well in the case of man as in the case of atoms. That is why many psychologists—some say a majority of psychologists—are interested in reducing human value-prejudices to a special kind of fact. And that is why the use of the word “ought” becomes for such thinkers a bit of outworn superstition.

8. CONSEQUENCES OF TURNING “OUGHT” INTO FACT

The first result of this transformation is a great relief. Moral judgments are notoriously troublesome, disquieting to the tender conscience, tending toward harshness and censoriousness toward others, sources of retributive excesses in punishment and almost equally loathsome excesses of flattery. When the “ought” is merged in the soothing calm of universal necessity, we no longer praise or blame, regret or congratulate, extol as noble or denounce as wicked—we are freed from remorse for our sins and from pride for our good deeds. The criminal is looked on with new eyes: we do not like what he does—that also is a fact—but, seeing that he too is a child of causal law, we take him to be an organism out of tune, to be readjusted and healed, not punished. This makes for toleration and kindness. Moral indignation is a distressing fever which we may now lay aside; into its place steps the wise solicitude of the physician.

The repercussions of this change are far-reaching. I suggest that we trace some of them in the field of criminology. Criminology tends to merge with psychiatry; the criminal
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becomes a case for study; his heredity and environment are carefully enquired into; mental and moral reactions are measured and tabulated; his type is classified, and treatment prescribed. His whole physical being and habits are scrutinized; vitamin and glandular deficiencies are remedied; he is brought into prime physical condition, as far as his diathesis will allow. Meantime, with all of this he has been receiving a good deal of attention, much more than the average good citizen gets; and whether he likes it or not he becomes, within the small community of the prison colony, the well-known Mr. So-and-So. Nothing is being said to him about justice: he is not asked to repent nor to repay. He himself may be willing to forgive and forget the past, since the local environment shows no interest in the matter. He is asked to take a cooperative attitude toward society; and within that local and surely benevolent sample of society about him he may pull himself up to do so.

Dr. Karl A. Menninger represents this new spirit in penology very well. In his book on *The Human Mind*, in speaking of the treatment of delinquents, he explicitly rejects the interest in justice. "Is typhoid fever just?" he exclaims: "What science or scientist is interested in justice?"

This dramatic question—which we can understand in the life of a physician whose sole business it is to help the patient—pulls us up to ask where we are. Can it be true that the interest in justice is outgrown? The drive for the health of the culprit is surely the most important advance in the treatment of criminals in a hundred and fifty years. Is it then inconsistent with being also interested in justice?

Let us try to realize how far we have come. The word "crime" as it becomes a scientific category becomes dulled to our imagination: not even the favorite bad men of the movie strips stir us deeply. Crime appears in particular
deeds, not always labeled as crimes, because the heart that thinks crime is inventive: crime simply takes advantage of the ever increasing vulnerability of any advancing society, which has to trust itself to a corresponding growth of good will and good faith. As we become increasingly civilized it becomes more and more true that any life can be attacked in a hundred ways, any property broken into, any child taken from the street, any career ruined, by the man who intelligently watches his chances. We cannot live and grow socially without trusting one another, and the criminal is simply the man who for his own desire plants fear in the place of that trust, and compels society to stand guard where it might be free to advance. He separates his sympathy from his victim; he separates it still more from the advance of human friendliness.

What do we want to do about crime? Wait till it has happened and then correct the criminal’s hormones? Perhaps they are all right! Perhaps the trouble is simply that this healthy and intelligent man has adopted a rational philosophy of looking out for himself and his group, in a somewhat unconventional way, and the devil take the rest of us. Then what shall we do about him? Nobody is aided by our taking vengeance on him. But how would it do to express our belief—if we have it—that there is still a difference between right and wrong in this universe, and that wrong, which some men will always plot, is to be denounced as wicked? The time to enter our protest against crime is while it is being considered, as a clever move: and the only pertinent protest is to give it its right name, and attach to it its appropriate feeling, that of condemnation.

Let me not try to stir your latent wrath by setting up some favorite picture of my own of human meanness or depravity. Let you, reader, do that for yourself: is there anything men do under the shelter of propriety—of legality
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itself—to cheat, maim, destroy, turn hope into despair—anything which you would like to rebuke as evil? Then the virility of your resentment may serve as your assurance that you are still alive! Justice, which is nothing but true judgment of behavior in respect to its moral quality, is the concern of every living citizen; and any man or group which sets itself aside from that concern is itself in need of medicine.

And this bears on the doctor's business. For the criminal is not cured until he regards his crime as a crime; and all the physical health you can induce in him will not make him a safe citizen until he looks at what he has done and hates it. Your pleasing forgetfulness, your skilled reconditionings, he knows to be preliminary to the main point; and he knows that, considered as a "case," he is still on the animal level in your eyes. The man who blames him, and sets a moral standard into his mind, does him far more respect—this he knows—than do you who dose him with thyroid, niacin, and thiamin, if at the same time you dodge the question of responsibility.

On the purely scientific level there is really no definition of mental health or disease. What right has anyone to take unhappiness and maladjustment as "abnormal" conditions? How do we know that a man who should see the actual conditions of life a hundred times more clearly than you or I do would remain "happy" and "adjusted"? Almost I think such a man ought to be at odds with the world, as Buddha and Christ were at odds with it. Those who feel the intolerable as intolerable may be exhibiting their point of genius. I am not prepared to say that all who commit suicide are the least perceptive of men: I know poets who have left life that way. Would you cure Tolstoi and Abe Lincoln of their inner torment at the wrongs they felt around them? Would we not do better to be curing our healthy and con-
tented masses? Science lends no sanction to the identification of moral health with "adjustment."

It is true that there is a certain understanding of man's nature, deep and percipient, which brings a certain forgiveness of wrong. As one grows older, one less and less expects perfection and more and more realizes that human idiosyncrasy goes with defect. One sees that the good life is made not by the fortunate discovery of ideal specimens here and there, but by the mutual supplementation of the very fallible. This is an insight which must touch the edge of the divine pity.

With this is often associated another form of tolerance, also a product of age, that of weariness and resignation. The moral passions are exacting: as one grows older one learns that no human strength can fight out all the issues that come one's way. No one man can change more than a fraction of the immeasurable sweep of world-events; and what one cannot change, one learns to be resigned to. This is weariness: it is a part of the sadness of age.

When men speaking in the name of science suggest to us that there is no "ought" but only an "is," it is our weariness and not our wisdom that tends to acquiesce. The distinction of right and wrong cannot vanish from the world until it has no more work to do: that time is far off. Are we becoming a race of old men, that the course of history is no longer charged with the contrast of good and evil, just and unjust? Is familiarity with scientific procedure, misread, making us as a civilization prematurely aged, resigned, morally obtuse, and therefore impotent?

Let the men of science in our generation see the gravity of this question, which arises from the very magnitude of their achievement, and they will answer in no uncertain terms the question, What science or scientist is interested in justice?

Science does have a power of healing, incidental to its
own work, which often passes unnoticed because it is un-
claimed, but which has a definite relevance to our enquiry.
There is something in the very nature of the discipline of
scientific truth which tends to cure morbidity and dispel the
bent to vice and crime. In the vast interrelated system of
things which we call Nature, and in the relation of life to
that system, there is a soundness and a majesty which in-
spire respect and even wonder; which rebuke pettiness and
tend to destroy the perspectives of self-concern.

It was in view of these incidental aspects of science that
Paul Carus developed what he called the "religion of
science." Those were memorable words which Helen Culver
used when she presented to the University of Chicago a
million dollars from the estate of Charles Hull to realize
President Harper's dream of a great biological laboratory:

I have believed that moral evils would grow less as knowledge of their
relation to physical life prevails—and that science, which is knowing,
knowing the truth, is a foundation of pure religion.

It is not the function of science to aim at the cure of moral
miasma; but there is reason to believe that as knowledge
of the natural world becomes deep and proportionate, some-
thing of wisdom and nobility steals across into the character
of the scrupulous observer: faithful observation tends to
become reverent observation. And this means that one can-
not prevent, even when one tries to escape value, the rela-
tions of things in their lawfulness and exactitude from taking
on qualities over and above their factual character—such
qualities as dignity and beauty.

What we do have to say in regard to such values as these
is that they constitute no part of the content of science. Nor
can science be called upon to pass judgment upon their place
in the general scheme of human life. They are of great im-
portance to the scientist as a man; they are, like other
values, outside the body of science itself.