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THEOLOGY PHILOSOPHY EDUCATION

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TO THE MEN AND WOMEN
OF OUR TIME AND COUNTRY WHO BY WISE AND GENEROUS GIVING
HAVE ENCOURAGED THE SEARCH AFTER TRUTH
IN ALL DEPARTMENTS OF KNOWLEDGE

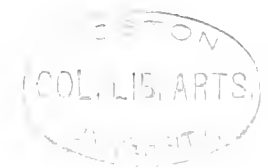
INVESTIGATIONS

THE UNIVERSITY OF CHICAGO
FOUNDED BY JOHN D. ROCKEFELLER

INVESTIGATIONS REPRESENTING THE DEPARTMENTS

PART I
SYSTEMATIC THEOLOGY CHURCH HISTORY
PRACTICAL THEOLOGY

PART II
PHILOSOPHY EDUCATION



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CONTENTS

PART I

PART II

PART I

SYSTEMATIC THEOLOGY CHURCH HISTORY PRACTICAL THEOLOGY

HAVE WE THE LIKENESS OF CHRIST?

HAVE WE THE LIKENESS OF CHRIST?

THE TESTIMONY OF EARLY CHRISTIAN ART

FRANKLIN JOHNSON

THE question, Have we the likeness of Christ? is usually answered in the negative by scholars who study it carefully. The evidences to which they appeal are chiefly literary, the statements of the church fathers concerning art in general and the representations of Christ in particular; and they seldom give prolonged attention to the testimony of art itself. An example of this disproportionate emphasis of the literary evidence may be seen in *The Life of Christ in Art*, by Farrar. Here the question which I have asked is discussed at length. One would expect to find the argument from art in a book devoted to the life of Christ in art; but the early chapters, in which the question is considered, deal almost exclusively with the literary evidence. Another example of the same kind may be seen in the *Storia dell' Arte Cristiana*, by Garrucci, a monumental work in six folio volumes. Here the author, though writing an exhaustive history of Christian art during the first eight hundred years, answers our question by an appeal to Augustine, who says that in his time no one knew what the personal appearance of Christ was.

Now, it is obvious that literature furnishes but a part of the evidence which should be weighed, and that art itself should be consulted. We can readily imagine circumstances in which art would completely reverse a conclusion derived from literature. Let us suppose that we had no description of Charlemagne by the writers of his time or of the time immediately succeeding. Still, we need not at once despair of learning something of his personal appearance. Art gives us many representations of him. These, though they come from many different hands and many different periods, agree in several important particulars. How shall we account for the agreements? Are they proof of a tradition in art which may be traced through the pictures of successive centuries to the circle of his personal acquaintances? It is conceivable that we might push back our search through a long line of portraits till we should discover some of his own age. In that case we should have his likeness, and should be sure of it, despite the discouraging testimony of literature. So we might identify the likeness of Christ by a similar process, and be entirely certain of the result, without reference to the statements of early Christian writers.

On this new path of research several students of our question have entered in recent years, and have brought back an affirmative answer. It is my purpose to consider the work of one of these students. I choose this one both because he is the most recent of the class, and because he has made good use of the work done by his predecessors. The argument which I shall consider is presented to us in a fascinating

book entitled *Rex Regum*. It is from the pen of Sir Wyke Bayliss, a distinguished painter, and president of the Royal Society of British Artists. It represents, therefore, the views of an expert in painting, though not in archæology.

It has an interesting history. Sir Wyke Bayliss was an intimate friend of Mr. Thomas Heaphy, who for years had made a special study of the representations of the Savior in early Christian art, and had prepared a book concerning them. But death overtook Mr. Heaphy before he was able to publish his book. His manuscript, however, was left to Sir Wyke Bayliss, who brought it out under the title of *The Likeness of Christ*. Sir Wyke was already deeply interested in the subject; he continued to study it; and at length gave to the world his own contribution to the discussion in the volume on which I am now to comment, and put into it all the evidences which he considered worthy. He has not merely restated the argument of Mr. Heaphy, but has searched and sifted for himself. His book may be accepted, therefore, as containing all that can be said in favor of the supposition that we have a valid likeness of Christ in our art. I shall now consider his argument.

His method is simple. From the representations of Christ in the mosaics of the older churches of Rome he selects five which conform most nearly to his ideal. He carries these five mosaics into the Roman catacombs and selects there six or seven frescoes which, in his judgment, somewhat resemble them, and four gildings on glass which also, in his judgment, somewhat resemble them. The evidences which he assembles in this manner he seeks to corroborate in a chapter entitled "Division of the Churches," and in another entitled "A Cloud of Witnesses." Finally, he brings the five mosaics down into later times and shows without difficulty that they, or other representations like them, have influenced many of the great artists of Christian history.

The influence of these mosaics on the later pictures of Christ I admit at once; but it has no bearing on the subject before us. The decision must turn on the relation of these mosaics, not to the later, but to the earlier representations. Do they set forth a tradition in art which can be traced back through an unbroken line to the apostolic age? That is the only question with which we are concerned.

Excluding now the later representations, which have nothing to do with the matter, the witnesses summoned by Sir Wyke Bayliss fall into the following groups: first, the five Roman mosaics; secondly, certain frescoes of the Roman catacombs; thirdly, certain fragments of gilded glass from the same catacombs; fourthly, the collateral evidence offered in the chapter entitled "Division of the Churches;" and fifthly, the collateral evidence offered in the chapter entitled "A Cloud of Witnesses."

This brief summary of the evidence brings before us the first difficulty suggested by the argument, which is the narrowness of its induction. In the chapter entitled "Division of the Churches" the author endeavors to gain the support of the eastern church; but, as we shall see, he does not succeed; and his evidence, such as it is, he gathers in Rome alone. But there are other places that have something to say and

that should be questioned. Moreover, the examples cited from Rome are a few selected out of scores not permitted to speak. If I should proceed in this way, I could easily prove that we have the likeness of Mary, of Judas, or of John. Making a discriminating choice, I could show a distinct type for each of these characters. Indeed, art is more uniform in its representations of Judas and John than in its representations of Christ, though no one supposes that it gives us their portraits. Or, to put my case in still another way: if I were permitted to cull out ten or fifteen instances from the mass, I could show that Christ had short hair and a beardless round face; or I could show that he had long hair and a beardless round face; or, again, I could show that he had short hair and a bearded face. In any of these three groups of evidence, moreover, the representations would agree in setting forth a distinct type of features and of expression. But the procedure would be wrong, for the conclusion would be based upon a narrow induction, excluding many of the facts which ought to affect it.

FIG. 1

But if the induction of Sir Wyke Bayliss were sufficiently broad, it would not lead to his conclusion, as I shall now show by examining the five groups of witnesses in the order in which I have already brought them before the reader.

I. It is apparent that it will be advantageous for Sir Wyke to give his mosaics and frescoes and glass fragments as early dates as possible. This he does; and first with his five mosaics.

He tells us that one of these is from the sixth century; that two are still later; and that the remaining two, the earliest of the group, are from the fourth century. Since the group is bound together by a strong family resemblance, its total evidence is carried back thus to the fourth century. It is necessary, therefore, to ask if the two mosaics on which this part of the argument depends are really from the fourth century. One of them is in the so-called Baptistery of Constantine, and the other in St. Paul's without the Walls (Fig. 1).[1] The moment we examine the history of these mosaics critically, we find that both must be as late as the fifth century. The so-called Baptistery of Constantine is no longer attributed to Constantine by historians, but to

[1] This illustration and those on pp. 6, 10, 11, 13, 14, 16, 17, 20, and 21 are reproduced from BAYLISS, *Rex Regum*, by the courteous permission of the publishers, Messrs. George Bell & Sons, London, and The Macmillan Company, New York.

Sixtus III., who was pope from 422 to 440. It is still attributed to Constantine in such guide-books as that of Murray, and a few uncritical writers still repeat the absurd story of the unexampled magnificence with which that emperor is fabled to have decorated the interior, and especially the font. But all recent careful writers deny that he had any connection with the building, except possibly as a collector of columns and other choice materials which were afterward used in its construction. The mosaic of St. Paul's without the Walls was executed by the order of Galla Placidia in 440. She lived till 451.

FIG. 2

I have no doubt that Sir Wyke is sincere in attributing these two mosaics to the fourth century. He is a painter and not an archæologist, and should not be expected to tread without slipping on ground that has sometimes betrayed even the archæologist; yet, as the unintentional error enables him to connect his group of mosaics more easily and more cogently with the material which he finds in the catacombs, it is right for me to show that they are later than he supposes.

Sir Wyke might have produced a mosaic from the latter part of the fourth century if he had desired. I refer to the splendid decoration in the apse of Sta. Pudenziana, which is usually referred by archæologists to the period between 384 and 399. But it was wise to choose later examples, for this is of another type, and what is called the traditional Christ cannot be traced to it, though it has the beard and the hair falling upon the shoulders to which we are accustomed. Of the group selected by Sir Wyke, the Christ of SS. Cosmo and Damiano may be

taken as the best example (Fig. 2). Mr. Walter Lowrie[2] is right in regarding this mosaic as marking a change in the delineations of Christ; he says:

> This work shows the influence upon art of that new race, the Gothic barbarians of the north, which had already become dominant in political affairs. The faces are of a type never found in classic art; they have a certain almost savage forcefulness, which, together with the colossal size of the figures and the statuesque majesty with which they stand out against the dark blue background, produces an effect which cannot readily be forgotten. . . . . The face of Christ presents a type which we have not hitherto seen. . . . . The face is longer and older than usual, and has an expression which is severe without being harsh.

The Christ in Sta. Pudenziana is far younger, less self-conscious, and, though not weak, less forceful. It may be said that the Christ who is beyond mid-life, and severe, and conscious of supreme power, and without love or pity, is never found before the fifth century. It may be said also that this representation, by its very majesty and power, made a profound impression on later artists, and haunted their imagination even when they painted Christ suffering in Gethsemane or on the cross. It is destitute of spirituality and emotion; it is secular, a triumphant emperor rather than a triumphant Savior; and many of them sought to remedy these defects while still preserving at least the framework of the mighty delineations which they admired so greatly.

To sum up this criticism of the mosaics selected by Sir Wyke Bayliss as the starting-point of his argument: They are all as late as the fifth century, and hence are not easily connected with the earlier representations found in the catacombs; and, moreover, they exclude a magnificent mosaic of the fourth century which pictures our Savior in a different spirit and with a different effect.

II. Sir Wyke, having found his type in the mosaics of the early basilicas of Rome, searches for it next among the frescoes of the catacombs. As he erroneously pushes some of his mosaics back to the fourth century, causing them thus to overlap the catacomb period, so he pushes some of his frescoes back to the apostolic period by a process of as doubtful validity. He does this, first, by selecting certain frescoes in which he thinks he finds the features already discovered in the mosaics of the fifth century, and by affirming that two of them, at least, must have been painted by men who had seen the Lord and who intended them to represent his personal appearance. The first of the two has become somewhat famous in the criticism of early Christian art. Mr. Heaphy, in his book *The Likeness of Christ*, claims that he himself copied the fresco, and that his reproduction is faithful to the original. Sir Wyke Bayliss adopts the copy of Mr. Heaphy as accurate, and calls the fresco "the most beautiful," "the divinest and most human," of the representations of Christ in the catacombs.

One difficulty with the argument based on this picture is our inability to find out where the original is. Mr. Heaphy, who tells us that he made his copy from the original, tells us also that the original is in the catacomb of St. Callistus. But

[2] *Monuments of the Early Church*, p. 311.

Northcote and Brownlow,[3] very high authorities, tell us that it cannot be found there, but that it is in the catacomb "of Domatilla, in the same chamber in which there is the representation of Orpheus and his lyre." Their statement was published in 1879. But Sir Wyke Bayliss, writing nineteen years later, places the fresco back in the catacomb of St. Callistus.

Another difficulty arises from the state of the fresco when Mr. Heaphy saw it. His book was not yet published in 1879, when Northcote and Brownlow wrote. They were permitted by his publishers to copy the picture from his manuscript in advance, and they reproduced it in their book before his appeared. They must have studied the original, therefore, soon after Mr. Heaphy copied it, and this is what they say of it: "In our own careful examination of the fresco we entirely failed to gain any clear view of the features; and the Count de St. Laurent, who spared no pains to make his work as perfect as possible, declares that in its present condition it is impossible to distinguish them." It is a question, therefore, whether the picture which Mr. Heaphy presents is an exact copy or largely a reconstruction from his ardent fancy and his skilful hands.

FIG. 3

The question becomes still more urgent when we compare the copy made by Mr. Heaphy with a copy published by Kugler[4] thirty years earlier, when the fresco should have been in a better condition (Figs. 3 and 4).[5] Northcote and Brownlow place them beside each other. The comparison renders it evident that, if Kugler, the

[3] *Roma sotterranea*, Vol. II, p. 218.

[4] *Schools of Painting in Italy*, Part I, p. 15.

[5] The above illustration, and those on pp. 9 and 19, are reproduced from NORTHCOTE AND BROWNLOW, *Roma sotterranea*, by the courteous permission of the publishers, Messrs. Longmans, Green & Co.

earlier copyist, is accurate, Mr. Heaphy is not. The difference is to be observed, not only in a score of minor details, but also in the larger characteristics, about which no copyist can mistake. Kugler gives us a three-quarters face, Mr. Heaphy almost a full face. Kugler gives us a strong, resolute, and somewhat crude man of affairs; Mr. Heaphy, a sweet, sad, patient, and passive saint.

Still further: If Sir Wyke Bayliss, following Mr. Heaphy, has given us an accurate copy, he has cast great doubt upon his argument in doing so, for the type represented by this head of Christ is altogether different from that of the five mosaics. This is mild, sweet, sympathetic, and somewhat irresolute, while that is stern, self-contained, self-satisfied, and mighty in will-power. If this represents the real character of our Lord, that does not. It is true that both types have long hair and a beard; but so have thousands of other pictures representing as many thousands of different individuals.

FIG. 4

That the fresco is from a very early period is maintained by Sir Wyke chiefly on the ground of his own artistic feeling that it is an actual portrait. "I believe it," he says, "to have been the work of a Roman artist, a portrait painter, who had himself seen Christ."

In corroboration of his personal impression that it is extremely early, Sir Wyke reminds us that it has no nimbus. But the absence of this symbol proves nothing whatever. The opinions of the best archaeologists on this subject are summarized thus by Northcote and Brownlow:[6]

> Garrucci considers that in the fifth century Christian artists either used or omitted it indifferently, but that after that time its use became universal. Martigny, a more recent and cautious authority, distinguishes with greater accuracy when he says that it was used for our blessed Lord occasionally before the days of Constantine, and constantly afterwards.

Thus in works produced before the triumph of the church under Constantine the absence of the nimbus is to be expected. But these writers date the universal employment of the nimbus far too early, for it is absent from the head of Christ on

[6] *Roma sotterranea*, Vol. II, p. 190.

the Byzantine coins almost as frequently as it is present, even after the establishment of the Latin power in Constantinople. Nay, as it is absent from the head of Christ in "The Last Judgment" of Michael Angelo, it may be said never to have become universal.

FIG. 5

In fact, no critical archæologist attributes the fresco to a very early period. Northcote and Brownlow[7] tell us that "De Rossi and other competent critics at the present day still assign it to the third century." But Kraus,[8] a Roman Catholic archæologist of world-wide repute, and inclined to make the monuments of the catacombs early rather than late, removes it still farther from the apostolic age. I quote his passage concerning the representations of Christ in the catacombs, and the reader will not fail to observe his tone of uncertainty as to the place where the fresco now under discussion is to be found:

In the catacombs there are several pictures of Christ, portrait-busts, but they can hardly be older than the fifth or sixth century. The best known is the Christ of St. Callistus, as it was once called, but, more properly, of SS. Nereus and Achilleus, or of St. Domatilla.

When I am asked to accept the artistic feeling of Mr. Heaphy and Sir Wyke Bayliss that this fresco is from the apostolic age, rather than the critical judgment of such archæologists as De Rossi and Kraus that it is not earlier than the third century, and may be as late as the fifth or sixth, I must decline.

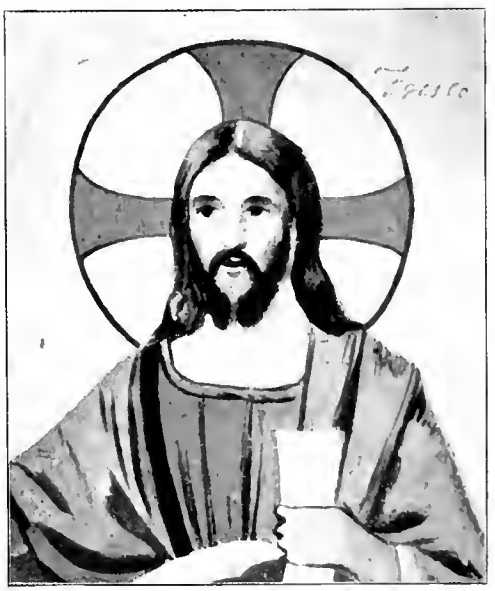

FIG. 6

The other picture (Fig. 5) on which Sir Wyke chiefly depends is but little like the first. He writes of it with much assurance:

[It] cannot be anything else than a portrait. It is from the catacomb of SS. Achilleus and Nereus, and bears the unmistakable marks of portraiture; not portraiture of the highest class, but of such a kind as a Roman artist could accomplish who had himself seen our Lord, and painted either from memory or from an authentic model.

But, if the first was an actual portrait of Christ, this cannot be, for they differ as widely as the poles. Moreover, this fresco differs as widely from the five mosaics. It has

[7] *Ibid.*, Vol. II, p. 217.

[8] *Christliche Kunst*, p. 101.

not even the long hair to bring it into some degree of external accordance with the other representations to which Sir Wyke has appealed. It pictures a soul unlike that of the sweet, sad, and irresolute fresco which we have just studied, and equally unlike that of the cold and mighty mosaics. It sets before us a man of limited attainments and narrow judgment and feeble public influence. Sir Wyke offers us no proof whatever that it is early; we are asked to trust his artistic feeling, and on this ground alone to accept it as designed to represent Christ, and as a portrait by a Roman artist who had seen the living original, and painted "either from memory or from an authentic model."

FIG. 7

A third fresco is presented to us by Sir Wyke as follows:

> [It] was taken from the catacombs, and is now in the library of the Vatican. It is the central figure in a group of Christ and the apostles; and, while the face of our Lord is finished with the utmost care, the faces of the disciples, with the exception of St. Peter and St. John, are extremely slight and characterless. Mr. Heaphy attributes this to the desire on the part of the artist to give special emphasis to the features of the Master; but I believe it to have been because the features of the Master and of the two apostles alone were known to the painter, and that he sketched in the rest, without any authoritative guidance, from his own imagination.

FIG. 8.

That the picture is late, and was painted near the close of the catacomb period, is evident at a glance from the fact that it has the nimbus inclosing a cross (Fig. 6). Now, this is never found in Christian art before the beginning of the fifth century.[1] I need hardly point out the great gulf which separates this commonplace and characterless head from the two examples just considered, and from the regal and strong mosaics.

The fourth picture (Fig. 7) is even poorer and less substantial; and it condemns

[1] NORTHCOTE AND BROWNLOW, Vol. II, p. 189.

itself as a witness so openly and evidently that I shall say but little concerning it. In the circle about the head Sir Wyke sees "distinct references to the Apocalypse," and decides that it "cannot therefore be earlier than the end of the first century." But we have still to ask for proof that it is earlier than the fifth; he gives us none. Its evidential value is so insignificant, however, that its date is of little importance.

The last of these frescoes (Fig. 8) represents a person of still another type. He is aging; the world has bruised and battered him till he has no courage to face it; he was never weighty in character, and now, after much sad experience, as the shadows of evening gather about him, he has no heart for further conflict, but prefers melancholy meditation. This is my reading of the picture.

That it is very early Sir Wyke would prove by the fact that it has no nimbus. I have already shown that this symbol is absent from the head of Christ in the majority of instances before Constantine, and in many instances of a much later time.

But Sir Wyke has still another proof of the very early date. He writes:

> The wall upon which it is painted has been cut through, to the destruction of the picture of which it formed a part, in order to find a place of burial near to a martyr's grave. This could scarcely have been done within the living memory of those who caused the picture to be painted; and yet the hands which destroyed the other figures were careful to leave untouched the face of Christ.

Now, how little this argument is worth is apparent when we consider that there were burials in the catacombs near the supposed tombs of the martyrs as late as the beginning of the fifth century, and that it would be natural for any believing persons to spare the face of Christ in seeking a place to lay their dead. The passion for these burials arose after the peace of the church in 311, and prevailed until there was no longer any unoccupied space near the tombs of the martyrs. The fresco must be earlier than 410, when, as De Rossi has shown, all burials in the catacombs ceased; but this is all that we can know concerning its date.

Such are the frescoes from the catacombs of which Sir Wyke affirms two things: first, that they are of the same essential type with the mosaics of the fifth century; and, secondly, that they carry this type back into the apostolic age and prove that it originated with Roman portrait painters who had seen the original. I have shown in my reply that both these claims are destitute of foundation. The frescoes differ as widely from the mosaics as they would if they had been painted from modern men as sitters. They differ among themselves so widely that Sir Wyke, if they were presented to him for examination with no statement concerning their source, would never suppose them designed to represent one and the same person. But his second claim has been found as illusory as the first. The frescoes do not come from the apostolic age or from artists who had seen the Lord; they are relatively late, and at least one of them is as late as the fifth century.

III. The evidence from the gilded glass found in the catacombs is next in order. I shall permit Northcote and Brownlow to describe these objects:

These glasses are, the greater part of them, evidently the bottoms of drinking cups. Their peculiarity consists in a design having been executed in gold-leaf on the flat bottom of the cup in such a manner as that the figures and letters should be seen from the inside, like the designs on the bottoms of the ale tankards so popular at Oxford and Cambridge. The gold-leaf was then protected by a plate of glass, which was welded by fire so as to form one solid mass with the cup. These cups, like the other articles found in the catacombs, were stuck into the still soft cement of the grave; and the double glass bottom, imbedded in the plaster, has resisted the action of time, while the thinner portion of the cup, exposed to accident and decay by standing out from the plaster, has in almost every instance perished.

The fragments were found outside the graves, stuck into the plaster with which they were closed. It is not certain that the entire cup was always appropriated to this use; it may be that in the majority of instances only the bottoms of vessels already broken were employed. It is probable that the purpose was to mark the grave so that the friends of the person buried in it could identify it in the dim light of the galleries and amidst the multitudes of others closely resembling it. As there was a great variety of devices engraved on the glasses, it would not be difficult for each family group to remember its own.

FIG. 9

Garrucci gives accurate drawings of all these precious fragments which are preserved in the museums of Europe, and on his pages we are able to inspect the entire treasure of 340 examples.

Of these Sir Wyke Bayliss selects four which he thinks come to us from the apostolic age and bear the same likeness of Christ presented to us by the mosaics of the fifth century. It is evident, therefore, that the two questions which we discussed when we studied the frescoes of the catacombs occur to us again as we turn to these four glass fragments. Are they from the apostolic age? And do they give us essentially the same representations of Christ with that of the mosaics?

As to the first question, Sir Wyke sets himself against the unanimous decision of archaeologists. De Rossi[10] assigns the glass fragments to the period between the middle of the third century and the beginning of the fourth. This dating is reached by an examination of the dress, the mode of arranging the hair, the orthography, and

[10] NORTHCOTE AND BROWNLOW, Vol. II, p. 301.

other indications. No archæologist with whose writings I am acquainted carries them back to an earlier time.

Sir Wyke Bayliss brings forward once more the argument from the absence of the nimbus. It is not found about the heads of Peter, Paul, and John, on a fragment (Fig. 9) where they are represented together with Damas, a Christian concerning whom nothing is known. As they are in the list of saints, and he is not, they would have been distinguished from him by the possession of the nimbus if the fragment were not very early. "The point is," he writes, "that these likenesses were executed before the three were differentiated from the fourth as saints, when the aureole was for Christ alone." But this symbol was never given as a means of distinguishing the saints from others before the sixth century. The argument of Sir Wyke, therefore, proves only that the fragment is earlier than the sixth century.

FIG. 10

Sir Wyke offers as another reason for an early dating of these four fragments his conviction that the heads of the Christians depicted on them are portraits, and hence must have been executed while the originals which they represent were still alive. He lays special emphasis on the fragment bearing the busts of Peter, Paul, John, and Damas. These heads are so different each from the others, that is, so fully individualized, that they must be portraits. Christ is not represented on this fragment. But on the next one (Fig. 10) we find the same heads of Peter and Paul, together with Christ, and this, therefore, must have been made in the lifetime of Peter and Paul, when it would be easy to procure a description of Christ, and when, in fact, the artist, who was careful to give us portraits of Peter and Paul, would not have been satisfied to give us anything else than a portrait of the Master whom they served.

But now no archæologist believes that we have here or anywhere else actual portraits of apostles made while they were living. There is a strong inclination on the part of some archæologists to accept the early representations of Peter and Paul as reminiscences of their personal appearance, and valid as types, though not as actual portraits.[11] If both were well known to the Christians in Rome, it would be natural that the Roman Christian artists should preserve and transmit some suggestions

[11] Lanciani is a prominent advocate of this opinion.

of their appearance. Yet the question is one of fact, and not of antecedent probability. I am disposed to answer it in the affirmative. But great difficulties attend the affirmative answer. For example, on these very fragments from the catacombs, while Paul is often bald and Peter has a full head of hair, Peter is sometimes bald, while Paul has a full head of hair. Moreover, the individualizing is never so clear and convincing that one is compelled to see in it the evidence of a careful tradition. Certainly it does not amount to portraiture of living subjects. And if we have no actual portraits of the apostle Paul, who was well known to the Roman Christians, we should not expect to find in Rome a portrait of Christ, who lived and died in an obscure and distant province.

Sir Wyke devotes an entire chapter to a glass fragment which represents the miracle at Cana, and which must have been made, he assures us, before the gospel of John was known by the Roman Christians. The record of the miracle is found only in the gospel of John. Here we are told definitely that there were six waterpots. Had this gospel been known in Rome where the glass was gilded, the artist would have given us six waterpots. But, in fact, he gives us seven. He must, therefore, have followed an oral narrative, one detail of which escaped his memory, and he could have done this only before the written gospel of John was known to the Christians of Rome. Sir Wyke thinks that he was led to picture seven waterpots by the symbolic significance of the number seven; and also "that this particular picture was executed before the actual manuscript of St. John's gospel was received by them; otherwise it is inexplicable that the symbolism of seven should have overridden the sacred text." Thus the representation of Christ on this fragment is pushed back into the apostolic age, and is made a valid likeness.

But, unfortunately for the argument, the early Christian artists, in representing the miracle at Cana, paid little attention either to the number of the waterpots stated in the gospel or to "the symbolism of seven." They are sometimes guided by the space at their command, as on the sarcophagi, and often limit the jars to three. But this consideration does not seem always to determine the number, and we have four and five and seven where it would have been as easy to give us six. Nor are these aberrations an indication of a very early period; they are found in the fourth, fifth, and sixth centuries.

Thus much in reference to the early dating of these glass fragments.

We have still to consider the question whether they bring us for substance the same likeness of Christ which we found when we studied the mosaics of the fifth century. Sir Wyke Bayliss would grant at once that they are so small as to render difficult the task of determining the special type of the features. He would grant also that a small head sketched hastily in gold foil for a cheap cup would not represent the accuracy of a miniature wrought by a skilled artist. But these admissions would go far to invalidate the interpretation of these pictures as likenesses.

I do not pause, however, with these assumed admissions. Sir Wyke has given us

copies of the four fragments on which he chiefly depends, and on them all Christ appears with a beard and long hair. But all the other students of them with whose works I am acquainted make them represent Christ with a smooth face and short hair. I refer to Perret,[12] to Roller,[13] and to Garrucci.[14] These men are professional archæologists, and they have no argument to sustain. I accept their reproductions as accurate.

Sir Wyke writes pathetically of a Christian woman named Eutychia, who possessed one of these glass fragments, and on whose breast it was laid when she was buried. The subject of the picture which it bears (Fig. 11) is Christ restoring the fruit of the tree of life. The copy of it which Sir Wyke publishes shows us Christ with a beard and long hair, and a large nimbus raying out, not only from his head, but from his entire body. All the other students of it, however, show us Christ with a smooth face and short hair, and no nimbus. I ask the special attention of my readers to this particular fragment, because the emotion with which Sir Wyke writes about it may take them captive. I do not doubt his sincere intention to give us a faithful copy; but neither do I doubt the sincere intention of the archæologists to give us faithful copies; and, since I must choose, I do not hesitate to accept their testimony in preference to his.

FIG. 11

But, if we should even grant that he is right in giving a beard and long hair to these small representations of Christ, we could not regard them as exhibiting the same type with the mosaics of the fifth century. A beard and long hair do not determine a type in art, else all the pictures ever painted with a beard and long hair would represent but one type. If a picture is so small and so crude that careful students of it differ concerning the question whether the face is bearded or smooth, the hair long or short, and the head encircled by a nimbus or not, it cannot tell us anything about the face which will enable us to assign it to a particular type. And that these pictures are, in fact, too small to give us any testimony of value in this discussion is the uniform verdict of the professional archæologists. We may accept Northcote and Brownlow as good representatives of the class when they say: "The gilded glasses found in the catacombs never give any characteristic figure of Christ, such as could be mistaken for a personal portrait."

IV. In the chapter entitled "Division of the Churches" Sir Wyke Bayliss endeavors to make his induction as broad as possible by affirming that the Latin

[12] *Catacombes de Rome*, Vol. IV.

[13] *Storia dell' arte cristiana.*

[14] *Les catacombes de Rome*, plates facing pp. 213, 222, 226, 235.

church and the Greek church have essentially the same likeness of Christ in their art, the only distinguishing difference being that the likeness preserved in the Greek church has always a slight forelock falling down on the forehead from the central parting of the long hair. All the Christian mosaics in Rome, and many of the later frescoes, were made by artists from Constantinople, trained under the influence of the Greek church. When these artists arrived in Rome they found there a likeness of Christ already accepted as genuine, and they were not allowed to deviate from it by the addition of a forelock. But when Greek artists worked at home, or when they worked in Rome without constraint, they represented Christ with the forelock. But now, when we compare together the Christ of the Latin church without the forelock and the Christ of the Greek church with the forelock, we perceive that they are one and the same Christ, the two being distinguished from each other only by this slight difference. Thus we get the testimony of both the Latin and Greek churches to the one likeness. Sir Wyke gives us an example of each style, and places the two beside each other, that we may understand clearly the essential identity and the unessential difference (Figs. 12 and 13). It will be observed that in this argument he does not depend on the early dating of these examples; he assumes that the existence of the same likeness in the apostolic age has been sufficiently proved elsewhere; and his purpose here is to show that it comes to us both from the West and the East, that the entire Christian world agrees in reference to it, and hence that we may accept it as certainly valid. But —

FIG. 12

FIG. 13

1. I have shown that all the pictures attributed to the apostolic age are late.

2. I have shown that they do not, in any single instance, present the type of features which we find in the mosaics of the fifth century.

3. These mosaics were executed in Rome, and by Byzantine artists. But, if they

give us a new type, as I have shown, then the Byzantine artists who executed them did not work under the constraint of an ideal already established, from which they were forbidden to depart. They did depart from the earlier representations and gave to the world a new type, an ideal of their own.

4. It now remains for me to say that the forelock is not a characteristic of the Byzantine Christ; that it seldom occurs in eastern Christian art; that when it occurs there it is given to other persons as well as to Christ, and hence is a local and temporary fashion applicable to men in general, and not the result of a tradition concerning the manner in which Christ wore his hair; and, finally, that it is found in western art as frequently as in eastern.

That the forelock seldom occurs in eastern Christian art is apparent at once when we look for it among the mosaics of Ravenna, where everything is Byzantine, and where the Greek artists worked not only free from the constraint of Latin ideals, but under the constraint of ideals which prevailed at Constantinople, their home. In these mosaics Christ appears in scores of instances, but never with the forelock. He is depicted in various ways, with long hair and with short hair, with a beard and with a smooth face, as in mid-life and as in youth; but never with the forelock. This feature is almost the only one, amidst the great variety, which never occurred to the Byzantine artists of Ravenna. Still further: We have many coins of the Byzantine empire, running from 395 to 1453. They have been studied and copied by Sabatier,[15] and the reader can easily examine them for himself. Christ is represented on these coins in scores of instances, beginning early and continuing to the very end of the series; for the emperors thought it well to associate their own images, on one side of the coin, with the image of Christ, the King of kings, on the other; yet in no case has he the forelock, though he has long hair or short, and a beard or a smooth face, almost indifferently. Once more: The great mosaic figure of Christ in Sta. Sophia, at Constantinople, has been uncovered and copied, and it has not the forelock. Yet again: In his monumental work on the history of Christian art,[16] Garrucci has given us engravings of all the representations of Christ made in both the East and the West during the first eight hundred years of our era, but he has not found a single example of the forelock in eastern art.

The enormous mass of material to which I have now appealed shows us that the artists of the eastern church, during at least the first five centuries, had no fixed likeness of Christ to which they adhered; and also that during a much longer period they knew nothing of the forelock. When, at length, we get the forelock in eastern art it is given, not only to Christ, but as freely and frequently to John the Baptist and the apostles. Indeed, it is given to Christ and to others in the selfsame picture, showing that it is not regarded as a characteristic of his likeness made known by tradition. And, finally, we get it in the West much earlier than in the East. The first

[15] *Description générale des monnaies byzantines.* The one standard work on the subject.

[16] *Storia dell' arte cristiana.*

example of it known to me is carved on the end of a marble sarcophagus now in the Christian Museum of the Lateran (Fig. 14). It is probably from the fifth century. No one takes it to be of Byzantine origin, for, while the best workers in mosaic were brought from Constantinople, sculptors were still educated at Rome in the poor art which existed there.

V. In the chapter entitled "A Cloud of Witnesses" Sir Wyke Bayliss searches for collateral evidences in support of his argument from the frescoes of the catacombs. Here he presents seven additional engravings, all of them supposed to contain the likeness enshrined in the mosaics of the fifth century, with which he began his investigation, and which therefore must be used as a standard of comparison at every subsequent step.

FIG. 14

Only two of these seven, however, concern us, for five are legendary portraits, of no possible bearing on the discussion. It may be worth while to glance for a moment at these five, that the reader may determine their value for himself. One is a portrait now in the museum of the Vatican and "attributed to St. Luke." Another is a drawing now in the church of Sta. Prassede and "attributed to St. Peter." Three are napkins connected with the legend of St. Veronica, who, it is said, gave her handkerchief to Christ to wipe the sweat from his brow as he was bearing his cross to Calvary, and received it back impressed with a miraculous portrait of the face which it had assuaged. Sir Wyke does not credit the legends connected with these pictures. He produces them to show that the likeness of Christ found in the mosaics is found also everywhere else. No reader who compares them with the mosaics will detect any special resemblance. The mosaics and

these legendary portraits are alike in that both groups delineate the human face, but in little else. Yet, if it would give any pleasure to Sir Wyke, let us admit, with all our hearts, the resemblance which he affirms. These legendary portraits are in no sense early;[17] they sprang up in the darkness of the Middle Ages; and they might very well imitate the much earlier mosaics, though in fact they do not. They have no possible value as evidence.

I turn now to the two pictures which at first may seem worthy of more careful consideration. Sir Wyke writes:

> The first of these is of Greek origin, and was discovered beneath the foundations of the basilica of Sta. Maria in Trastevere in the seventeenth century. In construction it resembles a cloisonné enamel: the outlines being of slender ridges of metal, and the interstices filled with a vitreous composition exceedingly beautiful in color.

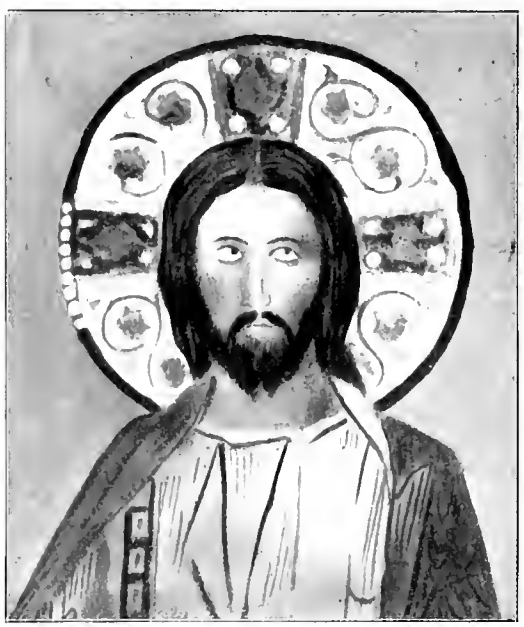

FIG. 15

The same two things which I have said about the frescoes and glass fragments from the catacombs must be repeated here. The picture (Fig. 15) does not resemble the mosaics, and it is not early. As to the first point, it is evident at a glance, and far more evident after prolonged consideration, that the regal mosaics are as different from this poor, thin, and characterless being as was the lordly land of Canaan, flowing with milk and honey, from the desert of the wanderings. But, were it a member of the same family group with them, it could give no testimony, for it has the nimbus in which the cross is inclosed; and, as we have already seen, this is never found in art before the beginning of the fifth century.[18]

The second (Fig. 16) of these two pictures is a profile from the catacombs. Here again only a truly creative imagination can discover any special resemblance to the mosaics of the fifth century, the standard of comparison. In the thin hair, the thin and stringy beard, the thin moustache cut away from the lip, and the thin face and brow, we see the exact antithesis of the King of kings and Lord of lords delineated in them. The face is that of a man, but the expression is that of a sheep. Nor is this picture early. Sir Wyke calls it a mosaic, but it is a painting in imitation of mosaic, and it cannot have been executed before mosaic became sufficiently popular in Rome to lead

[17] They are discussed fully by DOBSCHÜTZ in his "Christusbilder," Vol. III of the *Texte und Untersuchungen*, New Series.

[18] NORTHCOTE AND BROWNLOW, Vol. II, p. 189.

to such imitations in painting. Now there is some mosaic in the catacombs, but it is so infrequent and so crude as scarcely to merit notice from the great writers who have studied them most carefully; and it is all late. The Christians made little or no use of the mosaic art before Constantine endowed the church with the riches of the empire, for it is a costly luxury. Lowrie[19] copies a portrait-mosaic of the first half of the fourth century as the earliest of its kind discovered in the catacombs, and says that "earlier mosaics, employed for simple decorative patterns, are found" there. The portrait-mosaic copied by him is rude, showing that it belongs to the beginning of the art. The mosaic which this picture imitates was far finer in structure, and hence of a later period. It does not strengthen the argument in any way, for it is of a type alien from the great mosaics of the fifth century, and is itself as late as the fourth.

I have now done with the argument of Sir Wyke Bayliss. I have not proved that the likeness of Christ does not exist. Nor have I proved that it can never be recovered and identified. I have only proved that the testimony of early Christian art, in so far as we have as yet been able to secure it, agrees with that of early Christian literature in answering our question in the negative.

[19] *Monuments of the Early Church*, pp. 292 ff.

FIG. 16

PRACTICAL SOCIOLOGY IN THE SERVICE OF SOCIAL ETHICS

PRACTICAL SOCIOLOGY IN THE SERVICE OF SOCIAL ETHICS

CHARLES RICHMOND HENDERSON

IN a Stanton street tenement Jacob A. Riis[1] found a Polish capmaker's home. "The rooms were in the rear, gloomy with the twilight of the tenement, although the day was sunny without. . . . . A little boy stood by the window, flattening his nose against the pane and gazing wistfully up among the chimney-pots where a piece of blue sky about as big as the kitchen could be made out." Once every summer, for a little while, the sun came over the houses, and its rays shone into one room. The mother never was well; the baby had a grave white face. "The capmaker's case is the case of the nineteenth century, of civilization, against the metropolis of America."

Similar conditions from similar causes produce the same effects in all the industrial centers of the world. Modesty, self-respect, sympathy with social order, faith in a moral order, break down in these gloomy prisons. Individual efforts are so inadequate that they drive men back to apathy or desperation. Individualism is a mockery: for we have a social question, a community duty. Physical energy is sapped, and the coming generation start life as weaklings, parasites, or rebels. The conscience of the modern world is awakened. Organized philanthropy and governments have begun to accept a moral responsibility. Certain general plans of associated and legal action have been agreed upon. In the more advanced communities on both sides of the Atlantic a system of operation which embodies the results of studies and experiments to date, and which provides in itself for further experiment and improvement, has been organized.

In this typical movement one may discern the outlines of a chapter in practical sociology; the co-ordination of data from many scientific disciplines; the recognition of a social obligation which includes not only the duty of acting, but also of acting in the best way, with the light of science.

In order to make clear from the beginning the position occupied by the present writer, it may be said: (1) that the problems here discussed are, in his opinion, essentially ethical in their nature; (2) that it seems to be a matter of indifference whether they are investigated under the name of "social ethics" or of "practical sociology," so the investigation is genuinely scientific; (3) at present it seems necessary, in order to guarantee an academic position for these investigations, that in most higher institutions a department of sociology should be charged with the task, with such division of labor between political and economic science as seems locally necessary. The arrangement is chiefly one of convenience, and other divisions of labor might accomplish good results.

[1] *A Ten Years' War*, p. 30.

The main point which we here seek to make more clear is that one of the largest and most important fields of social science at present is neglected, and denied a place as a *scientific* discipline, even when its supreme importance is recognized.

THE TRADITIONAL METHOD

Ethical science,[2] as commonly treated, has attempted to deal with two aspects of the moral life: with personal qualities of character and with social conduct; with what ought to be in a man's inmost nature and choice, and with what we ought to do in our social relations. While it is impossible to separate these factors, we have here to deal chiefly with conduct in communities; and particularly with the problem of the scientific and academic treatment of this discipline. For if those studies which most directly interest men have no academic standing, it is a grave question whether the university or society will suffer more from the divorce.

Most men never ask themselves the reasons for the claims of duty, nor do they cite before the bar of critical judgment the customs of society. Upon reflection and after analysis we discover that we have, usually quite early in life, accepted certain conventional standards by which we approve or condemn modes of action in relation to our fellow-men. Social beliefs about duties are "in the air," and float to us upon the winds of tradition. Conduct is socially controlled by appeals to hope, fear, and sympathy. Only in an advanced stage of culture and maturity are these expressions of social desires taken up for deliberate criticism. Genuine discussion of the reasons for morality is not even tolerated until the scientific and philosophic spirit is developed. The impulsive anti-socials do not argue; they simply defy public opinion and attempt to outwit the agents of police control. Ostracism or the shotgun takes the place of real discussion in remote regions where belated economic, ecclesiastical, and political doctrines are dominant.

Morality and religion seem to have sprung from independent origins, yet finally religious beliefs become sanctions of moral creeds. Then sacred texts are treated as primary sources of law. But as these revered texts were written under very different social conditions, they can be used only in the most general way, and the attempt to find in them rules for guiding modern life is abandoned. "Cursed be Canaan" and the story of Onesimus are no longer brought forward as arguments for slavery; while the law of divorce in the Priests' Code has become antiquated. Religion remains the sublime background of conscience and supports man in doing the best he knows or can find out.

Fortunately this inherited and traditional morality works, on the whole, for good. It is itself a result of trial and struggle of competing forms, and the unfit have perished, while the nobler forms, not without scars, have survived in honor. The structural changes in society are made slowly, and there is time for new adjustments and interpretations. The history of the ecclesiastical doctrine of "usury" illustrates the

[2] This article is intended to carry into further detail a line of thought started in my article on the "Scope of Social Technology," *American Journal of Sociology*, Vol. IX (1901), p. 470.

process. So long as the scientific resources of society were scanty there was no other way of directing conduct. The elementary impulses of hunger and love, guided by the reins of instinctive morality, pushed the race forward.

Philosophy has long been at work to find a basis in reason for our instinctive and traditional morality, and to show the unity of our moral life in a universal order. Philosophical ethics has formulated a doctrine of ends which serves as a criterion, a touchstone of nature and of deed.

Psychology, in its analysis of the phenomena of spirit, has laid bare the moral dispositions, virtues, and graces; and it is still difficult to improve the categories of Aristotle. Mr. J. N. Larned concludes the introductory essay to his anthology of classic counsels on the conduct of life with these words: "I end it with a deepened conviction that the knowledge of good and evil has been complete in the world from the beginning of history, and that mankind has had nothing to learn since but the application of it." "Nothing but the application of it!" As if this were easy enough. It is precisely here that a catalogue of virtues shows its deficiencies, and, when fording is deepest, we are left without a bridge. As soon as we pass from these general and undisputed facts of the inner moral life, which are so clear to any youth that a multitude of words simply darkens the air with dust, and begin to deal with complex social conditions as responsible adults, the guidance of instinct, tradition, custom, and law is obviously at fault. Tact and common-sense are still indispensable; worthy aspirations of justice and mercy never become antiquated; but in modern conditions an instrument of precision is required, a science of conduct.

In an age which takes nothing for granted, where criticism discovers to light the deepest stones of the foundations of law, government, property, and marriage, the appeal to tradition and common-sense begs the question. We have, in a higher degree than in simple agricultural society, need of a scientific support of morality; a defense of what is still vital, a critical rejection of what is obsolete and obstructive, and an adequate reason in the facts of contemporary life for social claims on the individual. Kant may have been right in affirming that there is nothing absolutely good but a good will; but even a good will is mere blind impulse unless it is instructed by a knowledge of the situation in which it is to act.

OBJECTIONS TO THESIS

Many shrink from the task of applying the vague and abstract principles of moral philosophy to actual life, on the ground that it is too difficult, if not impracticable.[3]

In response to the current objections, on the part of many ethical writers even, to the effort to apply science to the manifold relations of society, we may, on behalf of practical sociology, enter a plea for a new hearing of the case.

1. The psychologists and ethical philosophers have a perfect right to define the limits of their own investigations. Perhaps a new division of labor at this line may finally be accepted as most fruitful, and a "pure science" of ethics may be given the field of

[3] HERRMANN, *Ethik*, 1st ed., pp. 160, 161; 2d ed., pp. 164, 165.

the conventional and traditional treatises. Certainly here is a noble subject worthy of the devotion of highest powers and difficult enough to put genius itself to severest strain.

2. It is easy to admit, for it is true, that many of the attempts of ethical writers to discuss special social problems of duty have been superficial and unsatisfactory. The failure may be due to the false method of deduction of specific duties from assumed premises, or to ignorance of the subject, or to brevity of treatment, or to any other cause. But in all this no rational ground is given for abandoning the systematic effort to discover guiding principles for the conduct of life in affairs where error means misery, degradation, and death. Remember the cap-maker's baby, with its "grave white face."

3. Nor will the attempt to escape from this supreme task of social science by referring us to the "economists" and "political philosophers" give men adequate relief. It has come to pass in the academic world that a perplexed citizen, honestly asking to know his duty, is treated like a foreigner whose child is sick with scarlet fever or diphtheria; no hospital will receive him in a certain city, because no specific provision is made for his class of cases. In social science we need something corresponding to the clearing-house of the bankers and charity organization society of modern philanthropy. Constructive talent is not a monopoly of universities. The position has become intolerable, and, since the regular practitioners refuse their counsels, there arise quacks who advertise their social nostrums and win a hearing. Economics, as the science of "wealth," does not and cannot make itself a science of "welfare," for in welfare wealth is only one factor, never the highest, and not always decisive. Political science, as the science of government, policies, laws, and administration, comes too late; for government can do only what the people have already concluded is duty, and only a part of that.[4]

[4] Standard of economical welfare, of the wealth interest of a community: "Wer dieses wirthschaftspolitische Wirken verfolgen will muss einen Massstab für das Handeln der Menschen gewinnen. Ein solcher setzt ein einheitliches Ziel der Wirthschaftspolitik oder, da wir als solches früher die allgemeine Wohlfahrt bezeichnet haben, eine nähere Bestimmung dieser voraus. Soweit sie im Bereich des Wirthschaftlichen gelegen ist, kann sie nur bedeuten; reichlichste, mannigfältigste und nachhältigste Güterversorgung für Alle mit dem geringst möglichen Aufwand an Arbeitsmühe."—E. VON PHILIPPOVICH, *Grundriss der politischen Oekonomie*, Band II, Theil 1, 1899.

Philippovich has distinctly noted the fact that economic science deals with only one element in welfare, and as distinctly opens up a field which is precisely what we are seeking to cultivate under the name of "practical sociology." Discussing the "social question," he says: "In allen auf die Lage der Arbeiter Bezughabenden Massnahmen kommen nicht bloss wirthschaftliche, sondern auch ethische Gesichtspunkte in Betracht. Die Arbeiter bilden den grössten Theil der ganzen Gesellschaft. Ihre Trennung von den übrigen Gliedern der Gesellschaft durch eine Beschränkung ihrer Lebenshaltung hat eine geistige und sittliche Trennung zur Folge und damit eine Spaltung der Nation, die auf die Dauer nicht ohne die verderblichsten Folgen für die Gesammtheit bleiben kann. Die den Arbeitern gegenüber einzuschlagende Politik kann daher niemals bloss Wirthschaftspolitik sein; sie ist vielmehr stets auch Gesellschaftspolitik, d. h. sie sucht die Einheit der Gesellschaft zu erhalten gegenüber den durch die Unterschiede in der wirthschaftlichen Stellung begründeten Verschiedenheiten der Bildung und des Kulturgenusses und der darauf beruhenden Trennung der Klassen. Darum hat man diesen Theil der Wirthschaftspolitik auch mit dem besonderen Namen der Sozialpolitik bezeichnet. Aehnliche Aufgaben treten allerdings auch auf anderen Gebieten der Gesellschaft auf. Die Sozialpolitik ist daher nicht auf die Arbeiterfrage beschränkt; allein sie findet hier ihr grösstes und wichtigstes Anwendungsgebiet."—*Ibid.*, p. 143. Bd. II.

But even this passage is not an adequate statement of the case; for the "moral" causes of economic conduct are here driven into the shadowy background of subordinate interests; and the ultimate and supreme interests are belittled by identifying "social politics" with a certain branch of economics. The "social question" is made to stand with its head in the dust, and the economic factor is projected, like an object in the foreground of the camera's focus, and made to appear identical with all social welfare. Never will practical social philosophy come to its rights so long as it is treated as an adjunct of political economy. Von Philippovich had already shown that "social politics" cannot be limited to political science, as the science of government (Vorwort, p. iii; pp. 8, 22). To von Philippovich we owe a powerful and conclusive argument for giving to "practical politics" a place in scientific discussion. In his treatment the dread of invading the field of social "art" does not disturb the investigation of methods of applying our knowledge directly to the improvement of man's estate.

4. It is frequently and rightly asserted that a system of casuistry, ready with prescriptions for the innumerable cases of conscience, is impossible. If a science of social conduct must be identical with an encyclopædia of casuistry for the confessional, the ambition to construct it were the climax of folly. Whatever wise physicians and clergymen may do, social science cannot furnish their recipes. We must deal with laws, not with cases; with principles of conduct in abiding relations.

5. We must protest against any writ of injunction, issued in haste to prejudice our cause, and to forestall any attempt to construct a science of conduct, on the ground that such an attempt is immoral. Says a strong and profound writer:

> The attempt to develop the moral duties for every class and calling must not only remain superficial, but must even be in antagonism to the proper task of ethics. Since what in every class and calling is morally obligatory can be measured only by those who themselves take part in the contest and trial, ethical science should make clear to men without evasion, what they fain would conceal from themselves, that every man must find in his own plane what is morally binding on him.[5]

It is admitted that the members of a profession are in the best position to formulate their duties to each other and to the public, so far as technical knowledge is concerned. The medical fraternity has for ages sworn its solemn oath upon a professional ethical code which is not merely venerable with antiquity, but also lofty in sentiment, and it has drawn out a system of regulations which may well serve as a suggestion to other and younger prosessions.

Lawyers have gradually developed a similar code among themselves. Even in the wild tumult of boyish and barbarous excitement on 'change the voice of the Golden Rule is heard and its oracles interpreted.

But it were to miss the whole point of our investigation to accept the prohibition as it stands. It is the language of individualism, and we are in quest of principles of social conduct, not of rules for isolated individuals. Seldom does reform come wholly from within. Men are not all villains;

> "But och mankind is unco weak
> And little to be trusted;
> When self the wavering balance shakes
> 'Tis rarely right adjusted."

The members of a profession always suffer from tribal bias, and, notoriously, as Adam Smith observed of managers of business, they are in a tacit league to depress incomes in other callings. The history of socialism and of trade unions proves that a similar class bias darkens the moral vision of men who are nearest the facts. Society does not dare to trust the common duty and interest to the definition of individuals or classes. The moral duty of the class will never be comprehensively and adequately stated without a public judgment. No Star Chamber edicts hold in the realm of conduct.

The necessity of framing codes of morality for each profession, based on the

[5] HERRMANN, *Ethik*, pp. 160, 161.

public welfare and judged from that standpoint, may be illustrated by the following passage from Bryce's *American Commonwealth*, chap. lxxv, where the author is speaking of certain forms of political corruption:

Perhaps this is only an instance of the tendency in all professions to develop a special code of rules less exacting than those of the community at large. As a profession holds some things to be wrong, because contrary to its etiquette, which are in themselves harmless, so it justifies other things in themselves blamable. In the mercantile world, agents play sad tricks on their principals in the matter of commissions, and their fellow-merchants are astonished when the courts of law compel the ill-gotten gains to be disgorged. At the English universities, everybody who took a Master of Arts degree was, until lately, required to sign the Thirty-nine Articles of the Church of England. Hundreds of men signed who did not believe, and admitted that they did not believe, the dogmas of this formulary; but nobody in Oxford thought the worse of them for a solemn falsehood. We all know what latitude, as regards truth, a "scientific witness," honorable enough in his private life, permits himself in the witness box. Each profession indulges in deviations from the established rule of morals, but takes pains to conceal these deviations from the general public, and continues to talk about itself and its traditions with an air of unsullied virtue.

The revelations of the tax assessors of personal property of an intangible kind, and the authenticated history of franchises in city councils throw light on the grim humor of the proposal to have codes of conduct for directors of corporations drawn up by the directors themselves — just as they draw up bills for the legislatures! If the great public want laws or morals shaped on an unselfish pattern, the public must become competent to make its own drafts of rules or statutes, and impose them on the unwilling.

6. The assumption of some ethical writers, especially from a certain theological standpoint, that if the intention is good the conduct will be right, cannot be sustained, and it is full of dangers. Is it not a proverb that "hell is paved with good intentions"? Doubtless a just man will be less likely to do injury to his fellows than another man of equal intelligence who is crafty and selfish. But social welfare cannot safely be left to ignorance and incompetency, even if these are associated with amiability.

7. The assumption that social ethics has nothing to do with debatable questions is not sound.[6]

It is precisely in the new problems that men of the world ask help, if ever, from the men of science. If ethics as "pure science" declines to soil its white hands by touching reality, its students have no right to complain if some others who work close by their side in full sympathy of aim, but in nearer contact with life perhaps, cultivate a realm which moral science proposes to abdicate. Our agricultural colleges have demonstrated the value of their academic studies to farmers, unterrified by the protests of "pure" chemists that agriculture is an "art" and not a science. The abstract sciences are to applied science what flour is to bread. Technological schools have

[6] Man wird aber doch beklagen müssen, dass dann die Ethik in die Behandlung vielumstrittener wirthschaftlicher Fragen hineingezogen wird, während sie für sich selbst recht schwierige Dinge zu erledigen hat, bei denen ihr die Nationalökonomie nichts helfen kann. — HERMANN, *op. cit.* (1st ed.), p. 175.

reduced the matter of their instruction to a system of knowledge which can be taught and is taught with high value in education, and yet is not "pure" physics. Medical science may be an "art" dependent on anatomy, physiology, and pathology, but yet, full of debatable questions as it is, it is a body of principles which can be learned and taught, is useful for culture, and of untold value to the human race. Social science has become an intellectual and practical necessity just because so many questions of supreme moment and interest went begging at the door of all the "pure" sciences in turn.

8. It is very evident that those who believe sincerely that we neither can construct a genuine science of social conduct, nor even have a moral right to attempt it, will never put heart, patience, and fruitful effort into the pioneer enterprise. The "hands that believe" are the hands that build, especially on the frontier where the forest is dark, enemies many, and success uncertain.

9. The objection is made that a science of social conduct for particular groups is impossible, because no one man has the learning or the intellectual power to master the necessary knowledge. This objection is based on a false conception of the discipline. If it had any logical value it would be valid against any science, as biology, chemistry, botany. All great subjects must be farmed out among specialists as soon as we descend to particular fields. But a common scientific purpose and method may bind all the discoveries together and bring them into a larger synthesis in due time.

Can a whole *community* form a correct judgment of these standards and methods? There is abroad in our country an ill-disguised contempt for democracy which has its basis partly in the facts of failure, and partly also in a misconception of what a democracy should be expected to judge and decide. If an entire community cannot, in any sense, form a judgment of the wisdom and morality of complex systems, then is our national pretension a huge falsehood.

It is true that we do not even profess to be a pure democracy, and that our political organization, having outgrown the town-meeting stage of rural simplicity, is and must be a representative organization. In church, school, and government this is the fact.

But representatives and administrators are still responsible officers, even when the people no longer try to direct matters by referendum or mass-meeting votes; and responsibility could never be enforced if the people were totally incompetent to form a fair and reliable opinion of their conduct. It would be absurd to insist, as all publicists, editors, and moral teachers do, upon community duty and social guilt, if government must be, in reality, a government by a clique. The fact is this that a people can and ought to decide policies and pass judgment upon results; but they cannot carry out, or even understand, the technical details of administration.[7]

A community must trust experts, and its advance in culture and morality is marked by deepening respect for trained service. But this trust is not a blind faith, a stupid superstition. In some respects common workingmen are far better judges of

[7] See S. AND B. WEBB, *Industrial Democracy*, Introduction, p. xvii.

policies and results than either men of science, employers, or administrators. Only the man in the lower stratum can feel how heavy the weight of all above him is. The man who wears the ill-fitting shoe is the only one who can tell exactly, even to the shoemaker, where it pinches. This homely illustration is sufficient to show the essential immorality constantly practiced in most of our fashionable philanthropies and reform clubs, when men disdain to take counsel of the only persons in the city who really know the facts.

The democracy ought to be taken into the confidence of universities on social matters, because the experience of the wage-earning class is part of the phenomenon to be studied; and it is simply unscientific to exclude any part of the evidence. University extension and college settlements are not only desirable as means of expression and instruction; they are quite as necessary to the university itself in its work of research. The academic materials for forming judgments in social science are often about as adequate as a dried herbarium would be for the study of plant physiology.

International law is not an easy subject, and treaties of commerce are not free from intellectual difficulties; yet the entire people must furnish men as soldiers, and money from taxes to support the policy of the government, and statesmen at least make a show of giving to the voters their reasons for war and for tariffs.

PURE AND APPLIED SCIENCES

The dread of giving a place in academic recognition to the despised "bread and butter" studies actually confuses the judgment on the subject before us. That dread is not altogether without reason, when it keeps within the bounds of reason. The votaries of "pure" science should be protected, with all the financial and moral resources of the universities, from distractions in the field of invention and commercial application. Chemistry, physics, biology, and pathology will do their best service to humanity if investigators, in the main, disregard any attempt to make them immediately "useful." The history of the sciences offers cogent proof of the ultimate value of investigations which had for their end nothing but pure truth, law, cause.

But, on the other hand, the claim is here made that this respect should be given to any honest, competent, and thorough attempt to organize out of many related truths a system of knowledge in any field at the point where such knowledge is immediately available for social use. Bigotry is not all on one side. If "practical" people are sometimes unreasonably impatient and contemptuous toward the specialists who must live afar from the popular tumult, the votaries of "pure" science are also sometimes unreasonably impatient toward those who seek to fit the parts of knowledge together as the assembler must the parts of a watch before it can fulfil its purpose, and mark the hour.

Is it not significant and encouraging for our enterprise that one of the most honored and useful branches of science is entitled "the principles and practice of medicine"? This is a true science or department of science, which rests on, but is not identical with, anatomy, physiology, chemistry, pathology, and other "pure" sciences.

One of the treatises which bears this title[8] makes a quotation from Plato's *Gorgias* which is suggestive for our purpose: "And I said of medicine, that this is an art which considers the constitution of the patient, and has *principles of action* and reasons in each case." All competent physicians are distinguished from quacks and charlatans precisely by this fact that they act upon principles and reasons.

There is a practical science of medicine. It is not chemistry, although the chemical effects of drugs must be known. It is not anatomy, although knowledge of anatomy is an essential element. It is not physiology, and yet the functions of the body must be understood. It is not pathology, and yet it is dependent on pathology at every step. Whenever a new discovery in any one of these "pure" sciences is made it compels a measure of readjustment in the practical science of medicine. But the science of medicine is an independent rational achievement, a system of knowledge which combines, for the end of healing, all the factors of the pure sciences which underlie it.

There is also a medical art, a technical and personal skill; so different from science that one may be eminent in knowledge of medical principles, yet unsuccessful in the art. The same remarks can be made of the practical science of surgery.[9]

In the case before us there can be no suspicion of an attempt to introduce a "bread-and-butter" study into a college or university curriculum. On the contrary, it is a discipline which asks for sacrifice and finds its motive in philanthropy. There is no prospect of making a living out of it or of rolling up riches by selling royalties on a copyright. It will not lead up to a lucrative calling, as in the case of the "liberal" professions of medicine, law, theology, and pedagogy.

But a more plausible objection is based on the view that practical social science is not science at all, but only "art." This objection may be examined by a critical analysis of the statements found in J. S. Mill's *Logic*. It may be said in passing that even if it is finally shown that practical sociology is "art" and not "pure science," it may still have a right to a place in a university co-ordinate with technical and professional disciplines.

The distinction between science and art, as applied to society, almost vanishes upon careful analysis. "The application of means to ends is the discovery of means to apply them, or of the method of application, so that the actual muscular movements, the ultimate steps of all in the process, are the only part of art which is not science."[10]

The powerful influence of J. S. Mill is naturally still felt in social science, and, if the contention of this paper is sound, he left the subject in an unsatisfactory position, although he hints at the right method:

> The imperative mood is the characteristic of Art, as distinguished from Science.[11] Whatever speaks in rules or precepts, not in assertions respecting matters of fact, is art: and ethics, or morality, is properly a portion of art corresponding to the sciences of human nature and society:

[8] W. OSLER, *The Principles and Practice of Medicine*, 3d ed.

[9] See some discriminating remarks in BOUCHARD, *Pathologie générale*, Vol. I, p. 48.

[10] S. H. HODGSON, *The Theory of Practice* (1870), Vol. I p. 234.

[11] J. S. MILL, *A System of Logic* (New York, 1851), Book VI, chap. xi, pp. 588 ff.

the remainder consisting of prudence or policy, and the art of education. The Method, therefore, of Ethics, can be no other than that of Art, or Practice, in general. . . . . The reasons of a maxim of policy, or of any other rule of art, can be no other than the theorems of the corresponding science.

The relation in which rules of art stand to doctrines of science may be thus characterized. The art proposes to itself an end to be attained, defines the end, and hands it over to science. The science receives it, considers it as a phenomenon or effect to be studied, and having investigated its causes and conditions, sends it back to Art with a theorem of the combinations of circumstances by which it could be produced. Art then examines these combinations of circumstances and according as any of them are or are not in human power, pronounces the end attainable or not. The only one of the premisses, therefore, which Art supplies, is the original major premiss, which asserts that the attainment of the given end is desirable. Science then lends to Art the proposition (obtained by a series of inductions or of deductions) that the performance of certain actions will attain the end. From these premisses Art concludes that the performance of these actions is desirable, and finding it also practicable, converts the theorem into a rule or precept.

This sharp distinction between science and art seems to break down when we consider that even the "desirable" must be made a matter of knowledge. What is desirable must be implicit in our nature and conditions, and the rational investigation of the desirable is an inquiry after a fact; it is a pursuit of knowledge. There is thus, at the decisive line, no separation between ethics and social science.

There is also a science of education, because there are principles of successful practice derived from experience and formulated as a matter of knowledge.

The art of education is an entirely different matter; it is the technical process of training and skilful action, in accordance with the science of education, and is a quality of persons. The distinction between art and science is valid, but not where it is made by Mill and those who follow him.

A little farther on Mill actually hints at the very discipline for which we are now contending:

And Art in general consists of the truths of Science, arranged in the most convenient order for practice, instead of the order which is the most convenient for thought. . . . . Art . . . . brings together from parts of the field of science most remote from one another, the truths relating to the production of the different and heterogeneous conditions necessary to each effect which the exigencies of practical life require to be produced.

Now, this rational process is precisely what we are coming to call "practical social science" as distinguished, not from "social art," but from "theoretical social science."[12]

That Mill was almost in sight of this field may be shown, not only by his (unabridged) work on *Political Economy*, but also by some of the concluding sentences of his *Logic*, in which he carries us back to Comte:

On this natural difference between the order of the propositions of Science and Art (science following one cause to its various effects, while art traces an effect to its multiplied and diversified causes and conditions), a principle may be granted, which has been suggested with his usual sagacity, but not dwelt upon or accompanied with the necessary explanations, by M.

[12] This distinction, made by many German economists, has been discussed in my article, already referred to, *American Journal of Sociology*, January, 1901, and some references to the economists are there cited.

Comte. It is, that there ought to be a set of intermediate scientific truths, derived from the higher generalities of science, and destined to serve as the generalia or first principles of the various arts.

And Mill's closing sentence opens a vista which encourages those who are undertaking the lofty and difficult task of developing this "set of intermediate scientific truths":

For the realization of the important results, of which it has been thus indirectly attempted to facilitate the attainment, mankind must ever be principally indebted to the genius and industry of ethical and sociological philosophers, whether of the present or of future times.[13]

The academic horror of cultivating "applied science" is responsible for the neglect of a very important field of investigation on the part of those who have the best training and fitness for it, and could, by nearer touch with actual life, make contributions to the theory of social life.

Thus it comes about that we have magazines and books full of descriptions of local experiments of all sorts, often very realistic and artistic, and rendering isolated facts with photographic fidelity. But as photography is not free art, so are these patches of concrete description not science.

When men of scientific habits and training begin, in greater numbers, to turn their attention to this field, with the concentration and devotion which most have given to classification, description, and explanation (theory), then we shall begin to see the outlines of a system of knowledge which may be called "social politics" in the Aristotelian sense, or "social technology," a "set of intermediate scientific truths."

Descriptions of local trade unions, co-operative stores, settlements, orphanages and industrial schools are purely artistic products. It is only when a law, some common tendency to produce a definite social result, and promote a social end, is sought, that we have a truly scientific investigation; and when this law is found we have a scientific discovery.

The cultivators of a "pure science" have justly complained that the world has no moral right to expect from them directions for making their theoretical studies "useful," save as all extension of human knowledge meets a rational desire. But they have no right, in turn, to drive others from the academic field with contempt. At this hour there is a distinct evil from which both science and humanity are suffering. "There is glory enough to go around," and there is work enough for all honest and competent investigators.

The question of academic division of labor here discussed is not one of exclusion: the place of the investigator of law and cause is now securely won and held in honor by all whose opinions are worth attention, while with Philistinism genuine scholars unite to carry on uncompromising war.

Nor is it one of technical and professional training for particular callings: the universities of Germany, the land of ideal devotion to pure science, have decided that point and admitted the professional schools.

[13] Comte himself begins his work on sociology with a strong plea for speculative and pure science; but he plunges at once into one of the central problems of social technology when he argues that order and progress depend less on changes in institutions than on modifications of the thinking and beliefs of men. *Cours de Philosophie Positive*, t. 4, pp. 5, 78, 90, 91.

But between these two fields of academic service lies that vast scientific task for which we here claim full academic rank: the rational and systematic organization of that present knowledge which is required by society as the basis for all its particular customs, laws, and concerted actions—that knowledge which jurisprudence, for example, presupposes. It almost seems, from the curriculum of instruction and from most programs of investigation that many scholars have the notion either that this task was unimportant or that it would in some magical way get itself done without university co-operation. No doubt much useful work in social science will be done outside universities. Mr. Spencer and Mr. Huxley thought the English institutions of learning were not helpful in adding to the splendid achievements of the sciences of inorganic and organic nature. But it is not pleasant to look back over the history of the use of rich endowments at Cambridge and Oxford and think of the opportunities they missed, of the intellectual parasitism which they tolerated, and of the personal waste of life which resulted from their occasional, even frequent, failure to aid the world's honest struggle to find its way. Is there at this hour some danger that some of those who remember with justifiable bitterness the battle they have been compelled to wage against the so-called "practical" men of the shop and market, may themselves become Puritans and Pharisees, with a tinge of the fanaticism which clings to those who are conscious of having won in a worthy cause? It is often in the attempt to construct a workable intellectual system in social thinking that we come upon gaps in knowledge which start new problems for the specialists in the "pure" sciences.

Of course the only way to prove that a scientific method may be found for practical social science is to show results in dealing with special problems and in constructing practical systems for conduct. For this reason some illustrations will be offered in evidence and reference will be made to achievements.

The instinct of the common man of affairs is not altogether false and irrational when he demands help from the academic world. Each particular department may send him on to the next, on the plea that his question cannot be answered in that special room; but the university as a whole cannot cast out the supreme problems of living men, and refuse even to consider the matters which, to most of our supporters, are the only subjects in which they have daily interest.

It is indeed noble to pursue truth for its own sake, reckless of consequences, or, rather, in the sublime faith that the consequences of all truth must always be good; but it is also a task, worthy of the best powers of the strongest men of social science, to help bring order and system into the conflicting experiences of men who are too deeply in the smoke and roar of the market place to discover the plan of the battle.[14]

Nor is it a valid objection to this enterprise that it is premature; that we must wait until theoretical science is further advanced before we seek to formulate a science of practice. We must at any stage of science act, and act upon such light as we can get. Theoretical science will never be complete.

With such light as they have men must and will seek to satisfy the cravings of

[14] RATZENHOFER, *Ethik*, pp. 275, 276.

hunger and love, to enjoy the works of artists and historians, to produce and consume the material objects which minister to their animal and spiritual wants, and to organize themselves socially for the most effective co-operation in furthering common aims. At a given hour the sum of human knowledge, of natural and social science, is what it is, and has a certain value in the explanation and interpretation of the life process, in the revelation of tendencies, laws, sequences, causes. At that given hour the regulative principles drawn up for the guidance of social conduct can be only such as are deduced from the explanatory science and the common knowledge of that hour.

The duty of a city in respect to its sanitation, for example, cannot be formulated beyond the information given by the sciences of bacteriology, chemistry, and physiology. No system of conduct relating to a school system can surpass the psychology and educational science of the hour. No regulations of conduct by political and legal agencies can be wiser than the descriptive and explanatory sciences which deal with those fields.

But the contention here is that at every stage of social progress the regulation of conduct, on the basis of ever-growing knowledge, is a necessity. If it is a proper object of social science to discover causes and tendencies (empirical "laws"), it is also a proper object of science to formulate, so far as possible in the existing state of science, the conduct which most perfectly corresponds with the known conditions of welfare.

In some way men will formulate these regulative norms of social conduct and act upon them, and they cannot wait for the time when uncertainty and ignorance shall finally disappear. This formulation of principles of conduct is an intellectual process, and it would seem that it can be helped most by those who have such knowledge as we at present have of the nature and strength of the social causes which are the subject-matter of descriptive and explanatory science. As a matter of fact, most of those who profess to attempt nothing but pure explanation or statement of an order pass instinctively, often unconsciously, over into the field of recommendation, advice, and mental construction of a system of conduct. Comte is always doing this, and illustrations from living writers could be adduced in profusion. There is a logic in life itself, and in our moral nature which bears us on over the artificial lines of division of scientific labor into the field of conduct. This logical impulse is implied in descriptive and explanatory science. The discovery of a sequence of causes implies a new social interest and obligation which must transform our ethical rules, our laws, our judicial interpretation, from end to end. Leibnitz, Liebig, and Kekulé may be greater men than Edison or Carnegie or Gladstone. It is difficult to form a scale for measuring the relative worth of the benefactors of mankind, and the attempt would be waste of energy. But certain it is that when a chemist or physicist enlarges our knowledge of atoms, molecules, and modes of motion, the very structure and conduct of civilized communities must undergo a corresponding readjustment. But this readjustment, so far as it is not blind and unconscious, and is the result of foresight and plan, is the work of social science, not of chemistry or physics. Chemical discoveries revolutionized the utilization of waste in dye-stuffs, slaughter of animals for food, coal mining and refining petroleum, as well as modes of transportation and manufacture. But in order that

the material and spiritual advantages of these discoveries may be equitably apportioned among men, some sort of a practical social ethics and politics must be built up by an intellectual process as truly scientific, and also as painful and costly as that which led to the discovery of aniline dyes or the explanations of rent in theoretical economics.

It has been suggested in some quarters that the science which most properly may undertake this task of formulating principles for social conduct is history. It has been claimed that if we can set before us, in complete description, the stages of development of the soul of mankind, we shall posses the outlines of a science of guidance.[15]

That history has a high function to perform on behalf of social science is gladly acknowledged; but history tells us of the past, while practical sociology has to do with the present and, perhaps mainly, with the future.[16] History supplies material for theory, and theory furnishes an analysis of the ends and forces which practical science studies with reference to conduct.[17] In moral conduct as in economics there must be disciplines, both theoretical and practical, separate from history, before an organized system of thinking can be constructed and made available for intellectual and practical control. In no science is the history of its development a full statement of its contents.

Within these limits we may gladly accept the conclusion of Professor Dewey:

> In analogy with the results flowing in physical sciences from intellectual control, we have every reason to suppose that the successful execution of this mode of approach [*i. e.*, the genetic and historical] would yield also fruit in practical control; that is, knowledge of means by which individual and corporate conduct might be modified in desirable directions. If we get knowledge of a process of generation, we get knowledge of how to proceed in getting a desired result.[18]

HELP IS NEEDED AND DEMANDED

Passing from consideration of objections to positive affirmation, we may note the fact that competent men have forcibly urged the plea we are now presenting. In general terms, Professor John Dewey has stated the argument which we are seeking to carry into special fields: "A moral law . . . . is the principle of action which, acted upon, will meet the needs of the existing situation as respects the wants, powers, and circumstances of the individuals concerned."[19] It is evident that this "principle of action" cannot be clearly discerned and rationally vindicated without social science. Popular feeling and instinct has value, but is not a substitute for critical science in any field. It is true that men can see without microscopes, and for ordinary work it would be difficult to use high-power lenses, whether for ploughing or navigation. Men can see many stars without telescopes, but more with the aid of the finest instruments. Farmers can know much of plants and animals without biology, but not the world revealed by

[15] Thus LAMPRECHT, *Zur jüngsten deutschen Vergangenheit*, Bd. I, p. 462: "Nietzsche hatte recht, wenn er einmal meinte, der heutige Umfang der Menschenkenntniss müsse zusammenfassende Anschauungen über den Entwickelungsprozess der Nationen gestatten und aus ihnen heraus auch die Entfaltung einer angewandten Wissenschaft der Nationalpolitik nach Massgabe der grössten und universalsten, der dauernsten und am meisten weltgeschichtlichen, der kulturellen Bedürfnisse der Nationen, etc."

[16] B. KIDD, *Modern Civilization*, has this for his thesis, that the burden of our practical interest lies in the future.

[17] "Weshalb sich die historischen Gebiete dem gegenüber auf ein rein theoretisches Verhalten beschränken müssen ist einleuchtend. Das menschliche Handeln gehört direct nur der Gegenwart an, erst indirect, durch die zu erwartenden Folgen, der Zukunft; die Vergangenheit aber bleibt immer nur ein Object theoretisch reflectierender Betrachtung."—W. WUNDT, *Logik*, Vol. II (1895), p. 628.

[18] J. DEWEY, "The Evolutionary Method as Applied to Morality," *Philosophical Review*, Vol. XI, No. 2, March, 1902, p. 124.

[19] J. DEWEY, *Outlines of Ethics* (ed. 1891), p. 177.

modern science. Those who think social science superfluous in ethics are just as far right as those who affirm that the world would somehow get on without chemistry, railroads, and the telegraph.

In Professor Dewey's illustration[20] of the conductor who determines his duty by thinking out all his relations and the facts of the situation, there seems to be one defect. No man can see all the facts of any situation with his own eyes. The whole fact for the intelligence is the whole science of economics, or rather of social politics. It is the race experience and race knowledge which should be decisive, not merely a survey of a given situation with unaided individual vision.[21]

Professor G. H. Mead[22] has touched our present problem very suggestively and recognized in principle the need of such a scientific discipline as is here urged. Possibly he leaves on the mind the impression that we can do no better than to judge of situations one at a time, "from case to case." But in practical social science we consider that system of things in which each case finds its place in an order. When he argues that we must constantly reconstruct our "world" we may take the word in its largest meaning, for the "world" in which we must place our new knowledge is the entire social order of the people among whom the problem arises.

Professor Simmel[23] has cultivated both fields, ethics and sociology, with distinguished

[20] *Op. cit.*, p. 178.

[21] On p. 179 Professor Dewey, who seems to have had much of the present argument in mind, follows his colleagues in handing the inquiry on to other disciplines: "The consideration of specific institutions, as the family, industrial society, civil society, the nation, etc., with their respective rights and laws, belongs rather to political philosophy than to the general theory of ethics."

[22] "The Working Hypothesis in Social Reform," *American Journal of Sociology*, November, 1899.

[23] "Von allen Wissenschaften befindet sich allein die Ethik noch in diesem niedrigen Zustand der Undifferenzierheit zwischen Theorie und Praxis, nachdem selbst die Theologie sich davon frei gemacht und die Medizin in dieser Sonderung schon soweit gegangen war, dass man schliesslich energisch betonen musste, ihr Endzweck liege doch nicht in der Diagnose, sondern in der Therapie."— G. SIMMEL, *Einleitung in die Moralwissenschaft*, Vol. II, p. 410.

"Er fordert aber nun andererseits, dass die Moralwissenschaft zu der Beschreibung der wirklichen Vorgänge des sittlichen Lebens vorschreite, wie Geschichte und Statistik, Sprach- und Rechtsvergleichung, empirische Psychologie und Besitzlehre sie allmählich ermöglichen werden. Es wurde kürzlich eine Enquête in einigen deutschen Städten angestellt, um den Einfluss der Beschäftigung der Schulkinder mit Kegelaufstellen, Hausiren, Austrägereien, u. s. w. auf ihr Verhalten in der Schule und ihre Fortschritte zu ermitteln; obgleich die Resultate sehr unerfreulich waren, haben die kommunalen Organe, die die Enquête veranlassten, von einem generellen Verbot dieser Kinderbeschäftigungen abgesehen, um den Erwerb der betr. Familien nicht zu sehr zu schädigen. Dass die genaue Darstellung einer solchen Enquête und ihres Schicksals einen tieferen wissenschaftlichen Einblick in das Verhältniss von Intellektsbildung und persönlicher und sozialer Sittlichkeit gewährt, als die tiefsinnigsten prinzipiellen Erörterungen, die mit diesen abstrakten Begriffen als solchen operiren, ist mir unbezweifelbar. Die Geschichte der englischen Fabrikgesetzgebung belehrt uns besser über das Verhältniss von Egoismus und Altruismus, als die scharfsinnigste Zergliederung dieser Begriffe und die Beziehungen zwischen Religion und Sittlichkeit werden durch keine so sinnige philosophische Konstruktionen so geklärt werden können, wie durch eine ethnologische Untersuchung über die gegenseitige Beeinflüssung ihrer ursprünglichsten Formen . . . .

"Wie in praktisch-sozialen Verhältnissen sich ein umfassendes Ganzes erst dann aus den Sondergruppen primitiver Sozialisirung herstellt, wenn das Individuum, dem diese frühere Form Gewalt anthat, zu vollem Recht und Ausbildung gelangt: so werden im ethischen Erkennen diejenigen allgemeinen Gesetze, die das sittliche, bezw. das soziale und religiöse Leben der Menschheit vielleicht als eine zusammenhängende, umfassende Entwicklung aufzeigen können, sich jedenfalls dort herausstellen, wenn den einzelnen historischen Thatsachen der inneren und äusseren Sittlichkeit die speziellste und individualisirendste Untersuchung zu Theil geworden ist."— *Ibid.*, pp. 424-6.

We may add the remarks of SIGWART. "Einerseits kann die Ethik, wie die Logik, nicht einen Neubau mit einem Schlage aufführen; alles Handeln das sie verlangen kann, muss unter den gegebenen Verhältnissen und mit den gegebenen Mitteln ausgeführt werden; alles gemeinsame Handeln innerhalb einer Gemeinschaft von gegebenen Ueberzeugungen und Tendenzen, die nur allmählig umgebildet, corrigiert, und in Uebereinstimmung gebracht werden können. Wie von hier aus in der Richtung auf das Ziel fortzuschreiten sei, ist eine Frage, die sich nicht von dem rigorosen Standpunkt des absoluten Ideals auslösen lässt; die Continuität des menschlichen Thuns fordert ihre Rechte auf ethischem wie auf logischem Gebiete. Darum verwandelt sich die Ethik in ihrer unmittelbaren Anwendung sofort in die Kunstlehren der Pädagogik und der Politik, die auf die zweckmässigste Benützung der gegebenen Kräfte unter den gegebenen Verhältnissen angewiesen sind."— *Logik*, Vol. II (2d ed.), p. 746.

ability, approaching our subject from the traditional ground of philosophy; and he has urged with distinctness and power the necessity of further differentiation at this point.

We all cheerfully pay tribute of praise to the scientific character of those who interpret for us the reasonings of Spinoza, Kant, Locke, Hume, and Hegel. This is called "scientific investigation." In political science Aristotle is studied and fame is won for a discussion of his political works. Aristotle himself, however, went straight to the life of his own generation and won his place by a masterly analysis and comparison of the actual governments of his age. He found his principles of politics implicit in political life. Aristotle is often more dissected than followed, as Shakespeare is oftener praised than read. If we should carry out Aristotle's actual method we should gain our wisdom in relation to social conduct by comparing the methods of administering affairs in all modern countries where social welfare has actually been best promoted. For example, D. B. Eaton furthered the cause of the merit system in the United States, more perhaps than all the writers on ethics, by his account of the civil service reform in Great Britain. The present movement to improve municipal government in our country is aided by such works as those of Albert Shaw on European cities, for they set before us successful modes of conduct in the concrete, and leave the conscience without the excuse that men must be content with evils because no better way is visible.[24]

From a very different point of view an American writer on ethics has borne testimony to the necessity of a discipline which shall bring moral science into closer touch with the problems of conduct just where mankind must face them:

> While the poet and prophet of the better world-age to come will always have their mission from God to comfort the heart of the people and to inspire the chosen servants of the social ideal with undying hope; still, a first necessity of reform, an indispensable prerequisite of political progress, is the science of sociology, with its painstaking inductions, and its careful classifications of the social structure, organs, and functions.[25]

From still another standpoint we have the testimony of a greatly honored writer on ethical philosophy:

> Abstract thought is easy; concrete thought is hard. But it cannot be doubted that the time has now come to think concretely on these matters. The abstractions of our predecessors

[24] "The Church at large, and each national or local Church, is to be a society binding and loosing in the name of Christ; that is — so far as concerns morality — adapting Christ's moral teaching to the circumstances of each age and place; declaring this to be lawful and that to be unlawful; and applying these abstract principles to individuals in moral discipline. . . . . We need a careful organization of moral opinion — that is, a new Christian casuistry. The new casuistry will be a formulating in detail of Christian moral duty, with a view to seeing, not how little a Christian need do in order to remain in Church communion, but how a Christian ought to act. . . . . I think it would be possible . . . . to form small circles of representative men in each district, where special occupations prevail, or within the area of special professions, to draw up a statement of what is wrong in current practice, and of the principles on which Christians ought to act. A central body would meanwhile be formulating with adequate knowledge the general maxims of Christian living. I do not see why ten years' work should not give us a new Christian casuistry." — GORE, "The Social Doctrine of the Sermon on the Mount," *Economic Review*, Vol. II, p. 145, quoted by W. J. ASHLEY, *Introduction to English Economic History and Theory*, Part II, pp. 473, 474. On p. 388 Professor Ashley shows that in the Middle Ages the task we are now considering was undertaken by the church. "It may be urged that the economic teaching of the Middle Ages was really a branch of theology; and that modern political economy, being a science of observation, leaves to theology or ethics the uttering of moral judgments. But the duty thus handed over has obviously not been taken up. No such sustained and far-reaching attempt is being now made, either from the side of theology, or from that of ethics, to impress upon the public mind principles immediately applicable to practical life."

[25] NEWMAN SMYTH, *Christian Ethics*, p. 412; *cf.* p. 407.

have their value; they have made possible a more perfect survey of the whole. But it would be fatal to content ourselves with their partial views. We must endeavor, as far as possible, "to see life steadily and see it whole." . . . . Want of clearness with regard to the objects at which we ought ultimately to aim, and with regard to the way in which ethical principles are to be applied in the concrete affairs of life, is largely responsible for the shortcomings of our modern civilization. The immediate claims of men's selfish interests have always a certain clearness and definiteness; and unless there is something equally clear to oppose to them they are sure to be victorious. . . . . So far as I can see, there is nothing of equal importance to be done in the present generation.[26]

The beginning of a new century surely sees us upon the verge of an analogous translation of political and moral science into terms of application.[27]

The point made by Mackenzie is so important that it is worth illustration for our present purpose. The members of a trade union, backed by hundreds of thousands of votes, led by trained officials, often see with entire distinctness what they want; and they can formulate their demands before a committee of a legislature or of Congress. Usually with even more firmness of grasp the magnates of the financial world can outline a policy for corporative or legislative action.

But the great public flounders awkwardly, believes all kinds of contradictory stories, is hopelessly divided into factions, sees nothing clearly for the sand in its eyes, and finally pays all the expenses. The results are often pitiful. The streets are unpaved; the public schools are bankrupt; the teachers unpaid; taxes inequitably distributed; the public burdens fall most heavily on the downmost man; the legislatures and the councils harbor corrupt scoundrels; and civilization waits. The great public is a giant, but does not know what to do with his power. His conscience is not instructed. He would do right, but he does not know what social welfare requires in the given situation. While he is debating, tumbling things up and down in his huge chest, the representatives of special interests walk off with his treasures and treasurers.

In this state of affairs the abstractions and "general principles" which are true everywhere and forever, give about as much light as a star of the third magnitude. A tallow candle held near would serve a better purpose.

THE OFFER OF SOCIAL TECHNOLOGY

Can sociology, in the present stage of its development, in any respectable measure meet the demand which we have seen to be so pressing? Can it assist, with its present methods, in answering more fully and distinctly than any of the traditional sciences these two questions: (1) What ought we to seek as ends of community conduct and co-operation? (2) By what methods can society most successfully work for these ends?

The only complete and satisfactory answer is the entire work of sociologists in this field; but a brief survey will indicate the outlines of an argument which grows stronger with all scholarly work done by this method, whether it is called sociology or something else.

[26] J. S. MACKENZIE, "The Relation between Ethics and Economics," *Industrial Journal of Ethics*, Vol. III, April, 1893, p. 281.

[27] J. DEWEY, *The Educational Situation*, p. 90.

1. What ought a community to seek as the ends for which its members co-operate? The answer is implicit in human nature and in the conditions of survival and progress. The claim of the sociologist is that the pursuit of his discipline has, more fully than any other, given an explicit statement of social ends.

Professor A. W. Small has summarized the results of numerous studies in the sentence: "Human association is a continuous process of realizing a larger aggregate, and better proportions of the health, wealth, sociability, knowledge, beauty, and rightness desires."[28] This definition includes and surpasses the one element of welfare which belongs of right to economics—the element of wealth, and includes, perhaps surpasses, all that is implied in ethical science — rightness.

The criterion of ethics has been formulated by T. H. Green:

> Does this law or usage, this or that course of action — directly or indirectly, positively or as a preventive of the opposite — contribute to the better being of society, as measured by the more general establishment of conditions favorable to the attainment of the recognized virtues or excellencies, by the more general attainment of those excellencies in some degree, or by their attainment on the part of some persons in higher degree, without detraction from the opportunities of others?

In respect to each element of welfare the sociologists, collecting data from all the special sciences, have worked out a method of testing the working of social agencies and modes of conduct by applying definite standards. This method is by no means perfect and exact, but it is far better than mere individual guesses and local opinions.

Thus, for example, we have fairly accurate standards of testing the results of a social organization in respect to health, derived from physiology and sanitary science. The budgets of families, now numbering many thousands, reveal the actual quantities of food consumed by persons in various groups of population; the expenditures for clothing, rent, and culture. The investigations of municipal authorities and private associations set before us the conditions of the residences of the people. The physiologists give us at least a minimum standard of food in calories, and for housing, of air space, of light, and ventilation.[29] The statistics of morbidity, mortality and longevity, by sex, age and occupation, locality, class, demonstrate the results of defects in the conditions.

Turning to standards of wealth, we have at least approximately accurate minimum standards of income in relation to industrial efficiency, and the effects of various methods of the distribution of the national product of industry.

[28] *American Journal of Sociology*, January, 1901, p. 509. No one should judge this brief definition without carefully pondering the context. Perhaps to the word "desires," we should add the words "interests" and "capacities," to prevent perversion in the direction of a narrow hedonism. See COMTE, *Positive Philosophy*, Vol. II, p. 40.

[29] The thesis which I attempt to defend is that to make the most out of a man, to bring him up to the desirable level of productive capacity, to enable him to live as a man ought to live, he must be better fed than he would be by those [*i. e.*, the antiquated and inferior European] standards. This is only a part of the story, but it is an essential part. The principle is one that reaches very deep into the philosophy of human living." W. O. ATWATER, "Investigations on the Chemistry and Economy of Food," *Bulletin No. 21, Department of Agriculture*, p. 211; quoted by B. S. ROWNTREE, in *Poverty*, p. 92. Rowntree's book is a fine illustration of the application of a definite standard to social conditions.

Even so elusive a factor as "sociability" embodies itself in associated activities which are measurable.

The art interests are expressed in the means provided by a community for the cultivation and enjoyment of music, painting, drama; and statistics may show the number of teachers, students, and artists.

The scientific interests are expressed in the statistics of education: in the equipment of schools and colleges; in the extension of libraries, the publication and sale of books; in the ratio of graduates of colleges to the population.

Von Öttingen has carried the statistical method into the manifestations of morality, and in some directions the results are satisfactory in a high degree. Professor Giddings[30] has at least outlined the great "morality classes" and given the framework of a scheme of enumeration.

Who can doubt that the manifestations of religion itself will be treated as all other social phenomena are treated, and, so far as they are measurable, will come within the scope of social statistics? Few have ventured far into this difficult field, but a hopeful beginning has been made.

A definite minimum standard of what society ought to guarantee for every citizen can be erected even for education. What is the age limit of compulsory school attendance but just such a standard? Under some laws it is required that a child shall be able to pass a certain examination before it can be set to work in a factory. An educational test is proposed for raising the quality of immigration from Europe and of the suffrage in southern states of the Union. These moral standards are made more accurate and their demands more severe with the growth of wealth and culture. Laws and administrative regulations cannot be made until the moral requirement assumes a form and measure.

2. Up to this point it is generally acknowledged that genuine scientific work may be done. But upon the main contention of this paper there is more than doubt; there is general denial. Can sociology develop a *method* which deserves the name of science, which shall make social improvement a matter of knowledge? "Can we know what we ought to do?" is only another form of the same question. The answer must be the creation, out of materials not yet well assembled, of a science of "social politics;" politics in the Aristotelian, and not merely in the modern, sense.

Elsewhere[31] the attempt has been made to outline a provisional division of the discipline which at least two students of the subject have independently called "social technology," because it deals with the technique or method of social conduct; and reasons were given for making this division: social technology of the domestic institution, of the rural community, of the urban community, criminal sociology, "social politics" (the industrial group), and others. It is not necessary to repeat that analysis, nor to refer to the attempts, published and unpublished, to lay the foundations for further systematic presentation of the subject. A large volume would be required for any one of these branches.

[30] *Inductive Sociology.*

[31] *The American Journal of Sociology*, January, 1901, pp. 474 ff.

The remainder of this paper will be given to illustrations of the method within restricted areas of certain of these fields. Comte arranges phenomena and sciences in an order of increasing complexity and decreasing generality. The distinction is valuable in our inquiry. As we come to deal with practical science and make it immediately available as a basis for the art of social conduct, we find a higher degree of complexity and, apparently, less generality. Many scientific men are even disposed to regard the results as so petty and narrow in their application as not to deserve the name of science. A chemical or physical law, once established and verified, seems good for the universe and valid forever. But a mode of human conduct seems to be suitable and reasonable only for a part of the earth, for a brief period, for a class; and the more immediately useful the generalization, the narrower seems the range. This is not always true. The best modes of conduct, in some fields, are laws of life for long periods and for mankind, while others are valid only while limited causes and forces remain the same. In relation to the most general aspects of social science, the generalizations which apply to all ages and peoples, we must be content with laws which touch practical life only when they are mediated by laws which are limited in range.

> In the complex sciences the quality of exactness is only perceptible in their higher generalizations. . . . . The science that treats of that field [social activity] is an exact science if we only confine it to the most general aspects. It can only descend more and more into details as the data for such less general conclusions slowly accumulate and are arranged and co-ordinated for the purpose.[32]

In the science of social statistics we need the "law of the great number;" the suicides in a population of 1,000,000; the rate of wages in 100,000 cases; the prices in a long series of years; the marriages and divorces in 100,000, etc.

But there is another aspect of the case; general averages may include so wide a range of cases as to be worthless and false. The general average of income in all industries, all over the United States, has little significance; it casts no light on the condition of the poor and leaves us in the dark as to the condition of skilled labor and of capitalist managers. We must classify phenomena according to characteristic marks before we can find any true law (causal order) in them.[33]

Few, if any, of the great statistical writers have clearly and adequately stated the value of statistics in relation to practical social science. They have indicated its value in relation to explanatory science, and actually employed their method in testing practical measures. But one searches in vain in the best text-books for a definition of statistical science which fully recognizes its value in practical sociology. Yet here may be found, when once there is systematic effort, one of the largest spheres of usefulness. Social "working hypotheses," proposed experiments, methods actually under trial by cities and peoples, will more and more be subjected to statistical tests and positively promoted by them.

Professor Conrad drops a hint in this direction when he mentions the value of

[32] LESTER F. WARD, *Education Report*, 1899–1900, pp. 1579 ff.

[33] G. von MAYR, *Die Gesetzamässigkeit im Gesellschaftsleben*, pp. 21, 22, 64–9; E. LEVASSEUR, *L'Ouvrier américain*.

statistics in the practical physical science of medicine; and his illustration opens a vista for practical social science.[34]

In exact correspondence with medical science "social technology" proceeds; for it also proposes "working hypotheses," new forms of organization, new methods of procedure, and tests their results by comparative and statistical methods.

The medical practitioner can, indeed, try his drugs and surgery on the lower animals first, and even vary his hygienic treatment of men under his own conditions. The sociologist must usually secure the consent of communities to try their experiments on themselves. In a new country like our own, with forty-five independent states, one can watch this process of trial under varied conditions.

Precisely here lies the task of "social technology"—to guide these trials of form and method; to offer materials of knowledge which will save waste of time and money; to lay before isolated and adventurous leaders the results of race experience in the direction of their thought.

Practical sociology does *not* speak in the imperative mood. It simply shows the methods of organization and principles of social conduct which best promote social welfare. It speaks in the indicative mood. The ethical and religious nature of man sees that this conduct has spiritual sanctions. The legislator draws up the statute, thou shalt or shalt not, etc. The moralist and preacher arouse conscience and public opinion.

Our thesis that moral teaching is often impotent without the aid of a science of social politics may be illustrated by the sociological method of dealing with a problem like that of dwellings for the working people and the poor. Moral theory makes it plain that the community owes a duty to all its citizens,[35] and it is easy to prove that the character of the working people suffers from the conditions in which they are compelled to live at home.[36]

The physiological minimum standard for a proper dwelling has been fixed so accurately by sanitary science that a community cannot plead ignorance.

There must be a supply of 3,600 cubic feet per head per hour for adult males; 3,000 cubic feet for adult females; 2,000 for children; 3,000 for a mixed community. The initial air space to secure this must be 1,000 to 1,200 cubic feet per person. The following sentence is quoted from *Theory and Standard of Hygiene*, by Notter and Firth:

> The expense of the larger rooms would, it may be feared, be fatal to the chance of such an ideal standard being generally carried out, but after all the question is not what is likely to be done, but what ought to be done, and it is an encouraging fact that in most things in this world, when a right course is recognized, it is somehow or other eventually followed.[37]

[34] "Die Mediziner können bei statistischer Bearbeitung von 100 Typhusfällen über die Zweckmässigkeit der Kaltwasserbehandlung event. durchschlagende Beantwortung erziele, während es unmöglich ist, sämtliche Typhusfälle in einem Lande nach der angewendeten Heilmethode zur Untersuchung zu ziehen."—*Statistik*, p. 4.

[35] It is now generally accepted that the *laissez-faire* doctrine is essentially immoral, as stated in H. SPENCER, *Men vs. the State*, and in W. G. SUMNER, *What Social Classes Owe to Each Other*.

[36] For example, see PAUL GOEHRE, *Three Months in a German Workshop;* E. R. L. GOULD, *The Housing of the Working People;* J. A. RIIS, *A Ten-Years' War;* R. A. WOODS, *A City Wilderness;* "Hull House Papers and Maps," etc.

[37] B. S. ROWNTREE, *Poverty*, pp. 169, 172.

In the movement to make our cities conform to the conditions of human welfare, an exact statement of what ought to be done precedes legislative action. The vision of a definite moral requirement comes first, and here, as in the history of the factory acts, economists and statesmen finally came to terms with the moral demand. Of course, if it could be shown that the evils of bad housing were inevitable and incurable, and even economically or politically impossible of improvement, no social moral obligation would exist. But in this case of economics truth is distinctly on the side of a moral work which promises better life and even 4 per cent. profit to investors.

Consider the vast amount of social experience in all civilized countries which has been distilled, as roses from many lands, to furnish the following principles for the regulation of the industry of factory women. Mrs. Florence Kelley has drawn up a working program for legislation and administration which may serve as an ideal for backward communities: By organization to bring out of the chaos of competition the order of co-operation; trades unions for all wage-earning women; dissemination of the literature of labor and co-operation; the acceptance of a label which shall enable the purchaser to discriminate in favor of goods produced under healthful conditions; abolition of child labor to the age of sixteen; compulsory education to the same age; prohibition of the labor of minors more than eight hours, or in dangerous occupations; appointment of women inspectors, one for every thousand employes; healthful conditions of work for women and children. By legislation: Equal pay for equal work; minimal rate which will enable those paid the least to live upon their earnings.

Such regulative principles, while not pretending to universality, come nearer to actual life than more ambitious speculations, and their validity is verifiable by experience, which cannot be said of many interesting and magnificent social theories.

One is tempted to mention here the generalization of Mr. Kidd: "The science of social progress must be the science of the principles by which this subordination [*i. e.*, of the present to the future race] is effected."[38] Before this "Law of projected efficiency" becomes a real force in conduct, a thousand special fields of social action must be developed by "specialists in generalization."[39]

We believe that the science of jurisprudence[39] will derive great advantage from the cultivation of practical sociology. The study of law, whether of a given system or of many systems in comparison, or of a historical sequence, gives us after all—merely law. Practical sociology considers what the conditions of welfare require of social conduct and regulation in general; discovers the social duty. Part of this social duty can be fulfilled only through government, and, so far as this is true, we are in the realm of jurisprudence.

At a given time it is safe to assume that the existing constitution and system of law is approximately adapted to maintain order and secure civil welfare. But society never stands still, is never petrified. "New occasions teach new duties." Life expands and demands new forms of expression and regulation.

[38] *Western Civilization*, pp. 72, 73.

[39] This principle is urged by BRYCE, *Essays in History and Jurisprudence*.

The new law or amendment cannot come from a study of constitutions or cases or statutes. It is not at all a question of what the founders of the republic intended, or what the Supreme Court has decided. Lawyers, as such, of course are bound by the law. But by citizens the law itself must be studied in the light of social requirements.

As a matter of fact, lawyers have been, in spite of their conservatism and regard for precedents, the best authors of amendments and revision of statutes, because they have been compelled by the pressure of experience to be sociologists as well as interpreters of texts.

It was not by a study of Blackstone that the law of property of married women was changed, but by a social discovery, by an observation of the industrial and moral development of modern peoples, by a recognition of the maladjustment of statutes to the modern needs and conscience.

The law relating to the liability of employers for accidents to workingmen is destined to pass through a radical transformation; but no light can come from a study of "cases" or of constitutions. The actual demands of the modern industrial organization will decide what is duty, and the moral requirements of public sentiment will make all previous court decisions so much rubbish.

It is not by studying statutes and historical methods of procedure that criminal law will be transformed, but chiefly by deeper knowledge of the criminal character and of the social conditions which create or modify that character.

Other illustrations could be drawn from every one of the new social problems which have arisen inevitably and naturally out of a healthy natural evolution. It is not here claimed that lawyers will need any help from sociologists. They may feel themselves entirely competent to construct their own sociology, although division of labor has some advantages. What we do assert is that a mastery of the "right" which must ultimately determine "law" (the Germans and French can use one word for both ideas, *Recht* and *droit*) will come from a practical sociology or a social ethics, and never from a deductive analysis of existing constitutions and statutes.

It could easily be shown that this method of gradual transformation of law is the most conservative and safe method, and is "radical" only as it works from the roots of social life and follows the course of human progress.

"International law" is defined in a recent text[40] as "a *system of rules* created by civilized nations, since the beginning of the Reformation, to regulate their intercourse with each other. . . . . The aggregate of rules regulating the intercourse of states, which have been gradually evolved out of the moral and intellectual convictions of the civilized world as the necessity for their existence, has been demonstrated by experience." While this definition is restricted to a branch of jurisprudence, and does not distinctly recognize a practical social science for its basis, such a science is implied and its nature and sources are indicated. For the actual system of rules called "international law" is the formulation of a part of the laws of welfare which are demonstrated by experience.

[40] HANNIS TAYLOR, *International Public Law*, pp. 157, 86.

THE ELEMENTS OF CHRYSOSTOM'S POWER AS A PREACHER

THE ELEMENTS OF CHRYSOSTOM'S POWER AS A PREACHER

GALUSHA ANDERSON

THE name Chrysostom, "mouth of gold," was not given to this prince of Greek preachers till a full century after his death. During his life he was simply called John, and at Constantinople the members of his church and congregation were spoken of as Johnites. But the name that has so completely displaced that of John is the crystallized judgment of all who have read his eloquent discourses, and since as a preacher he has scarcely had a peer throughout the whole Christian era, it is vastly important for all preachers and students of preaching to apprehend clearly the elements of his pulpit power.

In setting them forth it is our purpose to discard, so far as possible, the dry, didactic method, and to present this eminent preacher as he appeared in real life. We wish to make his fascinating history reveal to us the secret of his wonderful and far-reaching influence. To do this we must notice the training that he received for his great vocation. To apprehend the full significance of this training it is necessary to go back to his birth, in Antioch of Syria, in 345 or 347.

He had the good fortune to be of one of the best families of his city.[1] His father, Secundus, was a general of high rank in the Syrian army; his mother, Anthusa, was a gifted woman, deeply pious, and a Christian. The father died when John was an infant. His mother was then only twenty years of age, and, being an unusually attractive woman, had abundant opportunities to contract a second marriage; but this she absolutely refused, feeling that she was called of God to expend her time and strength in training her son and shielding him from the contaminating influences of luxurious and pagan Antioch.[2]

Although we know but little concerning his early education, we should carefully note the fact that his mother was a Greek, and taught her son to speak and write in its purity the peerless Greek tongue. Early in his youth he became a pupil of the distinguished pagan rhetorician, Libanius,[3] and was conducted by him through the literature and philosophy of Greece. No education could have better fitted him for future public speaking and for the popular exposition of the Greek Scriptures.

But his mother, although pious, was nevertheless ambitious that the son to whom she had devoted her life should become eminent in the state. She therefore encouraged him to study law, and he became, while the dew of youth was still on him, a legal advocate.[4] Some of his speeches in the courts elicited general admiration, and were a prophecy of that matchless eloquence by which in the future he was to sway admiring

[1] SOCRATES, VI, 3.

[2] *De Sacerdot.*, I, 5.

[3] SOZOMEN, VIII, 2; SOCRATES, VI, 3.

[4] *De Sacerdot.*, I, 1, 4.

multitudes. But the chicanery which then marked the profession of law, and the frauds of business men, disgusted him, while the Bible, constantly read in his home, allured him to a higher and nobler calling.

We must notice here an intimate friendship which sprang up between him and a young man by the name of Basil. They were Damon and Pythias. Chrysostom, in his treatise *On the Priesthood*, has portrayed this friendship. "I had," he says, "many genuine and true friends, men who understood and strictly observed the laws of friendship; but one there was out of the many who exceeded them all in attachment to me, and strove to leave them all behind in the race, even as much as they themselves surpassed ordinary acquaintances. He was one of those who accompanied me at all times; we engaged in the same studies, and were instructed by the same teachers; in our zeal and interest for the subjects on which we worked, we were one. As we went to our lectures or returned from them, we were accustomed to take counsel together on the line of life it would be best to adopt, and here, too, we appeared to be of one mind."

This intimate friend was a Christian; but, like most earnest Christians of that period, he was an ascetic; and, though Chrysostom had become a lawyer, Basil tried to persuade him to quit his secular profession and with him to become a monastic. The old friendship which had sprung up in school days had not lost its charm and power, and Chrysostom would gladly have yielded to his friend's earnest solicitation. But his mother needed the income which flowed from his profession as an advocate, and, above all, needed his companionship in the home, and he could not follow his friend into solitude. Still, the example of Basil had deeply impressed him. This was probably the time of his conversion to Christ; or, if he had been converted before, he was now led to a more thorough consecration to God. He began to study his Bible with unusual diligence. He became a catechumen, and after three years, when he was twenty-three or twenty-five years old, was baptized by Meletius, Catholic bishop of Antioch. Meletius, now wishing to introduce him into the official service of the church, ordained him reader.[5]

He soon became, not a fanatical, but an enthusiastic, ascetic. We should not be surprised at this, since asceticism at that time was very prevalent in the Eastern or Greek churches. He now was thoroughly bent on following his friend Basil into a retreat, but was dissuaded from taking the step by the entreaties and tears of his mother.[6] However, to satisfy his conscience, he became an ascetic at home. He kept vigils, fasted, slept on the bare ground, and refused to talk with friends, in order that he might not utter any slanderous or uncharitable words.[7] In this bodily mortification, Basil, and two other young men, Maximus, afterward bishop of Seleucia in Isauria, and Theodore, who became bishop of Mopsuestia in Cilicia, joined him. These four young men finally determined to put themselves under the direction of Diodorus, president of a monastery near Antioch.[8] This event in the career of Chrysostom calls for special

[5] SOCRATES, VI, 3.
[6] *De Sacerdot.*, I, 5.
[7] *Ibid.*, VI, 12.
[8] SOCRATES, VI, 3.

attention. As his friendship for Basil proved to be a turning-point in his religious experience, so the instruction of Diodorus shaped for all the future his method of interpreting the Scriptures. Diodorus believed, in opposition to Origen, in the historical and literal interpretation of the Bible. This so commended itself to Chrysostom that he heartily adopted it, and in that manner interpreted the Word of God as long as he lived. Preaching in an age noted for allegorical interpretation, in none of his expository homilies did he even once indulge in it.

Chrysostom soon began to write. The occasion of his beginning was this. One of this group of ascetics, Theodore, for a time turned back to his old manner of life. He fell into no open sin, but did fall in love with a beautiful girl, and naturally wished to marry her. This called forth two long letters to him from Chrysostom, in which he set forth the principles and blessings of asceticism.[9] To marry, after consecrating one's self to a monastic life, was, in his judgment, equivalent to committing adultery. His persuasive words won Theodore to repentance, and saved him from the awful sin of marrying a pure and charming girl. But such notions were the fault of Chrysostom's time rather than of Chrysostom himself. The important point is that he now began to write, and from this time to the end of his days his pen was always busy.

Soon after these events, in the incessant strife between the Catholic party and the Arians, the bishop, Meletius, was for the second time banished from Antioch by Valens. The people now wished to elevate Basil and Chrysostom to the bishopric. These young men feared lest they might be forced against their will into this responsible position, and agreed to act together, both either to accept or reject the proffered honor. But Chrysostom had no intention of keeping this agreement. His friend was older than he, and he believed him well qualified for the bishopric, while he considered himself utterly unfit for it. He thought that the church ought not to be deprived of the services of Basil on his account; so, when he knew that some of the emissaries of the church had come to carry them away by force and compel them to be ordained, he effectually hid himself and left Basil to his fate. Afterward Basil sternly reproached him for his deception, but he boldly defended his act as a pious fraud. He argued that deceit for a good end, as practiced by generals and physicians, was right. While the morals both of his act and of its justification are condemnable, the circumstance was the occasion of his writing his treatise *On the Priesthood*, in which he set forth in glowing rhetoric the duties, dangers, and grave responsibilities of the preacher and pastor. It was written to prove that a man of his own capacity was quite unfit for so responsible a position. When he beheld the mingled distress and displeasure of his friend, he could not refrain from laughing for joy[10] and thanking God for the successful issue of his plan. But he and his hoodwinked friend, Basil, were reconciled; they met and embraced; Basil went to his bishopric, Chrysostom gave himself to an ascetic life.

On the mountains to the South and East of Antioch was a community of monks,

[9] SOZOMEN, VIII, 2.

[10] *De Sacerdot.*, I, 3.

ascetics. Chrysostom now joined this community. Its occupations were gardening, study of the Scriptures, writing, prayer, praise, fastings, and vigils. Chrysostom subjected himself to the severest discipline. His food was chiefly bread and water; his bed, the earth and a little straw.

Here again we find that his pen was active. He wrote three treatises. In two of them he castigated the deplorable corruptions of the city, the worldliness and avarice of Christians, and eulogized the ascetic life. The third treatise was elicited by a decree of Valens, in 373, against monasticism. The emperor in this decree ordered the monks to be dragged from their retreats, put into the army, or be compelled to toil in the ordinary occupations of life. These books, in spite of their unscriptural asceticism, are full of the noblest sentiment, inculcate the purest morals, are elegant in style and cogent in argument.

During the last two years of Chrysostom's retreat he dwelt alone in a rocky cave and subjected himself to such extreme austerities[11] that his health gave way and he was compelled to return to his home in Antioch. But the six years of his retirement had been chiefly spent in the study of the Bible, and its whole contents from Genesis to the Revelation had become part and parcel of his thinking. This was the school which admirably fitted him for the brilliant public services which were soon to follow.

The last act of the bishop Meletius, when, in 381, he left Antioch to attend the council at Constantinople, where he died, was to ordain Chrysostom deacon.[12] A part of Chrysostom's work as deacon was to spread the communion table, to administer the cup to the laity, and sometimes to baptize. Also, during worship, he called the attention of the worshipers to the transitions in the services; but his chief duty was to search out the poor and distribute alms to meet their necessities. There were two hundred thousand people in Antioch, and one hundred thousand of them were reckoned as Christians, and three thousand of these stood in need of charity. To this work Chrysostom, now thirty-five or thirty-seven years old, gave himself with love and enthusiasm. This was an added and admirable preparation for preaching the gospel to the people.

But let us not overlook the fact that during this period of five years, in addition to his diaconal service, he wrote at least three treatises: one *On Virginity*, a letter to a young widow on the glory of widowhood, and a book on the martyr, Babylas. His pen was never still.

He is at last ready to preach. He is about forty years old. Review now the elements which enter into his preparation for the work. His training at home was the purest and best; under the lead of the most distinguished rhetorician of his day he had been made familiar with Greek literature and philosophy; he had studied law and had won applause as an advocate; the Bible had been the book most read in his home, and then for six years it had been his all-absorbing study in his monastic

[11] PALLAD., p. 41. [12] *Ibid.*, p. 42.

retreat; in searching out its meaning he was guided by the principles of historical interpretation which he had learned from Diodorus; he had carefully composed at least eight treatises, some of which were extended and elaborate, so that he had the power of expression which comes from painstaking composition; and, to crown all, for five years, with a heart full of love and sympathy, he had ministered personally to the poor and afflicted in the capital of Syria. This was the splendid training for the ministry of a man endowed with great natural powers. Though still putting a very humble estimate on his own ability, he is willing now, and eager, to enter on his larger work.

In 386 he was ordained presbyter by Flavian, bishop of Antioch, and was often directed by him to preach in "the great church" where the bishop himself preached. And now, for ten years or more, the gorgeous capital of Syria felt the power of his unusual eloquence. Most of his works which have come down to us were discourses, which, during this period, he poured forth from a full mind and heart. Christianity was then exposed to hideous moral corruption on the one hand and to manifold heresies on the other. Chrysostom, with great boldness, attacked both. During the first year of his ministry, with a vehemence born of intensest conviction, he waged war against Arians, pagans, Jews, and Judaizing Christians. He spent no time in preaching against the sins of past ages, but shot his barbed arrows into those sinners who, through his irresistible eloquence, were gathered immediately before him.

His great power over his audiences was in part due to his method of preaching. His homilies were popular, but accurate, expositions of the Scriptures. He came to his great congregations with God's Word and spoke with the authority which that Word gives to the ambassador that proclaims it. Take his homilies at random, and we find that each one is an exposition of from two to twenty verses of Scripture. To this there are very few exceptions. Occasionally his discourse approaches the character of a modern topical sermon. We have an example of this in his homily on *Excessive Grief at the Death of Friends*, founded on 1 Thess. 4:13. But his homilies on more extended passages were by no means destitute of unity, that prime attribute of effective oratorical discourse, and many of them realized it in very large measure. He sometimes in a single week expounded to his congregation a whole book or epistle. When he did this, at the beginning of his discourses he often carefully restated the main points presented in the preceding homily, so as intelligently to prepare the way for the one about to be delivered. And sometimes, while delivering an expository sermon, when he came to the second point he would reiterate the first; when he reached the third point he would restate the first and second; and so to the end of his discourse he skilfully kept all of its chief thoughts before the minds of his hearers. The truth which he thus brought out was always thoroughly applied so as to meet the real needs of his congregation.

But he delivered one memorable series of homilies, when he made an event instead of texts the foundation of his discourses. The event was unexpected, peculiar, alarming.

The emperor, Theodosius, was nearing the tenth anniversary of his reign; it was also the fifth year of the reign of his son, Arcadius, whom he had associated with himself in the government. He proposed a joint celebration of the two events. At such festivals it was customary to give to each soldier of the imperial army five gold pieces. This alone would have been a severe drain on the royal treasury. But, in addition to this, the Goths menaced the Danubian frontier, which made it necessary to mass troops in that region; this required a still greater outlay of money. To meet these exigencies, the emperor determined to lay a special tax on the largest and most wealthy eastern cities. This tax was resisted at Alexandria in Egypt, but there the resolute prefect, Cynegius, quickly suppressed the incipient rebellion, punished the leaders of it, and collected the tax. But Antioch was not so fortunate. The decree of the tax provoked a mob, which gutted some of the public baths, broke into the palace of the governor, and, not finding him, overturned the statue of the emperor and those of his wife and father, and with ropes dragged the statues along the streets amid the shouts of the frenzied multitudes. In three hours their work was done, and the whole city was in silence and terror, trembling in apprehension of the emperor's wrath. The repentant multitude besought Flavian, the bishop, to visit the emperor at Constantinople and entreat him to pardon the insult which they had offered him. Old as Flavian was, he undertook the journey of eight hundred miles, in winter, that he might plead with Theodosius to spare the guilty city. In Antioch business was nearly suspended; the baths and theaters were deserted; but the great church, where Chrysostom preached, was daily thronged by Christians, Jews, and pagans. In his sermons he castigated the follies and immoralities of the city, marshaled the proofs of the truth of Christianity, won a multitude of souls from the worship of false gods to Jesus Christ, and reclaimed to duty many Christians who, through the temptations and seductions of the Syrian capital, had lapsed into utter worldliness. These discourses, from the incident that elicited them, are called the *Homilies of the Statues*. And, while the preacher made the startling event that had filled his city with consternation the occasion of his utterances, and selected no passages of Scripture for exposition, yet during the progress of his discourse he often quoted Scripture to enforce his declarations, and what he quoted he carefully expounded. The power of his own words was thus intensified by the Word of God.

Flavian was successful at Constantinople, and returned to a forgiven and rejoicing city; but Chrysostom, by his incessant labor in the pulpit, had brought on a fit of sickness which precluded his participation in the general festivity.

Still another element of his power is found in his method of delivering his homilies. He evidently prepared them with great care. This is clear from the fact that in his homilies he revealed to his hearers the innermost meaning of the most important words of Scripture and presented in their vital relations the thoughts of the passages that he expounded. But, while his homilies were thus thoroughly premeditated, he delivered them neither from manuscript nor from memory. No preacher in that

early day ever read his discourses; and that Chrysostom did not recite his from memory is clear from the fact that while speaking he often took advantage of unexpected incidents to enforce his thought. Thus, while he was delivering his fourth homily on Genesis, at the time of the evening twilight, the attention of his audience was for a moment diverted by the lamp-lighter. Seizing upon the incident, he said: "At the very time when I am setting before you the Scriptures, you are turning your eyes away from me and fixing them upon the lamps and upon the man who is lighting the lamps. O! of what a sluggish soul is this the mark, to leave the preacher, and turn to him! I, too, am kindling the fire of the Scriptures, and upon my tongue there is a burning taper — the taper of sound doctrine. Greater is this light and better than the light that is yonder."

Also, at the close of his fourth homily on 1 Corinthians, he made instant use of the applause of his congregation. "Ye have given me," he exclaimed, "vehement applause and acclamation: but with all your applause have a care lest you be among those of whom these things are said."

These extemporaneous homilies were taken down by fast writers, *ταχυγράφοι*, and he edited most of them; but his homilies on the Acts were evidently never revised by him, so that they are presented to us just as they fell from his lips. In them above all others we are enabled to see the great preacher looking into the faces of his hearers and directly speaking to them out of a full mind and a sympathetic heart; his eyes and every movement of his body adding to the force of his apt and glowing words.

His power was also reinforced by a luminous style. Both his words and sentences were simple, and his whole thought was illumined by many fitting and striking metaphors. He seemed intent, not only upon being understood by all, but also upon being so transparently clear that the dullest could not fail to apprehend him; and his style took on added brilliancy and power from his abundant and pertinent illustrations, which were drawn from the Bible, profane history, nature, the varied occupations of men, and the customs of society. From the illustrations in his homilies delivered at Antioch one could write a fair history of the condition and everyday life of that interesting city at that time. He had the rare talent, like Beecher, of discovering analogies to the truth in all objects around about him, and the ability to use them with effect.

His power as a preacher was still further augmented by his unswerving faithfulness to his calling. After a ministry of marvelous success, for ten years, at Antioch, he was made archbishop of Constantinople.[13] He found that his ascetic notions and life were in sharp contrast with his new surroundings. He entered the palace of the archbishop, but its gorgeous trappings and luxurious furnishings had no charm for him. He wished no luxurious table nor soft bed. He sold the robes and furniture of his predecessor and bought that which was plain and cheap. He, who had labored for five years as a deacon among the destitute of Antioch, did not

[13] THEODORET, V, 27.

hesitate as to what should be done with the surplus which remained in his hand after this unequal exchange had been made; he gave it to the poor. Lest he might swerve from his integrity, through the blandishments of the royal court, he declared that he would never put his foot within the emperor's palace except on pressing business which pertained to the church. Wherever he went, whether to the palace or the hovel, he determined to go only on his Master's business. Responsible, by virtue of his high office, for the clergy inferior in rank to himself, with absolute firmness he insisted on their reformation.[14] Also, like Paul, feeling that he was a debtor to all men, he sent able preachers to Scythians[15] and Goths, and he himself, through an interpreter, preached to the Goths[16] who resided in Constantinople.

Moreover, his preaching was powerful because it was pre-eminently ethical and practical. To be sure, he faithfully proclaimed the whole round of biblical doctrine, but not in crystallized dogma; he presented it just as he found it in the words of Scripture. He never stopped to speculate upon it, but urged it upon the attention of his hearers, for practical ends. He preached morals so powerfully that he not only profoundly impressed men of his own time with the transcendent ethics of the gospel, but also has stimulated many preachers since to follow in his footsteps. In the seventeenth century there were three great preachers of morals, Barrow in England, Bourdaloue in France, and Segneri in Italy, but they all drew their inspiration, and very much of their material, from Chrysostom.

The breadth and specific character of his ethical preaching may be seen in his varied discourses both at Constantinople and Antioch. In the former city, just as he had done at the capital of Syria, he preached against Arianism; and also all the vices of a capital city in a state of degeneracy. Its population was heterogeneous, drawn from all surrounding nations. Chicago, with all its immorality, is a paradise compared with Byzantium when Chrysostom preached there. But the profligacy of the rich, their extravagance in dress, the theater, games, profane oaths—all were boldly depicted and unsparingly condemned. No vanity, no sin escaped him. In his thirty-fifth homily on the Acts he paints for us a fat glutton. One may think him coarse as he reads this passage; but he must remember that Chrysostom did not care for delicacy and elegance when he wished to pour contempt on a beastly vice; and also that the indelicacy of the passage is more marked in English than in Greek. Pope observed in reference to his translation of the *Iliad* that "it is impossible to skin a sheep with dignity in English," but Homer could accomplish that feat in Greek. But one can see from the translation how he held a glutton up to scorn. He says:

> To whom is not the man disagreeable who makes obesity his study and drags himself about like a seal! I speak not of those who are such by nature, but of those who, naturally graceful, have brought their bodies into this condition through luxurious living. The sun has risen, he has darted everywhere his brilliant rays, he has roused everyone to his work; the tiller has taken his hoe, the smith his hammer, each workman his proper tool; the woman sets

[14] THEODORET, V, 28. [15] *Ibid.*, 31. [16] *Ibid.*, 30.

to work to spin or weave, while he, like a hog, goes forth to the occupation of filling his stomach, seeking how to provide for a costly table. When the sun has filled the market-place, and other men have already tired themselves with work, he rises from his bed, stretching himself like a fatting pig. Then he sits a long time on his couch to shake off the drunkenness of the previous evening, after which he adorns himself and walks out, a spectacle of ugliness, not so much like a man as a man-shaped beast.

In his forty-ninth homily on Matthew, delivered at Antioch, he inveighs against all sorts of extravagance, and even ornamenting boots with threads is ridiculed. He says:

To put silk threads into your boots, how disgraceful, how ridiculous! Ships are built, sailors hired, pilots appointed, the sails are spread, the sea crossed, wife, children, and home left behind, the country of the barbarians entered, and the life of the merchant exposed to a thousand perils, in order that, after it all, you may trick out the leather of your boots with these silken threads. What form of madness can be worse? He who ought to bend his thoughts and eyes heavenward casts them down upon his shoes instead. His chief care, as he walks delicately through the forum, is to avoid soiling his boots with mire or dust. Will you let your soul grovel in the mire while you are taking care of your boots? Boots were made to be soiled; if you cannot bear this, take them off and wear them on your head instead of on your feet. You laugh when I say these words, but I rather weep for your folly.[17]

To enforce moral lessons he quickly seized upon and used impressive passing events. We have a notable example of this in the fall of Eutropius, the emperor's prime minister. He was made consul, and then, through the defeat of his army and the intrigue of the empress Eudoxia, deposed. Hated by the people, he fled to the church for asylum. Chrysostom found him there, and although, through the efforts of this very prime minister, a law had been promulgated denying asylum in the church to any fleeing culprit, who had been an officer of state, Chrysostom shielded him. The soldiers came to take him, but Chrysostom stood at the door of the church and refused them entrance. Single-handed and alone he triumphed over the soldiery and the raging, vindictive populace.

On the following Sunday, at an early hour, St. Sophia was packed with an eager, curious throng. Chrysostom finally took his seat on the ambo, a high reading-desk, at the side of the nave. The expectant faces of that vast concourse were turned up toward him; and now, by a preconcerted arrangement, the curtain which separated the chancel from the nave of the church was partially drawn aside, revealing the pale face and crouching, trembling form of an old man under the sacred table, clinging to one of the pillars that supported it.[18] When the eyes of the multitude were turned upon him, Chrysostom, stretching out his hand toward the terrified and fallen minister, began, "Vanity of vanities," and on that text he poured forth a vehement homily:

Where now are the pomp and circumstance of yonder man's consulship? Where his torchlight festivities? Where the applause which once greeted him? Where his banquets and garlands? Where is the stir that once attended his appearance in the streets, the flattering compliments addressed to him in the amphitheater? They are gone — they are all gone; one

[17] Translation from STEPHENS.

[18] SOZOMEN, VIII, 8; SOCRATES, VI, 5.

rude blast has scattered all the leaves, and shows us the tree stripped quite bare, and shaken to its very roots. . . . . These things were but as visions of the night, which fade at dawn; or vernal flowers, which wither when the spring is past; as shadows which flitted away, as bubbles which burst, as cobwebs which rent. . . . . Therefore we chant continuously this heavenly strain, "Vanity of vanities, all is vanity." For these are words which should be inscribed on our walls and on our garments, in the market-place, by the wayside, on our doors: but above all should they be written in the conscience and engraved upon the mind of everyone.[19]

Another element of his power was his boldness and persistency. No opposition could daunt him. He spoke right on, uttering his honest convictions in spite of the intrigues and menaces of ecclesiastical and civil courts. This is abundantly shown by the history of those stormy times through which he passed during the last years that he spent at Constantinople. After the fall of Eutropius the empress had no rival in the state. Up to this time Chrysostom had been popular with both her and the emperor. Called into the neighboring provinces to perform some ecclesiastical duties, Severian, who supplied his pulpit, did what he could to undermine Chrysostom in the affections of the people.[20] Chrysostom was naturally indignant toward so base a rival, but the empress took the part of the treacherous bishop. This was the beginning of Chrysostom's trouble with Eudoxia In her opposition to him she found allies among the people of the city. The rich were weary of his denunciations of their extortions; the fashionable women, of his condemnation of their paint, false hair, and costly dresses; the clergy, of his censures of their pleasures in the palaces of the wealthy; and the opposition by degrees became organized and found a leader of great ability in Theophilus, archbishop of Alexandria. He artfully gathered around him the immoral clergy whom Chrysostom had censured and deposed, and the rich whom he had faithfully reproved for their crimes and follies. Many charges, drawn from these suspicious sources, were made against Chrysostom. Eudoxia, falsely informed that the great preacher had, in a public discourse, compared her to Jezebel, urged on the crusade against him. He was summoned by Theophilus before the synod of The Oak,[21] composed of thirty-six bishops, twenty-nine of whom were Egyptians and all of whom were willing tools of Theophilus. Chrysostom refused to appear before it, because it was a synod of his avowed enemies;[22] he did not plead, as he probably might have done, that it had no jurisdiction over him. He was condemned for contumacy.[23] The emperor issued a decree of banishment. For three days the people defended his palace and church, and during that time he continued to preach. In one of his discourses he said:

Many are the billows, and terrible the storms, which threaten us; but we fear not to be overwhelmed, for we stand upon the Rock; let the billows rise, they cannot sink the vessel of Jesus Christ. Tell me, what is it we fear? Death? For me to live is Christ, and to die is gain Or exile? The earth is the Lord's and the fullness thereof. Or confiscation of goods? We brought nothing into the world, and it is certain we can carry nothing out. I fear not poverty, I

[19] Translation from STEPHENS.
[20] SOZOMEN, VIII, 10; SOC., VI, 11.
[21] THEODORET, V, 34.
[22] SOZOMEN, VIII, 17.
[23] SOCRATES, VI, 15.

desire not wealth. I dread not death, I do not pray for life, save for the sake of your advancement. I beseech you, be of good courage; no man will be able to separate us, for that which God hath joined together no man can put asunder. If man cannot dissolve marriage, how much less the church of God! Thou, O my enemy! only renderest me more illustrious and wastest thine own strength, for it is hard to kick against the pricks. Waves do not break the rock, but are themselves dispersed into foam against it. Nothing, O man, is stronger than the church, ... it is stronger even than heaven; for heaven and earth shall pass away, but my words shall not pass away. What words? Thou art Peter, and on this rock I will build my church, and the gates of hell shall not prevail against it. If thou disbelievest the words, yet believe the facts. How many tyrants have attempted to overthrow the church? How often have wild beasts, and the sword, and the furnace, and the boiling caldron, been employed against it, yet have they not prevailed. Where are those who made war upon it? They have been silenced and consigned to oblivion. Where is the church? It shines above the brightness of the sun. Let none of the things that have been done disturb you. Grant me one favor only—unwavering fidelity.[24]

But he believed it to be his duty to bow to the decree of the emperor; so when the people who were defending him were off their guard he slipped out of a side door in the evening and gave himself up to the officers of the court. He was put on board ship, sent across the sea, and landed near the mouth of the Euxine; thence he went to Prenetus, a city in Bithynia,[25] and was cared for at the house of a friend.

Soon after his departure from Constantinople the city was shaken by an earthquake. Eudoxia, believing it to be an expression of God's displeasure for the banishment of Chrysostom, joined the people in demanding his recall. When he returned, in the night, throngs of boats, flashing with lights, went out to greet him, so that he said, poetically, "the sea became a city."[26] Restored to his church and palace amid general rejoicing, Theophilus and his party fled, under cover of night, back to Egypt. A synod of over sixty bishops was at once called, that reversed the decision of the synod of The Oak.

But for two months only he labored in peace; then the storm burst upon him with tenfold fury. The smaller forum of Constantinople was a great square. On one side stood the senate house; on the other, the Church of St. Sophia, where Chrysostom preached. In the center of the square was a stone platform, paved with various marbles, from which orators spoke to popular assemblies. On this platform Eudoxia had a porphyry column reared which was surmounted with a silver image of herself. Its erection was celebrated with pagan rites and festivities like those which attended the adoration of an emperor's image. Chrysostom, filled with holy indignation, unsparingly denounced these heathen ceremonies.[27] He regarded not his own comfort and safety, but thought only of the honor of God. Eudoxia was of course offended; but still the tide of biting eloquence was poured forth. The reports of his sermons carried to the empress were often exaggerated; his enemies now rallied; a new ecclesiastical council was called; this council debated long and at last broke up declaring that Chrysostom's former condemnation had never been revoked. His enemies appealed to

[24] Translation from STEPHENS.

[25] SOZOMEN, VIII, 18.

[26] THEODORET, V, 37; SOCRATES, VI, 16.

[27] SOZOMEN, VIII, 20; SOCRATES, VI, 18.

the emperor, who reluctantly shut up Chrysostom in the archbishop's palace. But we need not fully unfold this tale of injustice. The vast assembly on Easter eve; the beginning of the baptism of three thousand converts; the violent dispersion by soldiers of the candidates and those officiating at their baptism, so that the waters of the baptistry were stained with their blood; the continuance of the ceremony of baptism at the baths and the second violent dispersion of the congregation; Chrysostom's imprisonment for two months in his own palace; his banishment in June, 404, at first to Bithynia; his tender parting with his bishops and deaconesses; his flock left behind, hunted from place to place, many of them imprisoned and tortured; the burning of his church and the senate house (*curia*) on the night when he sailed away, never to return;[28] his own imprisonment in exile; his correspondence with his deaconesses; his banishment to Pityus on the east of the Euxine and his death at Comona in Pontus, in 407, make a chapter in ecclesiastical history of fascinating interest, and show what excruciating suffering a fearless minister of Christ endured in the fourth century for unflinchingly preaching the gospel in the capital of his nation.

But a crowning element in Chrysostom's power over men is found in his tenderness and sympathy. He touched and moved men mightily because he loved men much. He had overflowing sympathy, especially for the poor and afflicted. He labored personally among them and for them. He organized his church so that their necessities might be systematically met. Many passages in his homilies show that he was full of compassion for men even while he unsparingly denounced their sins and follies.

The depths of his tenderness are revealed when he was about to go into exile. He left his palace, and entering the church said to the bishops who were with him: "Come, let us pray, and say farewell to the angel of the church,"—believing that his church was guarded by a veritable angel from heaven. "At my own fate I can rejoice; I only grieve for the sorrow of the people." He then called his deaconesses into the baptistry, and said to them: "Come hither, my daughters, and hearken to me: my career, I perceive, is coming to an end; I have finished my course, and perchance ye will see my face no more. Now I exhort you to this: let not any of you break off her accustomed benevolence to the church."

In his last moments he thought of others rather than of himself. Under officers of the empire he was being conducted to Pityus, the place to which he was finally banished. He was compelled to go on foot, his bald head uncovered and blistered by the sun.[29] He was lodged one night in the precincts of a church about five miles beyond Comona in Pontus; he asked for white garments, distributed his own clothing among the clergy present—he was always giving to others and he was benevolent to the last—the eucharist having been administered to him, he spoke words of farewell to those around him, and just as he uttered his favorite doxology, "Glory be to God for all things, Amen," his spirit took its flight to the Christ whom he had so faithfully served.

[28] THEODORET, V, 34.

[29] "Chrysostome," *Revue des deux mondes*, 1871.

Judged by any fair standard, Chrysostom was an unusually successful preacher. Great audiences, both in Antioch[30] and Constantinople,[31] gathered to hear him. Men from all the walks of life hung with admiration upon his lips. Those who heard him were often melted to tears, and sometimes men and women were so deeply convicted of sin that they cried aloud for mercy;[32] sometimes, according to the custom of the day, they broke out into applause, by stamping the feet and clapping the hands, which he usually sternly checked.[33] But to crown all, thousands were converted under his preaching; three thousand were ready for baptism on the night when he was shut up in his palace, just before his last exile.

The secret of this marked success is certainly not found in his personal presence. He was small of stature; his body was attenuated by ascetic observances; his hair was thin and grey; his head bald; his eyes deep-set, but gleaming with the fire of his soul; his forehead high and wrinkled;—he could have said, with Paul, "My bodily presence is weak." He usually sat when he preached; partly from the custom of his day, though many then stood and preached; but he often sat because he was too feeble to stand.

His success cannot be accounted for on the ground of his philosophy. He was a Christian stoic;[34] and while his stoicism had been mellowed and ennobled by the gospel, the spirit of which had permeated his whole being, it practically manifested itself in a life of severe simplicity which was repulsive to a luxurious people.

Nor do we find the secret of his influence over men in any one quality of mind or heart, but in the vital combination of many excellencies. His thorough training for the pulpit; his perfect command of Greek, the most flexible and expressive of tongues, his power of exact expression, acquired by writing; his expository homilies, messages that he brought directly from God to the people; his direct talks to his audiences, talks unhindered by manuscript or memorizing; his transparent style; his thought brilliantly lighted up by hosts of analogies discovered in objects that were most familiar to his hearers; his discourses, ethical, fearless, tender — present to us a group of excellencies which, vitally united and interactive in the great personality of the preacher, account, in a large measure at least, for his unusual power.

But this group of excellencies was reinforced by a stainless character.[35] The utterances of his lips were enforced by his life. He was the incarnation of the truth that he proclaimed. He had many and very bitter enemies at Constantinople, who hated him on account of his righteousness. They strove to tarnish his reputation and to destroy his influence, but they were unable to say anything against his moral conduct that the people would believe. And to crown all, this stainless man walked with God and preached with an unction from the Holy One. We cease to wonder that those who heard him were first entranced and then saved, and that his influence reaches across the centuries, so that men now feel its touch and uplifting power.

[30] "Chrysostom," in SMITH AND WALL, *Dictionary of Biography; Adv. Aran. de incomprehen. dei natura; Homily* III, 7; *Homily* IV, 6.

[31] SOZOMEN, VIII, 5.

[32] STEPHENS, p. 427.

[33] SCHAFF, *History of the Christian Church*, Vol. II, p. 938.

[34] NEANDER, *History of the Christian Religion and Church*, TORREY'S translation, Vol. II, p. 658.

[35] SOZOMEN, VIII, 2.

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PRACTICAL THEOLOGY

PRACTICAL THEOLOGY: A NEGLECTED FIELD IN THEOLOGICAL EDUCATION

GERALD BIRNEY SMITH

IT is the purpose of this article to call attention to certain significant results of the introduction of scientific and historical methods into modern theological study. The specific question to be asked and answered is whether the divinity school which adopts the scientific method is performing its duty to the church for which it professes to train ministers. If it is not, what solution of the problem is compatible with the integrity of scientific spirit in the curriculum?

I

It is impossible to ignore the fact that a certain lack of sympathy, amounting sometimes to distrust and even hostility, exists between modern theological scholarship and the evangelical interests of the church. The scholar feels that no greater disaster could befall Christianity than to continue to proclaim doctrines which cannot be scientifically defended. He therefore is impatient at the indifference or hostility with which his critical investigations are greeted by the church. The preacher, on the other hand, knows that skepticism is fatal to faith. He therefore deplores even the honest questionings of the scholar, because they introduce a negative tone where he desires positive conviction. In Germany, where theology is professedly a university subject, and where consequently the scientific interests have been especially emphasized, the tension between church and theological science is keenly felt. A considerable literature dealing with this condition of affairs has appeared, and the subject is engaging the attention of some of the leading minds.[1] In America the problem involved has not yet received adequate scientific treatment; but it is keenly felt by both churches and theological seminaries, and occasions much unfortunate friction. The prevalent uneasiness shows itself in various ways. Now it is the trial of a theological professor for heresy; now it is his forced resignation; more frequently it takes the form of diatribes against "higher criticism." The one constant factor in the various disturbances is a failure to define clearly just what the function

[1] Among the most significant contributions may be mentioned the following: BORNEMANN, *Die Unzulänglichkeit des theologischen Studiums der Gegenwart*, 1886; DUHM, *Ueber Ziel und Methode der theologischen Wissenschaft*, 1889; GOTTSCHICK, *Theologische Wissenschaft und Pfarramt*, 1895; BERNOULLI, *Die wissenschaftliche und die kirchliche Methode in der Theologie*, 1897; REISCHLE, "Kirchliche Lehre und theologische Wissenschaft," *Theologische Rundschau*, December, 1898; IDEM, "Kirchliche und unkirchliche Theologie," *Deutsch-evangelische Blätter*, July, 1900; ROLFFS, "Die theologische Wissenschaft," *Hefte zur Christlichen Welt*, No. 38; DEISSMANN, "Theologie und Kirche," *ibid.*, No. 47; TRÖLTSCH, *Die wissenschaftliche Lage und ihre Anforderungen an die Theologie*, 1900; HARNACK, *Die Aufgabe der theologischen Facultäten und die allgemeine Religionsgeschichte*, 1901; REISCHLE, "Historische und dogmatische Theologie," *Theologische Rundschau*, July and August, 1901; TRAUB, "Kirchliche und unkirchliche Theologie," *Zeitschrift für Theologie und Kirche*, 1903, 1 Heft.

of a divinity school is. It is assumed by both parties in the controversy that a theological professor is to teach the truth. But the fact is overlooked that scientific truth and spiritual truth are so different in their psychological aspects that the teaching of the one does not necessarily involve the teaching of the other. A brief consideration of this aspect of the problem must precede our main inquiry.

It is a fundamental principle of scientific method that any hypothesis or conclusion is always subject to re-examination and revision, if the facts warrant it. The historical method of dealing with the sources and official expressions of Christian belief must constantly encourage questioning. It must often begin by demolishing the dogmatic and untested theories with which a student enters the divinity school. It insists that judgments are to be formed slowly, and only after long and careful study. It demands that many questions—some of them seemingly fundamental—shall be left undecided until further information is possible. Of course, when conclusions are reached by this method, they rest upon a secure basis. But even in those instances where the facts seem to have been entirely gathered in, there is the possibility that further research may modify or overthrow present conclusions. The student trained under the historical method forms the habit of making provisional judgments.

Now, however admirable this judicial frame of mind may be for the scholar, it has certain serious defects for the man of action. Macaulay once said that no army ever prospered under the direction of a debating society. The historical method in theological study seems to the man of action to be equivalent to transforming the ministry into a debating society. What he desires is a definite plan for a campaign—a positive message for men. The prophet speaks with a "Thus saith the Lord." The scholar says: "So far as I have examined the matter, the indications are that a conclusion is to be reached in this direction." The prophet appeals to mankind, and enlists men to action. The scholar speaks to a small circle of *savants*. The man of action is impatient with the slow-working processes of the critic; for as long as judgment is suspended, so long is action deferred. So far as practical results are concerned, there is little difference between the fundamental agnosticism of the avowed infidel and the judicial doubt of the critical scholar. In either case an inhibition is introduced into men's thinking which defeats vigorous action, and inactivity means the death of practical spiritual life. The painstaking scholar naturally objects to being classed with the infidel. But such a classification is very natural when the influence of the two men is judged on purely practical grounds. If the divinity of Christ, for example, be doubted, it makes little difference to the man to whom a belief in the divinity of Christ is of supreme practical importance, whether the doubt be due to a radical hostility to the teachings of the church, or to a critical study of the sources of the life of Christ. To the man of action the essential thing is positive conviction. Anything which interferes with such positive conviction he condemns as "destructive" and "agnostic."

Thus a habit of mind which may be altogether admirable from the scientific point

of view may be entirely inadequate from the practical standpoint. The scholar is quick to appreciate the fact that a man who is pre-eminently adapted for practical work may be incapable of treating history in a scientific spirit. The opposite truth, that scientific habits may be a hindrance to practical usefulness, is not so readily admitted.

We may illustrate our point by two quotations, one from the scholar's standpoint, the other from a man who is interested in practical religious results. Professor E. D. Burton thus describes the scholar's task:[2]

> The goal of biblical interpretation thus conceived of is reached when the interpreter has found the thought of the author, of Isaiah, *e. g.*, or of Paul. With the truth of that thought, *i. e.*, with its correspondence to reality, the interpreter, in the sense in which we are now using the term, has nothing to do. Interpretation is true, not when it reaches the truth, but when it reaches the real thought expressed in that which is to be interpreted.

Nothing could be more admirable than just this attitude of mind, if one is interested in historical method. But how will it appeal to the man who is interested in practical results? He will say that so long as the question of the truth or falsity of the message of Isaiah is left in doubt, he is prohibited from employing that message as an authoritative source of religious teaching. Yet the scholar rightly replies that only by such an examination as that above outlined are we in a position to answer the further question as to the practical value of the writing in question. Until we know what the Bible actually teaches, we are unable to use it with any kind of accuracy. Yet during this period of critical study the practical worker is left in a most uncomfortable attitude of suspended judgment. The negative quality of such an attitude is forcibly expressed in the following words of a well-known writer:[3]

> It is painfully evident that the recent attempts to meet the long-felt difficulties in the Old Testament, historic and other, by minimizing the knowledge of God possessed by Israel, have tended rather to undermine the faith of Christians than to confirm it. And the reason of this is evident. As the distinction between the Jews and other peoples is effaced, and both are put under the law of historic development, the distinction between the Bible and other sacred books is effaced.[4] . . . . In reading the more advanced critics it is very noticeable what a small active part is ascribed to Jehovah in His relations to Israel. It is not His dealings with His people of which we are told, but of the progressive development of their ideas of Him.[5]

The author of this book feels that Christianity rests upon the self-revelation of God. He wishes to use the Bible as the authoritative word of God to men. But critical scholarship does not ask what message God has *for me* in the book of Isaiah, *e. g.*, but what Isaiah believed concerning God's dealings with men. More than this. It may proceed in the light of archæological discoveries to declare that Isaiah was mistaken in certain particulars. Much as the scholar may desire to arrive at positive conclusions, his method of reaching these must inevitably be a hindrance rather than

[2] "The Function of Interpretation in Theology," *American Journal of Theology*, Vol. II (1898), p. 58.

[3] SAMUEL J. ANDREWS, *God's Revelations of Himself to Men*, 2d ed., 1902.

[4] *Ibid.*, p. vii.

[5] *Ibid.*, p. 387.

a help to the man who needs some definite working-theory for his practical labor. It is in vain that the scholar points out the splendid results of the historical method: the re-discovery of biblical personalities, the disentanglement of history from legend, the interpretation of the message of the biblical writers against the historic background of their times, the ascertaining of the real teaching of difficult and obscure writings, the discovery of literary forms as aids in interpretation. All these achievements of scholarship are rehearsed with pathetic patience. But more important to the practical worker than all these gains is the loss which he sees in the substitution of intellectual curiosity for spiritual authority in the mind of the Bible student. After reading a treatise in which the errors of traditional interpretations are demonstrated, he is apt to ask if, after all, the Protestant church has been emancipated from the priesthood of the Roman Catholic church, only to become utterly dependent on a new priesthood of critical scholars for its knowledge of Christian truth. For practical purposes the Catholic priesthood is preferable, because it has authoritative teachings ready for use, while the scholars are "ever learning, and never able to come to the knowledge of the truth." The waiting attitude, the suspension of judgment, the willingness to entertain either of two conflicting theories—all of these are conditions of life for science; but they are conditions of death for active faith.[6]

Now, both the scientific and the practical interests must be conserved by a complete theological education. This is universally admitted. The point to which attention is especially directed in what follows is the fact that the two interests are so diverse in kind that elaborate provision for the scientific ends does not necessarily involve adequate preparation for practical ends. I have purposely emphasized the practical point of view in order to make this clear. If we can once differentiate these two points of view, and define the proper demands of each, we shall do much toward a better understanding between the scholar and the Christian worker,[7] and it may be that we shall find that even the scientific task of the accurate formulation of Christian truth is incomplete until it shall produce a practical as well as a historical theology.

II

The Roman Catholic church knows no tension between the scientific and the practical ends of theological study, for the reason that the entire curriculum is expected to yield practical results. The classic formulation of the Catholic ideal was given by Thomas Aquinas, when he asserted that the real end of sacred doctrine is not knowledge for its own sake, but knowledge which shall lead men to eternal blessedness.[8]

[6] Professor Burton recognizes this fact when he says: "The Christian world cannot do without a theology while it waits for the several contributory sciences to complete their quota of material with which theology is to work." —*Loc. cit.*, p. 77.

[7] "Diese Verflechtung der Theologie mit dem praktischen Leben ist sogar eine Hauptsache der Unklarheit darüber, was die theologische Wissenschaft thun soll und wie sie es thun soll."—DEHM, *Ueber Ziel und Methode der theologischen Wissenschaft*, p. 3.

[8] *Summa Theologica*, Qu. I, Art. 4: "Unde licet in scientiis philosophicis alia sit speculativa, et alia practica, *sacra tamen doctrina comprehendit sub se utramque. . . . .* Magis tamen est speculativa quam practica; quia principalius agit de rebus divinis quam de actibus humanis; de quibus agit *secundum quod per eos ordinatur homo ad perfectam Dei cognitionem, in qua aeterna beatitudo consistit.*"

Any speculations concerning God offered by philosophy must be supplemented by the teachings of revelation, because only revelation can give the knowledge necessary to salvation.[9]

According to this ideal, all theological study is devoted to the practical end of establishing faith. For example, the Scriptures are to be studied, not merely to ascertain the historical meaning, but more especially to yield spiritual truth. This is the significance of the query raised as to whether figurative interpretations of Scripture are allowable.[10] Of the four kinds of exegesis mentioned, three have a distinctively practical end. The allegorical sense enables one to read a Christian content into the Old Testament. The moral sense yields practical direction for one's ordinary Christian life. The anagogical sense satisfies one's supramundane aspirations. Thus, according to Thomas, the chief end of the study of Scripture was to formulate the doctrines of faith so as to serve the practical needs of the church.

The same ideal prevailed also in the study of historical theology. Tradition as well as Scripture was to be studied for the practical purpose of ascertaining those truths which are indispensable to a saving knowledge of God. Thus, when the universities arose, the theological faculties were expected merely to expound the Scriptures and some approved *summa* of traditional doctrines.[11] The scientific and the practical ideals were not felt to be different. The courses given would be technically classified as speculative or scientific; but actually they were practical in their nature. Thus no need was felt for a specific department of practical theology.

With the enlargement of the curriculum in Catholic schools of theology there has been no change of ideal. The knowledge gained from Scripture and from history is regarded as a direct means of promoting religious life. This prominence of the practical ideal effectually prevents any thoroughgoing adoption of historical method and genuine scientific attitude in Catholic instruction. No science for its own sake is desired. All study must promote the faith and life of the church. In a sense all the departments devote themselves to practical rather than to scientific theology.[12] In most seminaries courses in pastoral theology and in homiletics are given. But the former would better be named ecclesiastics, while the latter presupposes a practical grasp of material for preaching as the contribution of the other departments. There is thus no problem as to the relation of scientific to practical interests in the Catholic church.

[9] *Ibid.*, Qu. I, Art. 1.

[10] *Ibid.*, Qu. I, Arts. 9, 10.

[11] SCHMIDT, *Geschichte der Pädagogik*, Vol. II, p. 363.

[12] A common practice in Catholic seminaries is to divide the curriculum into four groups: biblical theology, dogmatic theology, moral theology, and historical theology. Moral theology includes courses in canon law and in liturgics, hence has a partially practical character. The significant feature of this fourfold division, however, is the entire lack of any specifically practical department. See, *e. g.*, the catalogue of the Catholic University of America, and of St. Louis University.

The following statement in the catalogue of St. Mary's Seminary, Baltimore, illustrates the Catholic ideal: "Both the speculative and the practical questions bearing upon the matter are dealt with. Thus the practical questions are studied in connection with their dogmatic foundations, and the meaning and bearing of dogmatic truth is better grasped by seeing its practical application. Special stress is laid on . . . . the application of general principles to the particular circumstances existing in this country. Throughout the whole course students receive suggestions on the manner of preaching nowadays on these various topics."

The Protestant Reformation and the growth of modern thought introduced into Christianity forces which were destined to destroy this Catholic ideal. The full meaning of these forces was for a long time unheeded, and is only now beginning to be apprehended.[13]

The first evident application of the new ideal to theology was naturally in the realm of church history. Luther was driven gradually to deny one after another of the traditional authorities of the Catholic church. When eventually theological authority was restricted to the Scriptures alone, it meant the release of tradition from the methods of interpretation employed by the Catholic church. Church history, instead of being studied primarily for positive practical ends, could now be critically examined, in the endeavor to discover the facts, whatever these facts might be. The way was open for the transfer of church history from the realm of the practical disciplines to that of the historical disciplines. It is true that the growth of the historical spirit was slow. For three centuries history was too often employed for dogmatic and polemic purposes. But even in this distorted use of history, the professed aim of the Protestant was entirely different from that of the Catholic traditionalist.[14] Theoretically, for Protestants, history has become a scientific discipline, which can yield practical results only as it is supplemented by a wise and intelligent interpretation. Instead of being a direct source of piety, as for Catholics, it has become an indirect source. The pragmatic method of teaching history has today very generally given way to an inductive study of sources in the attempt to ascertain the facts, whether these facts yield the practical lessons which we desire or not.

Such a change in the method of studying history would mean a crisis in the Catholic church. In Protestant circles, however, the crisis did not arise until the study of the Bible was reorganized under the dominion of the scientific ideal. In spite of the genuine advance in sober methods under the influence of humanism, Protestant theologians here never really abandoned the ideal of the Catholic church until within the past century. The Bible was always considered as the immediate word of God to men. The theologian's duty was to ascertain what God requires of believers and what he promises as the rewards of faith. It was not of so much importance to ascertain what Isaiah thought concerning God as it was to understand what truth God reveals to believers through the medium of the book of Isaiah; and the more exactly any book of the Scriptures was made to yield truth applicable to the present needs of Christians, the better.

The adoption of the historical method in biblical study means the necessity of resolutely refusing to read into a passage of Scripture anything which was not evi-

[13] DILTHEY, *Ueber Ziel und Methode*, etc., p. 22: "Die Theologie der protestantischen Bekenntnisse erhielt damit höchst schwierige Aufgaben, die Aufgabe, die befreite Religion objektiv zu erforschen und sie in ihrer Selbstständigkeit auch gegen neue Rechts- und Wahrheitsgesetze zu erhalten, die Aufgabe, das Wesen der religiösen Persönlichkeit, ihrer Inspiration und ihrer schöpferischen Kräfte zu erfassen, die Aufgabe, eine eigene, dem Gegenstande kongeniale Methode zu gewinnen. *Sie ist diesen Aufgaben nicht gewachsen gewesen.*"

[14] "Church history, as a critical science, began with the Reformation, which emancipated the mind from the tyranny of an infallible traditionalism." — SCHAFF, *Theological Propaedeutic*, p. 298.

dently intended by the writer. The entire figurative and allegorical apparatus which was so fruitful under the traditional method must be abandoned. The efforts of the student must be devoted to a discovery of the original text, to philological investigations, to a knowledge of the historical circumstances under which the book in question was written, and finally to the task of ascertaining what historical exigency moved the writer to utter his message, and how that message affected the course of events. It is true that from these historical results valuable lessons may be drawn for present needs; but the scientific ideal demands that the student shall renounce the attempt to make practical applications of a book until he has ascertained the real historic meaning. This historic task is so great that it is to be expected that it will demand almost the entire attention and interest of the scholarly Bible student. The result is that he becomes an expert in philological or archæological investigations, and is too apt to feel that the scientific results thus gained mark the goal of biblical study.

A striking evidence of the change thus noted may be seen by a comparison of the commentaries of Luther or of Calvin with the volumes of the "International Critical Series." In Luther's exegesis, for example, one finds spiritual inspiration on every page. The Bible is made a living book for practical religious needs. Of course, defects in Luther's method and errors in his interpretation are easily detected by the modern scholar. The work of Protestant exegetes until very recently has often been made worthless, from the scientific point of view, because practical and dogmatic interests dictated the results of their inquiries. But it must be confessed that the best of the old-time commentaries were direct means of stimulating spiritual life. A minister could find there material and suggestions for his most helpful sermons. In fact, the commentary was the regular source used by preachers and by teachers of the Bible. But how many ministers today find a modern critical commentary of direct aid in sermon-making? The character of this typical product of biblical scholarship has totally changed. In the place of the wealth of practical and doctrinal lessons furnished by the older commentary we have a wealth of critical inductions on matters of text, archæology, historical environment, etc. This is admirable from the scientific point of view; but these very questions and conclusions, in which the scholar is so deeply interested, are of little, if any, interest to the average layman. If, now, the character of the instruction in the biblical department of a modern divinity school corresponds to the character of the modern critical commentary, the question arises whether the student is not furnished with historical and archæological material which, however useful it may be to a scholar, is of comparatively little value to the practical worker, save as he shall by further study translate the language of the past into the vernacular of the present. Do we not need a practical discipline which shall train students to make this translation?[15]

[15] It may be objected that the prominence of the historical method in biblical study has been exaggerated; that higher criticism and its ultimate attendant problems have not yet taken possession of our seminaries generally; that the critical method described above is a temporary aberration, which will eventually yield again to the study of the Bible as the Word of God rather than as a collection of religious writings. No one, how-

III

Granted, now, that there is, or at least is destined to be, a maladjustment between the scientific and the practical interests in modern theological education, where is the remedy to be found? Various solutions are offered, some of which must be briefly noted.

From the conservative side we hear the argument that the whole trouble in modern preaching has arisen from a forsaking of the scriptural norms; that the business of the theologian is not so much to study the psychological vagaries of our time as to reproduce the scriptural truth, which is always authoritative.[16] What is needed is not a translation of scriptural doctrine into modern psychological equivalents, but a complete abandonment of our modern attempt to formulate our religious ideas in our own way.

We need not here dwell on the fact that this ideal is not different in essence from the scribal method of teaching religion which Jesus repudiated, or from the Catholic traditionalism which Luther repudiated. We are concerned here, not with the fundamental inadequacy of such legalism, but with the question whether such an attempt to reproduce Scripture teaching without addition or subtraction would really serve the practical interests of religion. The advocates of a return to the scriptural vocabulary overlook the fact that the men and women of today think in categories very different from those current half a century or more ago.[17] Then the mass of people lived in a thought-world which corresponded very closely to the world of the biblical writers. Education was so influenced and controlled by the traditional religious ideals of Christianity that the science of the schools was a counterpart of the biblical picture of the world. Man's relation to ultimate reality was conceived in accordance with the theological interpretation of the universe. Under such circumstances an adequate knowledge of the Bible was a sufficient practical preparation for preaching the gospel. The

ever, who has made himself familiar with the spirit of modern education can doubt the far-reaching results which this spirit must have on theological education. The time is fast approaching when any divinity school which, for ecclesiastical or other reasons, refuses to allow a frank and free investigation of any data must forfeit the respect of educated men. This means that, if historical and scientific methods are not professedly employed in the study of the sources of Christianity, theological scholarship will lose the prestige which it has enjoyed for so many centuries. Indications of a growing spirit of contempt for the traditional type of theological argument are evident to any thoughtful observer. The problem which has been outlined is destined within a generation to become universally felt.

[16] This seems to be the attitude of the author of certain editorial notes in the *Bible Student* for May, 1902 (pp. 248-52). He proceeds to criticise the argument of the editorial in the *Biblical World* for February, 1902, making especial objection to the following statement: "And when that time comes [*i. e.*, when critical scholar-ship shall have done its perfect work], the gospel will not need dictionaries of archæology, nor will one be compelled first of all to think and make confession as if he were a Jew of the times of Jesus and Paul. Christianity will have ceased even in vocabulary to be a form of Pharisaism." To this the editor of the *Bible Student* replies: "Heretofore the function and the glory of historical interpretation has been to enable us to think and make confession as Christ and Paul thought and made confession. The value and importance of this discipline originate in and are measured by the value and importance attached to the thought of Christ and to thinking as Christ thought. . . . . Christ's thought of God, sin, atonement, the future state, and briefly on all matters of religion, has been the goal to the gaining of which Christian ardor and energy have devoted themselves. . . . . If those now refusing to think and make confession as Jesus thought have a gospel, let them proclaim their gospel — but let them proclaim it as *their* gospel, not as Christ's." The plain implication here is that anyone who does not professedly reproduce scriptural truth in its historical vocabulary is false to the duty of a Christian theologian.

[17] See J. H. BIXBY, *The New World and the New Thought*, chap. i.

point of contact between preacher and people was already supplied by the *Weltanschauung* common to both.

But in the last two generations we have witnessed a profound revolution in educational methods and in habits of thought. The audience which the preacher must face today is totally different in its psychological habits from the audience which his father or grandfather faced. The secularization of our education is so thoroughgoing that biblical allusions in literature have become notorious stumbling-blocks to students. The teachings of science have given an entirely new conception of man's relation to ultimate reality. In the place of the theological cosmos, with its emphasis upon the decrees and immediate action of God in miracles, we have the infinite universe with its nexus of natural laws with their inviolable and impersonal activity. As a matter of fact, the vocabularies of natural science and of modern socialism are fast becoming more familiar than the language of the Bible. The *einfältige Layen*, for whom Luther did such a service by his exposition of Christian truth, think and live today in a world which has surprisingly little in common with the cosmos of the Bible. The interest of the typical modern man lies entirely in modern problems, in modern inventions, in modern industrial conditions, in modern social theories. If the gospel is to be preached to such a man, the preacher is obliged to find some point of contact with these modern ideals and problems. Whether we regret it or not, the day is past when a minister can win the attention and sympathy of men by expository preaching of the sort prevalent early in the century. The suggestion that we return to a purely scriptural language in preaching ignores the unmistakable fact that men no longer think naturally in terms of biblical cosmology.[18]

The theory that men should be required to reproduce the teachings of Scripture in their religious thinking is a relic of precritical scholarship. It was a practicable theory in an uncritical age; it is still practicable in portions of the country where the new science has not yet penetrated. But when this theory is retained along with critical methods of studying the Bible, it becomes intolerable. It is often asserted that critical scholarship is giving us back the Bible with a new meaning, and that when criticism shall have completed its work we shall at last have the final and unassailable statement of revealed truth, ascertained by historical investigation. It is true that scholarship is giving a new meaning to the Bible; but that meaning is even farther from meeting the practical needs of effective preaching than is the old scriptural standpoint.[19] The

[18] Of course, a large proportion of the regular attendants on church services still live in the biblical cosmos, so far as their religious thinking is concerned. Therefore the old type of preaching is still profoundly spiritual and helpful to numbers of people — especially to church members over fifty years of age. But let one select at random one hundred persons in one of our cities: How many of these would voluntarily listen to a sermon which set forth scriptural teachings, unless those teachings were immediately shown to have a pertinent bearing on modern social or industrial problems? Let a modern social agitator address the same audience, and he would meet with a response which would show how totally the interests of men today are involved in a non-biblical environment. The transfer of interest from the biblical to the modern world is rapidly growing, and the next quarter of a century will see it well-nigh complete.

[19] See an article, "The Outcome of the Higher Criticism," by THEODORE D. BACON, *Outlook*, March 15, 1902, pp. 667 ff. The lukewarm tone of the gospel there portrayed stands in unfavorable contrast with the zeal of the scripturalist. It is a striking illustration of the religious impotence of objective historical method.

reason for this is easily seen if we note the psychological characteristics of the critical Bible student. His attitude is thus described in the editorial in the *Biblical World* to which reference has been made:[20]

> We endeavor to think as the biblical writers themselves thought, for we have at hand information sufficient to enable us so to think. Just as a correctly informed historical imagination is able to reproduce biblical personages in their precise surroundings and dress, so are we increasingly enabled to recognize the intellectual dress in which they clothed their thoughts and experiences.

Such an endeavor, it is evident, involves the transfer of psychological interest in the very opposite direction from that in which the mind of the ordinary man has traveled. While education and environment have transported the *einfältige Layen* out of the biblical cosmos into the world of modern science, out of the simple surroundings of Palestinian peasants into the complex world of industrial America in the twentieth century, out of the individualistic and supernaturalistic religious ideal of the past into the social and ethical ideal of the future, the education of the theological student has been transporting him back into that very world which is becoming so strange to the layman. The more successfully one can ignore modern prejudices and ideals, the better one can "think as the biblical writers themselves thought." The theological school, if it maintains strictly the scientific ideal, will graduate men who can give a fascinating picture of the life and ideals of the Hebrew people; who can arrange the books of the Bible in chronological order; who can disentangle obscure passages in the light of archaeological discoveries; who can construct an accurate map of Palestine and portray thereon the journeys of Jesus; who can give the arguments *pro* and *con* as to the location of the Galatian churches; who can give a rational account of the symbolism in the books of Daniel and of the Revelation; in short, men who can reproduce in a scholarly and sympathetic manner the characteristics of biblical life and ideals. But the "simple layman" who hears this replies: "This is all very fascinating to those whose chief interest lies in exploring the past. But what practical bearing does it all have upon my religious and moral problems?" The scientific deliverances of biblical scholars, *as such*, are two millenniums removed from the actual life which the pastor must share and guide. If the minister attempt to introduce such critical conclusions into his preaching, he may indeed arouse the *intellectual* curiosity of his hearers; but he will soon find that a subtle barrier has arisen between him and his distinctly "evangelical" brethren. It is the inevitable difference between scientific truth and spiritual truth which thus sets the critic apart from the evangelist. The pseudo-biblical doctrines of the uncritical scripturalist are really more capable of practical application in preaching than are the critical conclusions of the scholar. The reason for this is that the center of interest in religious life not very long ago coincided with the center of interest in biblical study, and the remembrance of this coincidence has by no means entirely vanished. But the center of interest for the

[20] February, 1902, p. 85.

historical scholar has moved back twenty centuries, while the religious interests of men in general have moved forward into a new world. The scholar can influence men only as he is able to translate his science into the language of the people. He is perhaps more likely to make this translation than is the scripturalist, because the latter does not realize the necessity for a translation, while the former will probably be forced by the very exigencies of his investigations to abandon any doctrinaire attitude.

Another solution of the problem is offered by those who recognize that biblical theology as given by historical study is not adapted to modern needs. Religious faith does not attach itself to past events, but to present reality. The researches of the biblical scholar, therefore, must be supplemented by the work of the systematic theologian, who will gather up the results of biblical scholarship into a system of doctrine.[21] This system will, it is true, embody the teachings of Scripture, but it will present them in logical, rather than historical, perspective, and will thus abstract the eternal essence of revealed truth from its historic form. Thus, while the Christian of today will be taught the sum total of scriptural truth, he will have it presented as a logically complete system, rather than as a series of detached revelations.

But let anyone attempt this task, and he will find his attention concentrated rather on the objective elaboration of doctrines than on their practical pertinency. The prevalent dislike of "theological" sermons is grounded on a popular perception of this psychological defect. We may illustrate this point by reference to one or two doctrines which have been incorporated into theological treatises.

The epistle to the Hebrews contains the most elaborate scriptural exposition of the work of Christ as our Savior. If, now, the systematic theologian is to reproduce biblical truth, he must incorporate the teaching of this epistle into his system. The argument of the epistle presupposes in the reader certain convictions concerning the validity of the Levitical priesthood, and a detailed theory concerning the significance of Melchizedek. For those for whom the epistle was written these presuppositions formed the psychological point of contact by which the exalted teaching of the epistle was made effective. But today the Levitical system has entirely disappeared from our circle of ideas. We have no priests. The very conception of priesthood is foreign to the modern man. If, now, the theologian attempts merely to reproduce the teaching of the epistle, he will either find no hearing because of a lack of any basis of argument common to himself and his hearers, or else he must create an artificial framework by an exposition of an archaic religious system. In the latter case the modern man is burdened with an extraneous view of the significance of Christ for his religious life—a view which has no natural or vital relationship to the psychological realities of his experience, and which is therefore retained and defended as an arbitrary doctrine resting on authority. The caricatures of the work of Christ which have so fre-

[21] HODGE, *Systematic Theology*, Vol. I, p. 11: "The only difference between 'biblical' and 'dogmatic' theology is in form. The first examines the Bible part by part, writer by writer. The last examines it as a whole." For a presentation of the above view see MULLINS, "The Task of the Theologian Today," an address delivered at the opening of the Southern Baptist Theological Seminary, October 1, 1901.

quently aroused the protests of men are due to this attempt to formulate soteriology in a foreign language. Let a skeptic inquire why all this hierarchical detail is essential in the work of Christ, and the layman can give no explanation save the arbitrary decree of God. But a doctrine which finds in the minds of men no better *raison d'être* than this cannot exercise any very practical influence on their lives. May it not be that the attempt to reproduce the teaching of the epistle to the Hebrews *in toto* is responsible for much artificiality and formalism in the religious conceptions of men? Surely a theology which separates doctrine from life can scarcely be called practical in its nature.

The above is by no means an isolated or unique example. The modern man, if he looks through any standard treatise of theology which professes to reproduce scriptural teaching, will be profoundly impressed by the seeming artificiality of the entire framework. Take, for instance, the traditional treatment of the doctrine of sin. The presence of sin in human life is based upon an elaborate theory of the constitution of Adam and of his relations to God both before and after the fall. It is true that many details of this theory are the product of ingenious speculation rather than of biblical study. Yet although the Bible attaches far less significance to Adam than theology has done, it may be urged with some show of reason that logical considerations demand this change of perspective. Be that as it may, the modern man is likely to feel that we know too little about Adam to make his transgression a very vital element in modern problems. It is practically impossible for a normally constituted person today to feel the weight of original sin in the fashion portrayed by theological theory. The attempt, therefore, to describe and explain sin in terms of guilt inherited from Adam means the substitution of an external theory for a psychological experience. Redemption is in such a case sought from a theoretical rather than an experimental evil. That is, the entire Adamic framework in our traditional theology serves to divorce doctrine from life, even if the historicity of the first chapters of Genesis be accepted. If, in addition to the above difficulty, one attempts to preach the Adamic theory to an audience which believes in the Darwinian hypothesis of the origin of man, he will find himself as far separated from the religious life of his hearers as if he lived on another planet. The practical value of his preaching on this point will be *nil*.

Or, again, consider the question of eschatology. Nothing could be more foreign to this age than the catastrophic conception of the end of the world which we find in the New Testament. But the scriptural theologian must seek to set forth a doctrine of last things which shall do justice to this aspect of the apostolic writings. Probably no task is recognized as more difficult today than just this; and we must admire the ingenuity of theologians in dealing with it. But how many preachers today can use the eschatology of the typical systematic theology as practical sermon-material? There is unquestionably a growing distaste for preaching which emphasizes the future life with all its details. The demand is for preaching which shall deal with the religious realities of this life, rather than with questionable details of the unknown world.

What does this mean, if not the popular recognition of the fact that traditional eschatology introduces a divorce between doctrine and life?

Now, these three phases of Christian doctrine ought to cover a large portion of the subject-matter of preaching. The sin from which we need redemption, the way in which Christ redeems us, and the eternal consequences of that redemption—these are fundamental matters of faith. If, now, the traditional theology makes a man acquainted with an artificial definition of sin which has no evident psychological relation to the actual sin which he must combat in his life; if it portrays to him an elaborate theory of some external, supramundane work of Christ which he vaguely apprehends, but furnishes him with no psychological reality of a living Christ who will help him; if it presents a picture of the future life which wins no sympathetic hearing, what is likely to be the relation between preacher and hearers? Either his sermons will fail to have any practical relation to the life of his congregation, or else, in the endeavor to meet practical needs, the young minister will abandon his theology for some sort of natural religion and ethics. In either case the scriptural theology has failed to be of practical service to the minister. In confirmation of this statement the fact may be noted that a "theological" sermon is a *bête noire* to almost any modern audience.[22]

In view of these difficulties, various modern Protestant theologians are abandoning the objective method of the scriptural systematizer, and are attempting to construct a statement of religious belief which shall be the direct expression of Christian experience. It is believed that in this way theology will cease to be a mere objective, historical discipline; but will rather grow out of the psychological realities of religious experience.[23] In this case it will furnish precisely the gospel which the preacher needs.

Beyond question, these recent attempts to construct theology from a new standpoint have great practical value. If the content of dogmatics is co-extensive with, and based upon, Christian experience, all foreign and artificial formulations of truth will be gradually excluded by a process of natural selection. But the dogmatician is engaged in a scientific task, and he cannot rest contented with a practical confession of faith. He must do more than describe what the Christian believes. He must show that this belief is not illusion. This scientific task involves the statement of Chris-

[22] There are in Protestantism as in Roman Catholicism many Christians whose religious life is on an emotional rather than on an intellectual basis. For such the pictorial form of the traditional doctrines may have a certain symbolic value. This is particularly true of those who have never been really perplexed by modern scientific problems. But the man who insists that religion shall have a definite practical message for his daily problems will be likely quietly to ignore what seems to him an artificial creation of theologians.

[23] As examples of this ideal, the following quotations will suffice:

"Theology thus deals only with the realities that make up religion; and with them only as they enter into religion."—W. N. CLARKE, *Outlines of Christian Theology*, p. 5.

"La dogmatique n'est plus pour nous l'inventaire plus ou moins habilement dressé des *loci classici* de l'Écriture sainte ou des décisions doctrinales de nos symboles; elle est l'exposition systématique de la foi protestante."—LOBSTEIN, *Essai d'une introduction à la dogmatique protestante*, p. 56.

"Die dogmatische Aufgabe . . . . ist damit gegeben, dass die Dogmatik keinen ihrer Sätze unmittelbar aus der Schrift entnimmt, während alle Sätze der biblischen Theologie auf diese Weise gewonnen und nachgewiesen werden müssen. Was für die Dogmatik zwischen die Schrift und die dogmatische Sätze tritt, ist der Glaube."—KAFTAN, *Dogmatik*, 2 Aufl., p. 88.

"Die Dogmatik stellt die christliche Offenbarung dar, wie sie in dem Glauben der kirchlichen Gemeinschaft lebt."—HEINRICI, *Theologische Encyklopädie*, p. 220.

tian doctrines in relations unfamiliar to the layman. The prolegomena is the most important part of a modern treatise on systematic theology. The scientific foundations thus established are indispensable, if the student is to be able to give an intelligent account of the basis of his belief. But this very aspect of Christian faith which is most vital to the scholar is of little interest to the layman. It is the business of the theologian, as a member of the scientific world, to advance the status of his particular realm of science rather than to devise pedagogical principles.[24] The treatises which have appeared from this newer standpoint in the past century are certainly stimulating to the student's thinking, and in so far are provocative of a more vital conception and presentation of Christian truth; but their primary value must, in the nature of the case, be scientific rather than practical. It is doubtful whether the layman would find more religious inspiration in the works of Frank or of Kaftan than in those of Kuyper. Therefore there is still need of a translation of even this theology of Christian experience into language familiar to the layman.

IV

Since those departments of a theological curriculum which embody the scientific method and ideal fail to provide a practical training for the preacher, we are faced with the question whether the department of practical theology as at present constituted meets the need which we have outlined.

An examination of the statements concerning the function of practical theology, as these are formulated in treatises or encyclopædia and in the departmental announcements in the catalogues of divinity schools, reveals two significant facts: (1) The department concerns itself almost exclusively with the formal perfection of the work of the preacher and pastor. It assumes that the material for preaching is furnished by other departments. (2) The definition of the field of practical theology is formulated from the point of view of ecclesiastical rather than of individual religion.

1. Three subjects are universally included under the head of practical theology—homiletics, pastoral theology, and church polity. The last two subjects would be more accurately classified as ecclesiastics. The word "theology," strictly speaking, does not properly indicate their aim. Homiletics is the only discipline which can lay claim to the function of enabling the student to translate his scientific theological lore into sermon-language. In addition to the three subjects above named, seminaries have attempted to enlarge the scope of practical training by courses in ethics, sociology, catechetics, pedagogics, Sunday-school work, missions, and liturgics. In one or two seminaries in our country courses in the practical use of the English Bible are given.[25]

[24] "Die christliche Theologie ist die Wissenschaft von der christlichen Religion. Als Wissenschaft hat sie Selbstzweck. Der Umstand, dass die theologischen Facultäten neben ihrer wissenschaftlichen auch eine pädagogische Aufgabe haben, alteriert nicht die Unabhängigkeit der Theologie als der Wissenschaft von der christlichen Religion."— DEISSMANN, *Theologie und Kirche*, p. 15.

[25] The catalogues of twenty-three representative divinity schools in our country give the following statistics as to the work included under the department of practical theology or its equivalent:

Andover.—Introduction to practical theology (ecclesiastical standpoint), homiletics, liturgics, church organization and work, pastoral care, congregational polity, social ethics, Christian missions.

Auburn.—"Practical theology" includes propædeutic

But it becomes evident, upon reading the official announcements, that we must look to the chair of homiletics, if anywhere, for instruction in the art of converting technical learning into practical sermon-material. The traditional aim of this department, however, is indicated by a former title, which is now generally discarded — "sacred rhetoric." The general scope of instruction here was formulated in the days when the biblical and dogmatic departments devoted their attention pre-eminently to the religious and practical aspects of Christianity; when commentaries supplied spiritual food rather than critical dissertations; when the systematic theologian devoted himself to themes which laymen felt themselves competent to discuss; when people in general lived in the world of the biblical cosmology. The other departments supplied the material for preaching in the vocabulary which the preacher was expected to use. What was required of the teacher of homiletics was not so much a psychological translation as rhetorical skill. All that was expected of a preacher was to elaborate and expound some scriptural

and the use of the Bible in prayer-meetings, Sunday school, and the pastor's Bible class. Homiletics, church polity, and pastoral theology do not come under this title.

Bangor.—Rhetoric and English literature, vocal culture, homiletics, pastoral care, and sociology.

Chicago Theological Seminary.—The "Department of Homiletics" includes the history of preaching and homiletics. The "Department of Expression" includes elocution, oratory, liturgics, music, and the expression of religious thought in life. The "Department of Church Polity" includes congregational history and church polity. The "Department of Christian Sociology and Pastoral Theology" includes biblical sociology, pedagogics, pastoral theology and sociology.

University of Chicago.—Homiletics, history of preaching, church polity, pastoral duties, hymnology, sociology, and religious pedagogy.

Cobb.—Pastoral theology, homiletics, elocution, sociology, missions.

Colgate.—Homiletics, elocution, history of preaching, hymnology, pastoral theology, missions.

Crozier.—We have the following interesting statement: "In the department of practical theology, including homiletics, practical theology, and church polity, instruction is given, etc."

Drew.—Rhetoric, history of preaching, homiletics, liturgics, catechetics, church polity, pastoral duties, church enterprises.

Hartford.—Homiletics, pastoral care, liturgics, sociology, music, church polity, oratory.

Harvard.—Homiletics, pastoral care, liturgics, elocution.

Lane.—Homiletics and pastoral theology.

McCormick.—Sacred rhetoric, pastoral theology, church polity.

New Brunswick (N. J.).—Homiletics, English Bible (its history and its practical use), psychology, missions, liturgics, pedagogy, poimenics, sociology.

Newton.—Homiletics, elocution, pastoral theology, philanthropy, history of preaching, missions.

Oberlin.—Homiletics, pastoral theology, applied sociology, benevolences (these last three make up "practical theology"), missions, church polity.

Pacific Theological Seminary.—Pastoral theology, homiletics, history of preaching, liturgics (see comments on the "chain course").

Princeton.—Homiletics, ecclesiastical theology (= church polity), pastoral theology, missions.

Rochester.—History of preaching, elocution, missions, use of the English Bible for homiletical purposes, public worship, pastoral theology.

Southern Baptist.—Theory of preaching, conduct of public worship, history of preaching, hymnology, elocution, church polity (called "ecclesiology"), pastoral duties.

Tufts.—Applied Christianity (= church efficiency, ecclesiastical standpoint), homiletics, pastoral care.

Union.—Homiletics, pastoral theology, catechetics, church polity, missions, sacraments, liturgics, practical study of the English Bible, with instruction in the homiletic use of different parts.

Yale.—Introduction to practical theology, pastoral theology, homiletics, pedagogy, liturgics, church government and administration.

Summarizing we have the following results, showing what subjects are included under practical theology in twenty-three representative divinity schools, with the relative importance of each subject, measured by the number of seminaries offering it: homiletics, 23; pastoral theology, 22; church polity, 13; liturgics, 11; missions, 9; history of preaching, 8; elocution and oratory, 7 (many seminaries do not include elocution in the course entitled "practical theology"); sociology, 8 (one or two seminaries have special departments of sociology, *e. g.*, the University of Chicago); church efficiency, 5 (a general term, representing various titles in the catalogues); homiletic use of the Bible, 4; music and hymnology, 5; rhetoric, 3; pedagogics, 3; catechetics, 2; philanthropy, 2; propædeutic, 1; English literature, 1; expression of religious thought in life, 1; psychology, 1; sacraments, 1.

This list is indicative of a commendable desire on the part of seminary faculties to equip their students for the manifold practical tasks before them. But if the term "practical theology" may be employed to cover so many subjects, it may mean anything or nothing. With the exception of certain phases of homiletics and the courses in the practical and homiletic use of the English Bible, there is nothing covering the ground described in this article.

doctrine in a clear and orderly manner. The department of "sacred rhetoric" was therefore fulfilling its function in teaching elocution and rhetoric with especial reference to pulpit needs.

The insufficiency of the older type of preaching has been felt by theological faculties, and earnest endeavors to increase the usefulness of the department of practical theology are constantly being made. But in enlarging the departmental activity there seems to be a failure to appreciate the difficulty upon which emphasis has been laid in this paper—*i. e.*, the fact that the center of interest in the historical courses has been transferred from the present to the past, from the practical to the critical, from the popular to the technical, while the center of lay interest has been transferred in precisely the opposite direction. The inadequacy of the present state of affairs can be seen if we ask what would be the gospel of a minister who gave his congregation "higher criticism" dressed up in the robes of "sacred rhetoric"!

In what has been said, no disparagement of the department of homiletics is intended. The practical importance of the ability to speak acceptably and effectively in the pulpit cannot be overestimated. The point to which attention is directed is the fact that the teacher of homiletics has a right to presuppose in his students, as the contribution of other departments, a kind of mental equipment which those departments do not now profess to furnish. Under such circumstances he labors at a great disadvantage. His work should be increased in efficiency by a new discipline which shall supply the deficiency.

2. Practical theology is ordinarily defined as the science of the cultivation of ecclesiastical religious life.[26] Traditionally the minister has been regarded as a man whose professional work is confined within the limits of the church. It is true that the most important service of the minister does lie in his ecclesiastical functions. But the minister is a prophet to mankind as well as the priest of a congregation. With the decreasing importance of organized ecclesiasticism and the increasing importance of unconventional, adaptable Christian activity in our modern world, the prophetic mission of the preacher deserves more attention than it receives. The practical training now furnished to divinity students is almost exclusively intended to promote ecclesiastical efficiency. The layman is very likely to smile at the use of the word "theology" to describe this training. As has been suggested, its real nature would be more accurately indicated by the use of some such term as "ecclesiastics"—the technical equipment of the minister as the chief servant of the church.

The framers of our theological vocabulary seem to have had instinctively the feeling that the practical expression of Christianity ought to be organically connected with its scientific formulation. They thus employed the word "theology" in defining the practical disciplines, in spite of the fact that these actually had little to do with specifically theological inquiry. Is it not possible to give to this historic title a real meaning in view of the modern demands upon the minister? Let the present practical

[26] See the various theological encyclopædiæ.

courses be retained as the technology of ecclesiastical ministry. Then let a department of practical *theology* be created to prepare the student for his prophetic mission. This non-ecclesiastical work is apparently destined to assume more and more importance. Our pastors are discovering this emphasis on the prophetic mission, and are heroically struggling to adapt themselves to the situation. But too often it is only through some bitter experience that the young preacher learns to create a vital relationship between his theological thinking and the preaching which appeals to the citizens of the new world. It is imperative that a divinity school which is to serve the needs of the coming age shall provide some training which shall enable students to translate archæological expressions into modern terms, which shall convert the theology of the scholar into theology for the Christian worker. Two undeniable facts face us as we contemplate the field of theological education: (1) The historic method has come to stay in the biblical, historical, and dogmatic departments. The Christianity of the future must vindicate its right to the name by an appeal to history. (2) But the historical judgment of the scholar is very different in its psychological constitution and in its spiritual value from the personal judgment of the believing Christian. The former can only direct and correct. The latter alone can supply life and energy. The chief business of the minister is to awaken and stimulate religious life. The historical directive is already being admirably supplied. The great need of the present is a practical theology which shall supply the dynamic for vitalizing Christian faith.

V

It remains to point out in a general way the scope of the proposed discipline, and to show its relationship to the scientific departments of the divinity school. A hint of what is here contemplated may be seen in what is called the "chain course" given in the Pacific Theological Seminary of Oakland, California. "Every year one 'chain course' will be given in which some one specific topic will be carried successively through the departments of exegesis, biblical theology, history, systematic theology, and homiletics, to enable the student to study it on every side, as well as to gain facility in combining the contributions of all departments of study in a well-digested and correct result."[27] For example, in the catalogue from which the above quotation is taken a study of the doctrine of the atonement is arranged. Twenty hours are devoted to the sacrificial system in the Old Testament, followed by forty-five hours on the teachings of the New Testament concerning the sacrificial work of Christ. Next come forty hours given to the history of the doctrine, supplemented by forty-five hours of constructive work in the department of systematic theology designed "to assist the student to put together the results of the previous studies of the chain course in a single and consistent theory." Last of all come ten hours in the department of practical theology "to discuss homiletical methods of presenting the atonement."[28]

If, now, instead of doing this service for the student in the case of one isolated

[27] *Catalogue for 1900–1901*, p. 14.

[28] *Ibid.*, pp. 19–28.

doctrine, there should be a department, the entire aim of which should be to correlate whatever the other courses offer with the practical preaching of Christian truth, there can be no doubt that the treasures of divinity education would be made much more available for the practical worker. Let us sum up the general features of the proposed department in the following propositions:

1. Practical theology is the discipline which attempts to formulate Christian truth in such a way as to emphasize its religious value for the Christian life. Its aim is to discover the spiritual message of Christianity rather than its archæological, historical, and speculative elements. It presupposes the results of exegetical, historical, and dogmatic theology, but it presents these results only as they can be formulated in terms of present psychological reality. The norm by which it tests such formulation is the practical application of Christian principles to the problems of Christian life.

2. Its purpose is to enable the minister to embody in his preaching the ripest conclusions of theological scholarship, so that practical Christianity may not suffer the reproach of crudity and of failure to stand before the bar of scientific criticism. But it recognizes the fact that, in order to be genuinely scientific, practical Christianity must address itself to the present world, not to an outgrown cosmos. It will therefore attempt to state Christian truths in immediate relation to the present needs of men rather than in relation to the historic genesis of those truths.

3. It will be differentiated from the department of homiletics in that it gives attention to the content of the preacher's thought rather than to the form of expression.

4. The department of practical theology should be so organized as to enable the student to determine the practical applicability of the knowledge which he has obtained from each of the other departments. On the basis of the work in the biblical department, practical exercises in Bible readings, or in the principles of Sunday-school instruction, could be given. On the basis of the historical department, the practical significance of typical religious movements, and the nature of the dependence of present forms of Christianity upon its past expressions, could be discussed. History could be made especially valuable in securing sanity of judgment, and in preventing fanaticism and eccentricity. On the basis of the work in the department of dogmatics, the material of preaching should be re-examined, subject constantly to the queries: Of what use is it to preach this doctrine? Has it any practical significance for conscious religious life? If so, how can it be psychologically evaluated?

5. The discipline would enable the student to apply a twofold test to all the results of his study: (1) The content of his theology must be scientifically ascertained. All superficial and historically indefensible conceptions must be uncompromisingly excluded. (2) This same content, however, is not a genuinely scientific expression of Christianity unless it embodies the psychological realities which make up religious experience, and this, too, in a form which can be apprehended by a non-theological audience. All pedantry must be eliminated.

6. The discipline would be related to the other departments of the divinity school much as the science of pedagogy is related to the various departments in the school of philosophy and arts in the university. If pedagogy is capable of becoming a real science, practical theology in the same way may have a genuinely scientific character.

7. The discipline could be readily incorporated, if desired, into either the department of homiletics or the department of systematic theology. The close relationship between pedagogy and philosophy in some universities suggests a similar relationship between practical theology and systematic theology. Especially valuable would this association be when systematic theology builds upon the data of religious experience as the medium through which the objective data of theology are to be interpreted. On the other hand, the traditional end served by the department of homiletics is precisely the end which should be kept in mind by the instructor in practical theology. By enlarging the ideal of homiletics to include the study of the content of sermon-material from the point of view of the psychological value of such content for religious experience, the need could be met.

8. In addition to the practical end which it is to promote, the discipline would make a distinct scientific contribution to theological scholarship. In order to give psychological evaluation to religious doctrines, a thorough study of the psychology of religious experience would be indispensable. If, as the science of religion today declares, all the historical manifestations of religion can be adequately explained only as we study the religious life which expresses itself in these objective forms, practical theology would perform a valuable scientific function in constantly attempting a correlation of life and doctrine. This attempt would throw valuable light on the problem, now attracting widespread attention, as to what is the truly scientific method of studying theology.[29]

If the position taken in this discussion be correct, the problem created by the introduction of scientific method into our theological seminaries is to be solved, not by returning to the pre-scientific ideal of theological training, but by advancing to a more truly scientific treatment of the essence of Christianity. The real truth of our religion is to be found in life. This deepest truth cannot be set forth by exclusively historical methods. A psychological view-point is also necessary. The discipline of practical theology could represent this view-point, and would thus furnish a necessary element in the total scientific task of the theologian. As a great Christian scholar has said:[30] "The theologians of every country only half discharge their duties if they think it enough to treat of the Gospel in the recondite language of learning and bury it in scholarly folios." A practical theology of the nature indicated in this essay is perhaps one of the most needed contributions to an adequate portrayal of the truth of Christianity.

[29] "Die Wissen-schaftlichkeit der Theologie kann also nicht darin bestehen, dass sie vor einem gegen die religiösen Interessen neutralen Welterkennen sich legitimiert, sondern dass sie eine ihrem Gegenstand adäquate Erkenntnissmethode befolgt."—TRAUB, "Kirkliche u. unkirchliche Theologie," *Zeitschrift für Theologie und Kirche*, 1903, p. 65.

[30] HARNACK, preface to the English edition of *What is Christianity?*

PART II
PHILOSOPHY EDUCATION

ON THE GENESIS OF THE ÆSTHETIC CATEGORIES

ON THE GENESIS OF THE ÆSTHETIC CATEGORIES

JAMES HAYDEN TUFTS

THE purpose of this article is to consider some of the generally accepted æsthetic categories in the light of social psychology. The thesis to be maintained is that the distinctive characteristics of æsthetic feeling or of the æsthetic judgment (æsthetic value) are due, in part at least, to the social conditions under which the æsthetic consciousness has developed. This thesis may be presented in three parts:

I. The æsthetic consciousness in its beginnings is connected with art rather than with nature.

II. The relation of the æsthetic (appreciative) consciousness to art is not that of cause, but that of effect. Art has not arisen primarily to satisfy an already existing love of beauty. It has arisen chiefly, if not wholly, from other springs, and has itself created the sense by which it is enjoyed.

III. Art has its origins, almost without exception, in social relations; it has developed under social pressure; it has been fostered by social occasions; it has in turn served social ends in the struggle for existence. In consequence, the values attributed to æsthetic objects have social standards, and the æsthetic attitude will be determined largely by these social antecedents. Or, in other words, the explanation of the æsthetic categories is to be sought largely in social psychology.

Before considering the propositions *seriatim*, it will be convenient to note briefly what the characteristics of the æsthetic consciousness are. In this the aim will be, not to present an exhaustive list, but rather to indicate categories which have been generally and widely recognized as distinguishing the æsthetic from other values, such as the ethical, logical, or economic, or from other pleasures, such as the agreeable. And amid the seeming multiplicity of such marks or differentia which have been put forth by writers on æsthetics there is, after all, a considerable degree of uniformity.[1] They may be grouped under three heads:

1. The æsthetic judgment (*a*) expresses a value, and hence implies a subjective element; but (*b*) this value is not apprehended *as* subjective, private, and relative, but rather as objective, independent of personal states or conditions, and hence as appealing actually or normally to others.

This characteristic has found various terms. Volkelt[2] denotes it as a fusion of feeling and contemplation (*schauen*), or as the association of an element besides sense-impression, or as the unity of form and content corresponding to percept and feeling respectively. Santayana[3] defines it as "objectivity," or "pleasure regarded as the quality of a thing." Home uses the phrase "spread upon the object." Kant employs

[1] J. VOLKELT, *Zeitschrift für Philosophie*, Vol. CXVII, pp. 161 ff.

[2] In the essay cited above.

[3] *The Sense of Beauty*, 1896, pp. 44–9.

the terms "universality" and "necessity." By "universality" he has sometimes been supposed to mean that all agree in their æsthetic judgments. This is analogous to supposing that when Kant asserts the universality of *a priori* judgments in pure physics he means that a savage and a Newton would agree on the causes of eclipses. Kant means rather that the judgment, "This is beautiful," as contrasted with the judgment, "This pleases me," implies an elimination of the subjective attitude, just as in the judgment, "This body is heavy," there is an elimination of the subjective as contrasted with the statement, "If I carry this body, I feel the pressure of its weight." That such is the correct interpretation, and that by "universality" Kant is giving in the terms of the critical philosophy the equivalent of Santayana's "objectivity," is evident from Kant's own words: "He will speak of the beautiful as though beauty were a quality of the object."[4] To avoid the misunderstanding to which the term "universality" is liable Cohn[5] would substitute the term *Forderungscharakter*. The æsthetic value appeals to us with a demand for recognition. It may be actually realized by few, but this does not detract from its imperative character. It is "super-individual." Further, when Bain names "sharableness" as characteristic of æsthetic feelings, we have a recognition of the same attitude. It implies that my attitude toward the æsthetic object is not individual, but is possible for any of my fellows.

2. A second widely recognized characteristic of the æsthetic attitude is expressed negatively as a detachment, or freedom from desire, and positively as an immediacy, or purely intensive quality, in the pleasure experienced. The value does not call us to go farther for its full attainment, and hence that deepest feeling of reality is absent which arises in the actual strain of effort, or in the clash of conflicting wills and egoistic appropriation. This characteristic appears under diverse names: in Plato as the pure pleasures independent of desire; in Schopenhauer as the stilling of the will; in Kant as disinterestedness, or a contemplative attitude; in Schiller as play. In recent writers who, I think, tend to magnify one of the means of this detachment — it is semblance, imitation, conscious self-illusion, or make-believe. Cohn prefers the term "intensive" or "immanent" value; the former as opposed to the "consecutive" value of the useful which is valued as a means to an end; the latter as opposed to the "transgredient" value of the true and good which point beyond themselves for significance or achievement. The work of art is a closed unity. The frame of the picture has an important function. The æsthetic object or world is a world apart.[6]

3. A third characteristic of the æsthetic is that stated by Volkelt as "widening of our life of feeling toward the typical, comprehensive, and universal." This characteristic may not be equally evident in all grades of æsthetic feeling. It is more conspicuous in the art of poetry than in that of architecture. Aristotle and Hegel emphasize the universality of the æsthetic object. It expresses the idea. It gives the human and not merely the particular. An allied principle appears in Tolstoy's requirement that art shall stimulate human sympathy. Kant does not admit it among the

[4] *Kr. der Urtheilskraft*, § 6.

[5] *Allgemeine Aesthetik* (Leipzig, 1901), pp. 37-46.

[6] For a forcible illustration of this in the principles of tragedy see LIPPS, *Der Streit über die Tragödie*, 1891.

marks of pure, *i. e.*, formal, as contrasted with dependent beauty, but it is widely recognized.

There are other marks which have been held to characterize æsthetic value; but as the purpose of the paper is not to enumerate these categories exhaustively, but to explain certain of the more generally accepted of them, the three already mentioned will suffice.

Assuming, then, that universality or objectivity, disinterestedness or detachment from reality, and a widening of sympathy or an apprehension of the broadly significant, characterize the æsthetic, can we go back of these categories to seek any explanation for their genesis? Such an explanation may be sought in three fields: (*a*) in biology; (*b*) in psycho-physics; (*c*) in social psychology.

A convenient illustration of (*a*) is offered by the theory of Groos regarding play and the arts which grow out of play. Play, with the psychological attitude of make-believe, is a practice by the young of activities which are to be of use in the struggle for existence later on. Illustrations of (*b*) are furnished by the usual explanations for universality and objectivity. In many cases æsthetic pleasure is due to ease of adjustment, which, in turn, is favored by unity, symmetry, rhythm, etc. Hence, as the minds of men are similarly constituted in this respect, it may be presumed that objects in which these qualities are conspicuously present will give pleasure to all. As regards objectivity, it may be pointed out that the eye and the ear are the pre-eminently æsthetic senses. But these are just the senses which objectify all their qualities — color, form, sound — and do not demand private appropriation of the object.

Santayana offers a more detailed psycho-genetic explanation. The tendency to regard our emotional reaction as the quality of a thing "is the survival of a tendency, originally universal, to make every effect of a thing upon us a constituent of its conceived nature." Emotions, pleasures, pains were thus all regarded as objective by an animistic and primitive consciousness. We have now transferred most of these elements to the subjective side of the account, but the æsthetic pleasures are still objectified. The reason for this survival is easy to discover. For whereas in eating or touching we may first perceive the object, and then later, when we taste or manipulate it, get a new and distinct sensation of pleasure, in the case of the purely æsthetic pleasures, on the other hand, the pleasure arises right in the act of perception, and hence is naturally regarded as inseparable from the object.[7]

It is not necessary, for the purpose of this paper, to deny that each of the explanations cited may furnish elements toward a complete account. But there is a fact not explained by them, and it was reflection upon this which led in the first instance to the theory presented in this paper. The fact in question is this: *Æsthetic pleasure is not always objectified, but under certain conditions wavers between the subjective and the objective.* When I see a new picture, or hear a new piece of music, or attend the presentation of a drama, particularly if I distrust my judgment in the special field in question, I am very apt to express my first judgment in the form, "This pleases

[7] *The Sense of Beauty*, pp. 44-9.

me," or, "I like it." What kind of pleasure does it give me? It would seem very difficult to maintain that the pleasure is not æsthetic. And yet it is not objectified. But, as I continue to look or to listen, if I find that the work not only gives a superficial and momentary thrill, but rouses a deep and lasting emotion; if it appeals, not merely to a passing mood, but to the wider reaches of thought and feeling; in a word, if it appeals, not to the more particular, but to the more universal within me, my attitude changes. Instead of, "I like it," it becomes, "This is fine!" instead of, "It impresses me," it becomes, "This is sublime!" instead of, "I admire that character," it becomes, "That is heroic!" How is this process of wavering and final fixation of attitude to be interpreted? It cannot be explained upon the basis that eye and ear are the universally objectifying senses, for it is not possible to make my judgment as to color waver between the subjective and the objective attitude. Upon Santayana's hypothesis, we should be obliged to say that in passing from "I like it" to "It is beautiful" we are falling back into a more naïve attitude. The explanation which I desire to submit is that in making this change we pass from a private or individual to a social standard of value. The elimination of a personal and subjective attitude is equivalent to the substitution of a social and objective attitude, and, so far as I can analyze my own processes, the universalizing or socializing of the standard is the ground, rather than the consequent, of the objectifying. I do not mean by this that I look around to see how the rest of the company are affected. I may do this. But it might be that, while all the company approved, I should yet fail to sympathize with them or *vice versa*. The community of sentiment to which my standard refers may not be that of my actual spectators. It is, of course, that of real or supposed experts. It is this which gives it the normative or imperative character. The basis for this social reference, and for the distinction between the numerical and a really social universality will be shown in the exhibition of the three parts of the thesis announced at the outset of the paper, which we may now consider.

I. That the æsthetic consciousness is at the beginning connected with art rather than with nature requires no proof here. Admiration of natural scenery is relatively late in the development of child or race. Even the art which "imitates nature" by reproducing animal or plant form in carving or color, by no means presupposes an æsthetic appreciation of the objects reproduced. The animal or plant may be the ancestral totem, or the prized article of food, or the religious emblem. Nor does the impulse to imitate or reproduce depend upon the discovering of beauty in the object. It is in its beginnings quite independent.

II. The second proposition may receive fuller statement, although the evidence on which it rests has appeared in print. The proposition is that art production is prior to art appreciation, and is its cause rather than its effect. This is a reversal of the usually assigned or implied order. Text-books on æsthetics generally begin with the analysis of beauty or æsthetic appreciation, and treat art production as subsequent, or at least as not determining the sense of beauty. This is probably due to the fact that until recently the art which was studied was the art of peoples at the period

of the highest artistic development. Recent work on the origin and history of art affords the basis for a different interpretation. It has been shown that art has its origin, not in any single impulse, much less in any desire to gratify an already existing æsthetic demand for beauty, but rather in response to many and varied demands — economic, protective, sexual, military, magical, ceremonial, religious, and intellectual. Some illustrations of these varied origins may be briefly considered.

The geometric patterns found extensively on pottery might seem to be evidently intended to gratify the æsthetic sense by the "ease of apperception." But Holmes has shown these to be due to the conservatism of the savage, who preserves thus the pattern of the basket in which his clay pottery was formed and "fired."[8] Another illustration of conservation of technical motive which becomes æsthetic in another stage of art is seen in the survivals in Greek architecture of the forms of wooden rafter-ends as ornamental features of the stone construction.

Another slightly different motive appears clearly in the drinking-vessels of the early American Indians, which are exhibited in the Field Columbian Museum, Chicago. The Indians naturally used as drinking-vessels the various forms of gourds which were ready to hand. When they began to make pottery vessels, these were at first made in imitation of the gourds. The series of forms on exhibition shows all stages, from the complete reproduction of the gourd form to the retention of only a few conventionalized features. Animal decorations on pottery cannot be accounted for in this way, but we know that in many cases the reproduction has religious or magical significance.

The palaces and sculptured reliefs of Assyria tell the story of the king's achievements in war and chase, and sprang from the desire to commemorate his glory and minister to his pride. The great achievements of Greek art, in temple, in sculpture of the gods and heroes, and in tragedy, were in source and purpose chiefly religious, although, no doubt, the keen æsthetic sense developed rapidly in appreciation of the qualities of line and measure due originally to constructive or other demands, and became a stimulus and reinforcement of the original purpose.

Self-decoration, whether in the form of dress, ornament, or tattooing, is due to a variety of motives. To show that the wearer belongs to a group or an order is one of the most common, which appears even today in military or other uniforms and insignia. Religious or other ceremonial or historic motives are prominent in the decorations with totemic emblems or for festal occasions. Protective or erotic purposes are served by special articles of dress.[9]

The marvelous development of realistic sculpture in Egypt was due, according to Perrot and Chipiez,[10] not to any æsthetic motive, but to the magical or religious belief that by providing a statue which should be the exact likeness of the deceased, the "ka" or "double" would find in it a second body or dwelling, when the embalmed body should have perished. The beautiful painting on the walls of the Egyptian

[8] Report, Bureau of Ethnology, Vol. VI, 1884–5, pp. 195 ff.

[9] SCHURTZ, *Urgeschichte der Kultur*, 1900, pp. 380–411, is a convenient recent account.

[10] *History of Ancient Egyptian Art*, chap. iii.

tombs owed its existence to the connected belief that the "doubles" of the slaves and of the food there portrayed would be at the service of the deceased in the other world.

In the arts of motion the influence of magical, military, erotic, and religious motives is also prominent. The dance before the chase or battle, the mimes at agricultural festivals, or at initiation ceremonies, which seem to the uninstructed onlooker crude forms of art, are to the mind of the actors entirely serious. They give success in the real activities which follow these symbolic acts. They bring the rain or sunshine or returning spring. The stimulating effect of music for the warrior, the influence of sex in dance or song, the influence of the desire to convey information upon pictorial art, the influence of the desire to commemorate the orator's deeds, or those of a patron, upon the development of epic and ballad, need no illustration.

No allusion has been made in the above to the play factor which, from Plato to Schiller, Spencer, and Groos, has been found in art. But, as a result of the studies of Groos and other recent writers, it is now possible to place this play factor in closer relation to the serious activities than was formerly the case. It has been shown that the play of children as of animals is largely an experimentation with instinctive activities. It is as real to them as anything which they do. On the other hand, the interest felt is immediate, not remote, as in the case of most employments of adult civilized life. It is this which gives play its sense of freedom. And it is the sense of freedom and of power which finds added enhancement in the make-believe activities of certain of the arts, and hence gives to drama and music a part of the fascination which makes them enjoyed for their own sakes, though originated for other ends. Moreover, just as many of the games of childhood, and as the hunting, races, and sports of men represent former serious activities of the hunting stage, when the elements of hazard and tension and immediate interest were present, which have now disappeared from the commercial and agricultural life, so the arts of civilization, many of them, reproduce, in elaborated and refined form, the emotions of stress and contest and victory, which belonged to the earlier life. In any case, for the purpose of this paper, it is sufficient to note that art, as giving expression and reinforcement to the sense of freedom, has been a powerful factor in the development of the appreciative feeling.

Granted, however, that, as regards its end and content, art has sprung into being, not for its own sake, but from the various motives noted, is not all this beside the mark as regards the essentially artistic element — the form? Granted that primitive man wished to propitiate the deity, or gain the favor of the opposite sex, or heighten his courage, or relate the deeds of himself or his clan, why need he do it in dance or music, in epic or lyric, and not in less artistic form? The answer to this has already been given in part. In the case of magical representations and conventional reproductions from conservative tendencies the end determines the form. Secondly, it is freely admitted that the principles of ease of apperception and of heightening or stimulating the consciousness — principles of individual psychology — may be used successfully to explain part of the artistic development and æsthetic delight. But for

still other factors we must seek an explanation in the third proposition stated at the outset, viz.: Art is essentially social in its origins and development. Before considering this, however, we may sum up the significance of the second proposition in the statement that the value of early art was not distinctively isolated and differentiated as æsthetic. Such distinct emergence was the outcome, not the origin, of artistic production.

III. The third proposition, concerning the social origin of art needs no proof. Grosse, Bücher, Brown, Wallaschek, Hirn, Gummere, and others have brought together the evidence from a multitude of observers, as well as from historic examples. Dance, song, and mime have always been social expressions and implied attendant social satisfactions and pleasures. Decorations, ceremonials, temples, pictures, and stories have evoked social feeling, and have been created and developed with constant reference to social approval.

But, while it is unnecessary to repeat here the evidence for this, it is necessary to analyze what is denoted by the term "social" in this connection. To say that art is social in origin means —

(*a*) First and least important, that it arises — whether as dance, song, drawing, decoration, recital, or mime — when several people are together. Hence, by the simplest law of contagiousness, or "imitation of the emotions," its effect is not only shared by all, but is strengthened and reinforced, both by the infection from the joy or grief of others, and also by the mere social or gregarious feeling itself. These effects are experienced even by such a merely numerical group as now assembles to hear a concert or see a play. Even this measure of sociability goes beyond a numerical multiplication of the feeling experienced by an individual. It transforms its quality as well as increases the quantity.

(*b*) More important than the sociability resulting from contiguity and imitation is the social consciousness of a group bound together by ties of a common blood or common interest. In the first place, the art expresses the joy or grief or pride or heroism, not of an individual, nor of an indifferent person, but of a member of a group. Before any of the group can enter into the art and experience the emotion, he must be a member of the group; *i. e.*, he must know the ideas and imagery, must cherish the beliefs and ideals, must share the common interest, and hence be in a condition to feel as a social consciousness. In the second place, the member of a group of this sort has his feeling reinforced, not merely by imitation of the emotions of others, but by the constraining and compelling group authority. For the Hebrew not to join in the song of praise to Jehovah, or for the Australian at an initiation ceremony to decline to play his part, would mean, not merely æsthetic indifference, but disloyalty to the group. The quality of the æsthetic feeling is further heightened and transformed, not only by gregariousness, but by the joys of common glory, common victory, and common possession, or by the grief of common loss.

This second and higher kind of social consciousness is very commonly the condition under which primitive art is exercised. The festal observances celebrated at

birth, marriage, and death, at initiation into manhood or in connection with change of seasons; the celebrations of victories in chase or war; the recitals and chorals; the work-songs and war-dances; the temples and emblems — all appeal to such a social consciousness.

A peculiarly striking example of this group-influence is seen in certain phases of the comic. It is not necessary to accept in its entirety Bergson's thesis that the comic is the equivalent of the strange or the odd, to recognize that at least this is often the case, and that the weapon of ridicule is one of the most potent in the armory of the group for enforcing the group standards upon the would-be individualist. The man who "doesn't see anything to laugh at" is usually the subject of the joke, and therefore, temporarily at least, out of the group. The ingenuity which groups of children display in controlling the new scholar by ridicule is well known. Artistotle's definition of the comic as a species of the deformed is thus given a more social standard by which the deformity is estimated.

(*c*) Yet a third aspect of the social origin of art is the relation between the artist and the spectator or hearer. Even more palpably in primitive art, and in the child, than in the artist of maturity, is the expressive function of art and its appeal to social judgment apparent.[11] Any intercommunication presupposes certain social standards and may be held to lead to the categories of the "world of description."[12] Communication intended to kindle the emotions or voice the purposes of others, as in military, religious, erotic, or magical preformances, must necessarily imply a more intimate identification of the parties, and an emotional, as well as ideational, community of attitude.

This aspect of the social character of art becomes identified with that under (*b*) above in many forms of primitive art. For in the dance, the corroborree, the Dionysus choral out of which grew the Greek drama, the religious or military chant, the funeral wailings, and the labor songs, the artist was not the individual, but the communal group. Hence the influence of the social upon the whole æsthetic consciousness was the more direct.[13]

The influence of the social origin upon the form as well as upon the content is also apparent in at least one of the most important elements of art-form, viz., rhythm, which Plato regarded as a distinctive mark of human art in contrast with the play of animals. Allowing any physiological basis we please for rhythmic action and its enjoyment, we must in any case recognize that any act performed in common by a group takes on naturally, if not necessarily, a rhythmic form. The sculptured figures of Egyptian laborers, with the præsul clapping his hands to mark time for their efforts, the sailors on the ship, the section hands on the railway, the mourners expressing grief, college students in a college yell, the pack of children deriding some unfortunate with their chanted "cry ba-by, cry ba-by" — all testify that, if people would do an act together, whatever it may be, or whatever their grade of culture may be, they fall into

[11] *Cf.* BALDWIN, *Social and Ethical Interpretations*, pp. 147-53.

[12] *Cf.* ROYCE, *Spirit of Modern Philosophy*, pp. 397 ff.

[13] On this see especially GUMMERE, *Beginnings of Poetry*.

rhythm.[14] In common rhythmic action the stimulus and reenforcement of sympathy and social accord are felt, and whatever of pleasure there may be in the physiological process is immensely strenghtened by this action of social forces.

We come now to the inferences as to æsthetic feeling and the æsthetic judgment which may be drawn from the above considerations.

1. The universality and objectivity of the æsthetic judgment. Universality means as we have seen, the elimination of the personal, individual, subjective attitude. Now this is precisely what is required by a consciousness in the attitude analyzed under (*b*) and (*c*) above. My attitude, when I hesitate to say positively and impersonally, "This is beautiful," and venture only to assert, "I like it," may be due in part to a query as to how far I am really viewing the object as an expert; *i. e.*, how far I am aware of its full purport, and also able to estimate the efficiency and appropriateness of the means to express the end; but, in addition to this, it is due to the query as to whether the object stirs a genuinely social feeling, and as such has normative and objective value. The conviction that the object is really appealing to a social standard finds expression in an objective judgment. In pronouncing the judgment I do not consciously appeal to the actual spectators, the "man without the breast," of Adam Smith. Universality of this merely numerical form may belong much more to a judgment respecting strawberries than to judgments respecting Wagner. The æsthetic universality is qualitative and internal, not quantitative and external. It means that I judge as from a standpoint that is *allgemein-menschliches*, and that this *allgemein-menschliches* has been created and developed within me largely by the social experience and expression. An illustration of the extent to which a social attitude may transform even the most non-æsthetic of senses is seen in the difference between eating alone and sitting at a banquet. The music, the decorations, and the conversation are not merely æsthetic additions, which comprise the whole æsthetic value of the occasion; even the attitude toward the viands is affected until it becomes at least *quasi*-æsthetic.

2. The second category of the æsthetic was stated as disinterestedness or detachment and freedom. There are several aspects of this category to be distinguished. The "disinterestedness" or "immediacy" of æsthetic value may refer to its quality as pleasure. This would be a matter of individual psychology. It may also, however, have reference to a certain absence of egoistic desire, and this quality stands in direct relation to the social origins of art. Whatever is to be enjoyed in common and without egoistic appropriation must, almost necessarily, be enjoyed by contemplation—ἐν τῇ θεωρίᾳ. And while we may not convert this simply, and assert that all pleasure of contemplative quality is due to social antecedents, it is obvious that nothing could conduce more effectually to the creation and development of a taste for such pleasure than the social attitude involved in the festivals and other fostering occasions of primitive art.

There remains to be noted under this category the aspect of freedom, of detachment from reality, or "make-believe." It is evident that this, as an aspect of æsthetic

[14] See especially BÜCHER, *Arbeit und Rhythmus*.

appreciation, is fostered, if not wholly created, by the social aspect of artistic production. Whether the work of art owed its origin to economic, or religious, or magical, or military purposes, on the one hand, or grew more directly out of the instincts which at an earlier period show themselves in what adults call play,—in either case the imagination of spectator as well as of artist must widen beyond the present reality. As the magical performance takes the actor and spectators into the unseen world, as the recited deed of prowess, or the carved or painted form revives the past, as the festival of victory enables all the tribe to live over the triumphs of the warriors, as the ceremonials of initiation, or marriage, or funeral, or of religion, project the imagination into the future, the range of conscious freedom is broadened, and the broadening process, although due to other forces, brings with it a thrill and satisfaction of its own. It is not, of course, claimed that the child does not find instinctive delight in the free play of imagination, with all its flight of make-believe. The claim is, that the various forms of art have been the most effective means of developing this free-play and the attendant delight. Further, in certain of the arts, notably the drama, we find a form of tension and excitement which, like certain of the games of childhood, or certain of the sports of maturer life, suggests previous periods in the race-history when life itself, as maintained by fishing or hunting, in battle or strategy, was a process containing far more of emotional strain and stimulation than the life of civilization.[14] May not the tingle in the nerves of the romance reader or the theater goer, like that of the gambler or the hunter, be reminiscent of the time when capacity for such tension was bred into the race by the struggle for existence?

3. The third category of the æsthetic was given as a widening of sympathy and an appreciation for the broadly significant. The bearing of the social origin of art and of the æsthetic sense upon the genesis of this category is too obvious to require any detailed statement.

[15] W. I. THOMAS, "The Gaming Instinct," *American Journal of Sociology*, Vol. VI, pp. 750 *ff.*

SIGNIFICANCE OF PARTIAL TONES IN THE LOCALIZATION OF SOUND

A PRELIMINARY STUDY OF THE SIGNIFICANCE OF PARTIAL TONES IN THE LOCALIZATION OF SOUND

JAMES ROWLAND ANGELL

AN adequate theory of the localization of sound must take account of three general problems: (1) the physical conditions (extrinsic to the organism), upon which localization depends, must be determined; (2) the precise physiological processes involved in such localization must be discovered; and (3) the psychological activities, which are concerned, must be analyzed and described. Up to the present time no theory has dealt exhaustively with all of these considerations, and the psychological problem has often been practically disregarded.

The extensive experimentation of recent years has rendered it essentially certain that the most important precondition on the physical side of sound localization is found in the relative amplitude of the sound-waves distributed to the two ears.[1] It is also known that, in distinction from their amplitude, the composition of the sound-waves is sometimes of significance in localization. The evidence bearing on this point, however, is lacking both in definiteness and in detail.

The varying intensity in the stimulation of the two end organs with the resultant effects upon the cortex and other ganglionic centers has often been regarded as a sufficient and self-evident basis for an explanation of the physiological facts concerning localization. Wundt has advanced the idea that tactile nerves are stimulated by the movements of the tympanic membrane and thus contribute to the localization processes. He has made a similar suggestion with reference to stimulations of the tensor tympani muscle.[2] This type of view has been rigorously criticised by Stumpf, who emphasizes, among other difficulties, the undoubted fact that we can correctly localize two simultaneous sounds.[3] E. Mach early suggested the theory that the external ears act as resonators modifying the quality of sounds heard from different directions, and affording thus a criterion of direction.[4] Theories like those of Preyer and Münsterberg have attempted (thus far with limited success) to make the semi-circular canals responsible for the physiological phenomena.[5] So far as these latter theories emphasize the release by sound stimulations of quasi-reflex movements of localization, they point to an important and genuine feature of such processes, whether their conception of the physiological mechanism involved be accepted or not.

On the psychological side various factors have been described as contributing to localization: *e. g.*, (1) the immediate consciousness of position in an auditory space;

[1] For discriminating criticism of the important views of modern scientists, see PIERCE, *Studies in Space Perception.*

[2] WUNDT, *Grundzüge der physiologischen Psychologie*, Vol. II (1893), pp. 93 ff.

[3] STUMPF, *Tonpsychologie*, Vol. II, pp. 53 ff.

[4] MACH, "Bemerkungen über die Function der Ohrmuschel," *Archiv fur Ohrenheilkunde*, Vol. IX (1875), p. 72.

[5] *Cf.* PREYER in *Pflüger's Archiv*, Vol XL, p. 586; MÜNSTERBERG, *Beiträge zur Psychologie*, Heft 2, p. 182.

(2) the consciousness of positional relations gained by visual and other supplementary imagery; (3) the consciousness of tendencies to movement on the part of the head and eyes; and (4) apparently, at times, the consciousness of cutaneous sensations from the shell and membrane of the ear and possibly the tensor muscle.[6] Criticism has been much devoted to combating the frequent and careless assertion that we are conscious of the intensity of the sound heard by each ear and that we in this way localize the source of the sound upon the side most intensely stimulated. The fact is, of course, that we are conscious of one sound and one intensity only, and this is referred to some specific spatial position. But the details of the strictly psychological portion of our general problem have been, perhaps, most often honored by neglect. The recent paper by E. A. McC. Gamble is a notable exception.[7]

So long ago as 1875 Lord Rayleigh had made observations upon the localization of tuning-fork tones, which led him to surmise that differences in the quality and timbre of sounds, as heard by the two ears, were of quite as much significance for localization, as the mere differences in the intensity of the fundamental tone.[8] In 1879 S. P. Thompson, discussing experiments of his own with the pseudophone (*cf.* the similar observations of Weber. *Berichte der Gesellschaft der Wissenschaften* [Leipzig, 1851], p. 29—M. and P. Cl.), came to a like conclusion, which he formulated in a later article somewhat more explicitly.[9]

Despite the instructive character of these investigations, it must be admitted that the conditions which were employed are somewhat unnatural, and that in so far, therefore, they jeopardize the scope of the inferences which may be confidently based upon them. In certain of Lord Rayleigh's experiments, for example, two tuning-forks were struck on different sides of an observer, and then, one of them being stopped, the position of the other was estimated. Evidently the conditions produced by sounding two tones and then suddenly subtracting one are very different, both neurally and psychologically, from those arising when a tone is heard as it originates from some single source. In Thompson's interesting experiments an artificial pair of pinnæ were used, enabling an exaggeration of the effects of reflection, etc., produced by the natural pinnæ. That the localization of sounds could in this fashion be disturbed in certain definite ways is not surprising, nor is it remarkable that tuning-fork tones should show much less liability to modification in this manner than more complex sounds. But, in the nature of the case, such observations cannot furnish a complete chain of evidence as to the differences characterizing the localization of these various kinds of sounds under normal conditions. Notwithstanding the limitations upon the implication of these experiments, they certainly constitute presumptive evidence in favor of the belief that quality changes are

[6] The general psychological question of the reality of an auditory space has been luminously discussed by Stumpf, and in some of its more empirical features is best treated by Pierce. *Cf.* STUMPF, *loc. cit.*, and also *Ueber den psychologischen Ursprung der Raumvorstellung*, Leipzig (1873); PIERCE, *loc. cit.*

[7] GAMBLE, *Psychological Review*, Vol. IX (1902), pp. 357-73.

[8] RAYLEIGH, *Transactions of the Musical Association*, (1876); also *Philosophical Magazine* (5), Vol. III (1877), p. 456.

[9] THOMPSON, *Philosophical Magazine*, January-June (1882), p. 415; *ibid.* (5), Vol. VIII (1879), pp. 385-90.

of genuine significance for sound localization, especially when taken in connection with such observations as Mach's,[10] and such mathematical deductions as Lord Rayleigh has made, showing that, save for a few positions, there is an extremely small difference in the intensity of the stimulation of the two ears by the fundamental tone of a sound.[11]

Pierce has demonstrated that localization in the median plane, which is notoriously uncertain and inaccurate, can be vastly improved, when complex sounds are used, by learning to note the modification in tone-color, or timbre, which is connected with different positions in this plane.[12] He has also made tests with organ pipes and tuning-forks, which suggest that auditory judgments of distance are affected by tonal complexity, the richer tones tending to be judged nearer than those more nearly pure.[13] In a paper published in 1865 Mach remarked a contrary fact and promised further communications upon the subject, which I have, however, been unable to find.[14] Bloch has made certain observations, which appear to agree with Pierce — the fuller, richer tones being judged nearer.[15] On the other hand, the computations of Grinwis, showing the relative intensity of the components of a complex sound for various distances, furnish a theoretical confirmation of Mach's view.[16] The issue is really somewhat ambiguous. Richer sounds may ordinarily be judged nearer than those more nearly pure. The upper partial tones of a complex sound may be relatively more prominent when the sound is heard from a distance, and still the total sound effect be poorer and less full, than when the same sound is heard near at hand.

The extended experiments recently carried out in the Psychological Laboratory of the University of Chicago showed conclusively that persons totally deaf in one ear could localize sounds of sufficient complexity with considerable accuracy, whereas approximately pure tones could not be localized at all.[17] The localizations were evidently based upon the modifications which the partial tones of complex sounds undergo, when the position of the sources of the sounds is changed relative to the ear. The introspective evidence offered by the observers in these tests confirmed perfectly the objective results in pointing to this explanation. It is interesting to note in passing, in connection with Pierce's observations upon median plane localization, to which reference has already been made, that in the Chicago experiments certain of the persons deaf in one ear distinguished front and back with distinctly greater accuracy than the normal subjects. It will be remembered that for normal persons the intensity criterion is for points in the median plane peculiarly ambiguous. But quality differences are relatively reliable, if one has learned to employ them.

The observations reported in this paper constitute an immediate outgrowth of these several previous discoveries and form an effort to begin the systematic investiga-

[10] *Loc. cit.*; also "Bemerkungen über den Raumsinn des Ohres," *Poggen. Annalen*, Vol. CXXVI (1865), p. 331; *Sitzungsberichte der Wiener Akademie*, Vol. L (1864), "Ueber einige der physiologischen Akustik angehörigen Erscheinungen."

[11] *Loc. cit.*

[12] *Loc. cit.*, pp. 92 ff.

[13] *Loc. cit.*, pp. 163 ff.

[14] *Poggen. Annalen, loc. cit.*

[15] BLOCH, *Das binaurale Hören*, Wiesbaden, 1893.

[16] GRINWIS, "Ueber cylindrische Schallwellen," *Pogg. Annalen*, 1877, Beibl. 8, p. 443.

[17] ANGELL AND FITE, *Psychological Review*, Vol. VIII (1901), pp. 225, 449.

tion of the part played by the partial tones in the localization of sound. The positive outcome of the work thus far is largely methodological in character and bears most immediately upon points (1) and (3) mentioned in the opening paragraph, and indirectly upon point (2). For reasons which will presently appear, the work is necessarily extremely slow, and the results already attained do not seem to warrant a more pretentious title than that I have chosen. The probability of unavoidable delay in the completion of the observations is the justification for publication at this time. Moreover, the implication of the experiments successfully executed seems altogether definite and distinctly significant for the theory of auditory localization.

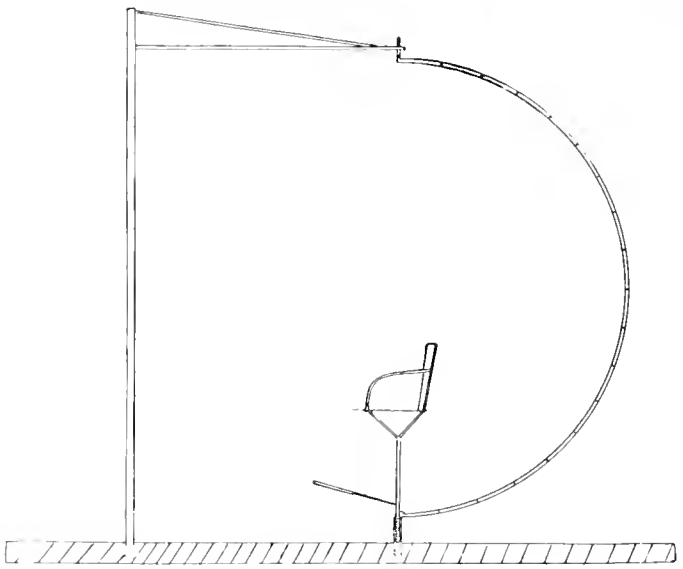

FIG. 1
Platform with semicircle and chair

A solution of the problem in hand evidently involves certain indispensable conditions which the apparatus was designed to meet. There must be (1) a series of sounds of controllable intensity, including (2) at least one approximately pure tone. It must be possible (3) to produce these sounds at any position relative to the observer without his previous knowledge of their location. It must be possible (4) to have all the sounds given at equal distances from the observer. It is desirable also (5) that the distance should be capable of variation, although the present paper does not deal with experiments in which changes of this kind were employed. Not least in importance, as dearly bought experience has taught me, is (6) the absolute prevention of the reflection of the sounds. Working under expert assurance that reflection could be eliminated by properly arranged draperies, I wasted much valuable time indoors, with the result that often tuning-fork tones, when opposite one ear, would confidently be localized as opposite the other. My failure may have been wholly due to unskilful devices on my part, but I certainly question very seriously whether experiments with tuning-forks can be satisfactorily carried on save in the open air. With many kinds of sounds this consideration is of minor consequence. I may mention in connection with these indoor experiments the interesting effects of fatigue which were repeatedly apparent. If one ear were fatigued for a tone, and within a few moments both ears were permitted to receive the sound, the latter would often be confidently localized as opposite the unfatigued ear, or sometimes as in the median plane, depending on the degree of the previous fatigue. Thompson, in the paper already mentioned, remarks a similar phenomenon, but much less extreme than in my observations.[18]

[18] *Philosophical Magazine*, Vol. (5) XII, p. 351.

APPARATUS AND PROCEDURE

To meet the conditions named, work was carried on outdoors on windless nights —a deplorably infrequent circumstance in Chicago— rendering the observations very protracted. A narrow platform was erected upon which was mounted the apparatus shown in the accompanying diagrams (Figs. 1 and 2). The upright support (Fig. 1) carries a strong light semicircle of steel with a radius of four feet, which is so arranged as to permit a metal carriage mounted on soft rubber rollers (Fig. 2) to travel up and down upon it. The semicircle is marked off in degrees, so that the position of the carriage can at any time be determined. The carriage is held at any desired height by friction screws acting upon the rollers. The semicircle is very accurately hung and revolves noiselessly. The chair shown in the cut is adjustable in height, and when in use is put at such a point as will bring the line joining the observer's ears into the equatorial plane of the sphere determined by rotating the circle. The chair is mounted on heavy felt cushions which insulate it from any sound-waves which might be transmitted through the semicircle. The platform under the chair is marked off like a compass, so that any position of the circle can be determined. Upon the carriage are fastened the various instruments used for giving the sounds. These are so adjusted that at whatever position the sound is given a constant phase is presented to the observer.

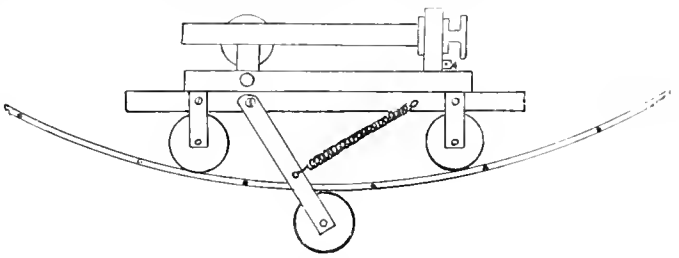

FIG. 2
Carriage with tuning fork, resonator removed

The sounds employed were as follows: from (1) a tuning-fork of 1,000 vs.; (2) a stopped pipe of 768 vs.; (3) a reed pipe of 768 vs.; (4) a bell with a fundamental tone of approximately 2,048 vs.; and (5) a noise made by a telegraphic sounder. It would have been desirable to work with tones which were all of like pitch, but this was out of the question for the time being. It will be observed, however, that all the tones are within the middle range of the musical scale, and that they are quite close together in pitch, two of them being of identical vibration rate. The sounder and bell were operated by closing a noiseless electric contact. The two pipes were controlled by blowing through rubber tubing. The fork requires a somewhat more detailed description. It should be said that the intensity of all the sounds was kept as nearly constant as possible, and that the intensity aimed at was such as to render all of them perfectly distinct, without their becoming unpleasant.

The arrangement for the tuning-fork constituted the most elaborate and most troublesome technical part of the problem. To secure as nearly pure a tone as possible a carefully constructed resonator was made and mounted over the fork. The fork was supplied with a magnet between the tines, and this magnet was then connected with the circuit of an interrupting fork of just one-half its own fork's rate of vibration. This is the device employed by Helmholtz in his celebrated experiments

upon vowel sounds.[19] By bridging the spark in the driving fork one secures a tone in the second fork free from all accessory noises of interrupters, hammers, etc. In my experiments the driving fork was kept, where it could not be heard, in a house at a distance from the experimental platform. That I thus secured an absolutely pure tone is, perhaps, more than can be confidently asserted. Resonator analysis failed to detect any tone apart from the fundamental, and, so far as concerns my observers, it can be positively stated that they were utterly unable to discern any complexity in the tone. The tone of the stopped pipe was not to them noticeably complex, so that they could confidently detect the overtones, and yet it was not so perfectly pure as the fork. It had the muffled effect characteristic of such tones. All the other sounds were noticeably complex.

My observers sat in an erect position, with eyes closed, but without a head rest. Previous experiments had led me to fear the effect of such a rest, when working with tones of the present character. My subjects were instructed to eschew all tendency to head movements while making their localizations, and I watched them as closely as possible to detect any such movements. Light, open arm rests enabled them to retain an accurate sense of their general bodily orientation and, after a little practice, readily to assume and retain the correct position. They were trained in the nomenclature employed to designate the various positions on the sphere, and in cases of any doubt they were asked to open the eyes and point. Needless to say, on such occasions precautions were taken to move the semicircle and carriage first, so that their position during the experiment should not be thus discovered. The sounds were given for periods of three to four seconds. This time was hit upon as the result of actual experiments made to determine that duration of the stimulus which would permit clear perception, without any feeling of stress or haste, and at the same time avoid tedium and the confusion sometimes caused by wandering attention. The several tests with different sorts of sounds were made as nearly comparable as possible by using the same positions. This was, of course, not known to the subjects, who were given no indication of any sort as to the point from which they might expect the next sound. Moreover, the order was altered in which the various kinds of sound were given at the several positions employed.

Of the three men who served as reagents for me one had had no previous practice in such observations, one had had a moderate amount, and one was extensively drilled. The results gained from all of them agree thoroughly in their fundamental implications, although there is naturally some quantitative variation. I place most confidence in the results of the most experienced observer, and I shall devote myself mainly to his reactions. This is the more warranted by the relatively small number of experiments I have succeeded in making under reliable conditions — some four hundred only. The accompanying table (Table I) exhibits compactly the results of this observer's localizations:

[19] HELMHOLTZ, *Sensations of Tone*, translated by ELLIS, 3d ed., p. 399.

TABLE I

(Reagent, J. B. W.)

Average Error in Degrees	Sounder	Reed Pipe	Bell	Stopped Pipe	Tuning Fork
Longitude	2	9.5	5	30.5	53
Latitude	7	4.5	11	13.5	41
Total	9	14	16	44	94

RESULTS

We may say at once, that under such conditions as these—*i. e.*, entire freedom from reflection—there is never any confusion of points in one lateral hemisphere with points in the other, save when one approaches very near to the median plane. Even then this form of error is extremely rare and probably attributable to wandering attention, to accidental suggestion from some extraneous source, or to some similarly irrelevant circumstance. The case of pure tones formed no exception to this rule, and the theories, which make the intensity of the stimulation of the two ears fundamental in the explanation of localization, are at least correct so far as concerns the assignment of a sound to one of these hemispheres or the other. Sounds originating in the median vertical plane are also correctly referred to this plane.

When one scrutinizes the results further, however, it becomes clear that within the lateral hemispheres accuracy of localization appears to be a function of the complexity of the sound. The average error in localizing the tuning-fork tone is 94°, which is more than a quadrant. With the stopped pipe the error is less than half as large, while with the bell and reed pipe it falls to less than a sixth, and with the noise is at its minimum with less than a tenth of the error with the fork. I lay no great stress on these precise figures, yet I have no question but that they indicate the intrinsic nature of the differences in the capacities of localizing these different forms of sound. Certainly the objective record was perfectly confirmed by the subjective assurance of the observers and their promptness of localization. Moreover, when, as in certain special experiments, the sounds were repeated two or three times in quick succession with a very brief duration for each stimulus, the accuracy of the localizations with the *complex sounds* was distinctly improved. This procedure seems to have the effect of making the quality differentia more noticeable than when the sounds are more continuous.

The comparison of the errors in latitude and longitude is not entirely free from ambiguity, because no points nearer than 45° to the poles were actually employed for giving the sounds. The observers did not know that this was to be so, but it makes comparison relatively unprofitable. In the case where localization is most accurate, the errors in latitude are notably larger than those in longitude, as one might anticipate from the standpoint of the intensity theory. In the tuning-fork case it would seem that mere chance might in the main be accountable for the results with a single exception to be mentioned in the next paragraph.

The longitudinal regions immediately opposite the ears show fewer errors, and errors of smaller amount, in the localization of the pure tones, than do the regions in front and behind this. Indeed, the most striking difference in the localization of complex and simple tones is to be found in the ascription of the exact location of sounds to the various points in these lines diagonally in front and behind. This is in accord with Steinhauser's computations upon the effect of intensity.[20] In the vertical plane, in which lies the line joining the ears, the localizations of pure tones are apparently relatively accurate save as regards height. This constitutes the exception above mentioned and seems to agree with Lord Rayleigh's observations and mathematical calculations, showing that the objective differences in the intensity of the sounds reaching the two ears, which is always relatively small under normal conditions, becomes rapidly less, as we move away from the line joining the two ears. With the most experienced of my observers the average error of localization in latitude is nearly four times as large as that of longitude in this region.

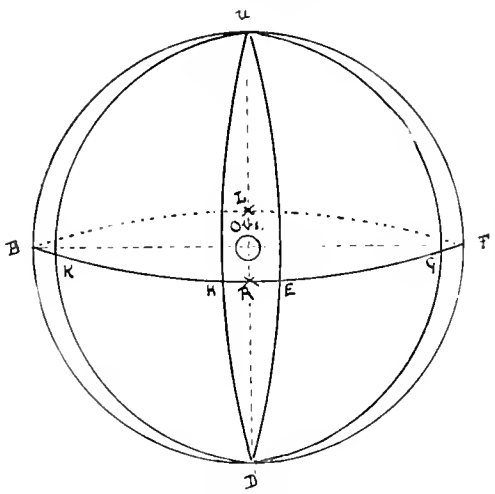

FIG. 3

F, B, U, D, R, L indicate, respectively, front, back, up, down, right, and left

Taken in their entirety the experiments seem to indicate that even with pure tones intensity differences alone are sufficient to enable our confident and correct assignment of such sounds (1) to the median vertical plane, (2) to the lateral hemisphere from which they may chance to come, and (3) the further less accurate and less confident determination that certain sounds of this character belong to the vertical transverse plane of the head. But accuracy of localization as regards altitude in this transverse plane and accuracy in the several regions between this plane and the median plane—accuracy such as is commonly possessed, involving an average error of 10° to 25°—is apparently dependent upon tonal complexity and the modifications in timbre, which complex sounds undergo through the change in the intensity of their partials, when heard from different directions. Localization in the vertical median plane is inaccurate with all sounds, but most inaccurate with pure tones.

The matter can be put diagrammatically as in the accompanying cut, which represents the sphere within which the observer sits (Fig. 3). Sounds in the planes *FUBD* and *LURD* can, as the intensity theory requires, be localized with considerable accuracy as regards the *plane* to which they belong. The exact *point* in the plane from which they originate is relatively uncertain, when intensity is the only available criterion. The experiments seem to show with some definiteness that, as we pass from one of these planes to the other, inaccuracy of localization rapidly increases, unless

[20] STEINHAUSER, "Theory of Binaural Audition," *Philosophical Magazine* (5), Vol. VII (1879), pp. 181, 261.

there be definite qualitative differences in the successive sounds. Without such qualitative variations the lune *UEDG* is subject to persistent confusion with the lune *UIIDK* and the several points in each lune respectively are subject to gross confusion with other points in the same lune. Whether the confusion of points in the upper with points in the lower hemisphere is in the case of pure tones notably different in quantity or other characteristics from the confusion of such points with others in the same hemisphere, it is not at present possible to say.

These statements concerning localization as a function of tonal complexity must not be understood as meaning that we are reflectively conscious of this local sign of direction involved in the changing quality, or timbre, of the tones. Sometimes this is noted, but it is not in any way necessary that it should be. Whether or not conscious experience teaches us in childhood to discriminate these varying sensations as having a varying spatial significance, is a question of genetic psychology with which it is not possible here to deal. Certainly as adults we make the localizations in an almost reflex manner. But the basis of the localizations is found in these symbols reported in consciousness as differences of quality, to which we have come to attach certain space values.

My subjects used much visual imagery in their judgments. My best trained observer seems in his localizations to be conscious of little else beyond such imagery and an occasional tendency to move the head in the direction of the sound. For him to localize a sound means chiefly to get a visual image of the sounding object in the position where he supposes it to be.

The work thus reported opens up the problem which I hope subsequently to work out in more detail. Much fuller observations along the line already pursued are required to permit more confident and inclusive conclusions. Differences in the localization of pure tones of widely varying pitch must be investigated, for the sound shadows involved with such tones and the diffraction experienced by them vary very considerably. It will be necessary to study more carefully the number and character of the partial tones concerned in the differences we have noted. This involves the whole question of relative intensity and pitch in the partials. All one can say at present is that with sounds of medium pitch such accuracy of auditory localization, as our common everyday experiences reveal, seems immediately connected with the presence of distinguishable (though not necessarily noticed) partial tones. When such partial tones are absent or very inconspicuous, gross inaccuracy of localization is at once apparent. Detailed information relative to the localization of very high and very low tones is still to be secured. The effect of the duration of the sound upon localizing deserves closer inspection. In connection with several of the points just mentioned the peculiarities of auditory judgments of distance, as distinct from direction, also require more exhaustive investigation than they have as yet received.

In conclusion I wish to express my sincere obligations to Mr. J. B. Watson and Dr. M. L. Ashley, who have given me unsparingly of their time and assistance. I am also indebted to Dr. Warner Fite for assistance in the construction of the apparatus, and to Professor E. W. Mahood for service as reagent.

EXISTENCE, MEANING, AND REALITY

EXISTENCE, MEANING, AND REALITY IN LOCKE'S ESSAY AND IN PRESENT EPISTEMOLOGY[1]

A. W. Moore

To many, anything more than a passing reference to Locke, these days, will appear to be an anachronism. What profit can there be in threshing over straw as old and thoroughly flailed as Locke's theory of knowledge? Why return from the outposts of the epistemological battle to an ancient, deserted, and almost forgotten camp? Those who feel perfectly secure in the present position, who feel that all points in the rear and on the flanks of the advance thus far have been left well fortified, will answer: "Why?" But there are some, and their number is increasing, who do not share this sense of security and who feel that the difficulty is not one of momentary detail merely, but one involving the entire plan and method of the movement beginning in Locke. To these a review of the problem in the elementary and primitive form in which Locke presents it, and a reconsideration of the "common-sense" solution he offers, may not seem to be a case of misdirected effort.

Moreover, it may appear to some that the indulgent attitude, which it is the fashion to take toward Locke's epistemology, often has less warrant than is assumed. Locke's pioneer services are of course duly recognized, but his methods and results have long been regarded as having only an historical interest. It has long since been agreed that, instead of finding a path through the epistemological "forest primeval," he completely lost his way. The first "blaze" believed to have been made through that wilderness has, for over a century, borne the name of Kant. That "blaze" has become a great highway, splendidly equipped, and traveled by an innumerable company seeking the realm of truth and reality believed to lie at the terminus. But after more than a century's journeyings, with the promised land still beyond the horizon, some are beginning to wonder whether Kant, after all, really did get through. The highway, broad, magnificent, and thronged as it is, still runs through the wilderness of "appearance." And this doubt is not abated when it is seen that the highway is

[1] The standpoint from which this paper is written is the outgrowth of work done a few years ago in Professor Dewey's seminar in logic — a seminar remarkable for its development of critical and reconstructive principles. Since this paper was written the collection of Oxford essays edited by Mr. Sturt under the title *Personal Idealism* has come to hand. So marked is the accord of the general principles of this paper with much of the doctrine of this volume — especially with Mr. Schiller's essay on "Axioms as Postulates" and with some parts of Mr. Stout's essay on "Error" — that one might easily infer that they were written within the same "sphere of influence." That two movements so similar in spirit should have been developing, independently of each other, in centers four thousand miles apart, is interesting and significant. The extent of the agreement of this paper with Mr. Schiller's essay on "Axioms, etc.," and his paper on "Useless Knowledge" in *Mind*, N. S., Vol. XI, No. 42, offers suggestions for footnote references on almost every page. But there being, for the most part, no particular reason for making these references at one place rather than another I have decided to combine most of these possible citations in this one general statement.

often crossed and sometimes paralleled no little distance by Locke's old trail. To point out some of these crossings and parallels, and to suggest a few characteristics of what appears to some as a possible way—not *to* reality, but a way *of* reality—is the aim of this paper.

Dropping the venerable and overburdened figure, and passing at once to the technical discussion of the theme, we find that, in terms of present-day logic and epistemology, the problem which Locke faces in Book IV of the *Essay* is that of the relation of existence, meaning, and reality to each other. Locke begins by attempting to identify reality with meaning. Failing in this, he tries to equate it with existence, and in the end attempts to divide the realm of reality between meaning and existence, leaving each, however, disputing the claims of the other.

Locke's first definition of knowledge is as follows: "Since the mind in all its thoughts and reasonings hath no other immediate object but its own ideas. . . . . knowledge then seems to me to be nothing but the perception of the connection and agreement or disagreement of any of our ideas."[2] It may be said, and truly, that Locke's ideas here are not meanings as modern logic understands meaning, but that they are existences—psychical things. But it is precisely in the attempt to cut off these meanings from existence that they become psychical existences. To be sure, present logic tells us that knowledge involves "the loosing of meaning from existence," the severance of the "what" from the "that." But it tells us also that, at the same time, it involves "the reference of meaning to existence." But if the meanings—the "whats"—are taken as entirely loosed, so loosed that they become lost, from their existences, then they become, what they are here for Locke, a collection of psychical things. Thus does abstract idealism become a sort of psychical materialism.

The difficulty inherent in the attempt to thus state knowledge in terms of these psychical existences comes out at once in Locke's further account of "agreement and disagreement." This is contained in his statement of the four "kinds" of agreement and disagreement, to-wit: (1) identity or diversity; (2) relation; (3) coexistence or non-coexistence of ideas in the same subject; (4) agreement or disagreement of ideas with real existence.[3] The second "kind," Locke says, is really a general form of all the others, and is therefore not co-ordinate with them. In the fourth kind we recognize Locke's second conception of knowledge as the reference of ideas to reality as existence, and it is not to be considered, therefore, in the discussion of this first statement of knowledge as consisting in the reference of ideas to each other. The third kind of agreement and disagreement, as will be seen, is a transition statement which includes within it both the first and second definitions of knowledge and serves to break the abruptness of the transition. We have left, then, identity and diversity as the criterion of agreement and disagreement, in this first definition of knowledge.

[2] *Essay*, Book IV, chap. 1, sec. 1.

[3] *Ibid.*, sec. 3.

Locke's illustration is as follows:

When we know that white is not black, what do we else but perceive that these two ideas do not agree? When we possess ourselves with the utmost security of the demonstration, that three angles of a triangle are equal to two right ones, what do we more but perceive that equality to two right ones, does necessarily agree to, and is inseparable from the three angles of a triangle?[4]

Here Locke apparently makes agreement and disagreement mean mere identity and difference. Black and white disagree because one *is* not the other. But the triangle proposition, given as an illustration of *agreement*, must possess this kind of *disagreement*. The ideas in "agreement" must yet be different ideas. On the other hand, in disagreement there must be a common basis; there must be a disagreement about something—color, size, etc. Thus agreement and disagreement each involves both identity and diversity, and the latter cannot, therefore, serve to differentiate them. Here Locke has come upon the old problem of unity in difference, of the one and the many, which so puzzled the Greeks and which was the crucial question for his contemporary, Spinoza. In a world of givens, whether psychical or physical, meanings or existences, there appears no way of reconciling the demands of unity and difference, nor of finding a basis for agreement and disagreement. Each given is simply there. White is white, black is black; there is an end of it. There is no basis or meaning for either harmony or opposition. As content, a unity of givens appears impossible. As factors, in a *process*, working to some *end*, there could be a unity of *function*. In a world of givens the problem of unity is insoluble.[5]

Locke's tacit recognition of these difficulties is found in his confession, farther on, that agreement and disagreement of this sort, except in the case of certain general mathematical and moral propositions, yields only "trifling" knowledge. In knowledge "which has most to do with the affairs of life," knowledge of substances, this definition of agreement and disagreement will not apply.

Gold is malleable, is true and certain; but there is here nothing affirmed of gold but that that sound stands for an idea in which malleability is contained and such a sort of truth and certainty as this it is to say a centaur is fourfooted.[6]

And again:

It will be altogether as true a proposition to say all centaurs are animals, as that all men are animals; and the certainty of one as great as the other. For in both propositions the words are put together according to the agreement of the ideas in our minds; and the agreement of the idea of animal with that of centaur is as clear and visible to the mind, as the agreement of the idea of animal with that of man; and so these two propositions are equally true, equally certain. But of what use is all such truth to us?[7]

The attempt to state knowledge in terms of a lot of given meanings has, then, yielded little worthy the name of knowledge. It is Kant's system of concepts, empty without percepts, out of which can come only "analytic," "trifling" propositions.

[4] *Ibid.*, sec. 2.

[5] The difficulty is, of course, just as acute on the side of the differences.

[6] *Essay*, Book IV, chap. 6, sec. 9.

[7] *Ibid.*, chap. 5, sec. 7.

And Locke's problem, too, at this point, is "the possibility of synthetic propositions:" that is, the possibility of finding "real" existences for these divorced meanings. In other words, it is the problem of converting his world of psychical existences into true meanings, by finding something for them to mean.

This is the point at which Locke, like Spinoza,[8] simply shakes the hat, and *presto!* — there is the "real world." Locke tries to lessen the abruptness of this transition to reality by two or three devices. First, as we have seen, this second definition of knowledge is given as the fourth "sort of agreement and disagreement." "The fourth and last sort of agreement and disagreement is that of *actual* and *real* existence, agreeing to any idea."[9] Then he has stated at the outset of the *Essay* that he will use idea as meaning "either image in the mind or quality in the object." Finally he introduces a statement of agreement and disagreement, which he gives as the third "kind" of agreement and disagreement, and which forms a transition from the first to the second general conception of knowledge. This transition statement, indeed, contains one of the best examples of Locke's confessed equivocation in the use of idea and thing.

> The third sort of agreement and disagreement to be found in our ideas, which the perception of the mind is employed about, is coexistence or non-coexistence in the same subject, and this belongs particularly to *substances*. Thus, when we pronounce concerning gold that it is fixed, our knowledge of this truth amounts to no more but this, that fixedness or a power to remain in the fire unconsumed, is *an idea* that always accompanies and is joined with that particular sort of yellowness, weight, fusibility, malleableness, and solubility in *aqua regia*, which make our *complex idea* signified by the word gold.[10]

In the first part of this statement the coexistence is "in the same subject" or "substance." In the last part of it, it is in the "complex idea."

In this transition statement Locke has thus combined his first and second general definitions of knowledge. Taking the "subject" or "substance" as a complex idea, this transition statement can be brought under the first general definition of knowledge as consisting in the agreement or disagreement of ideas. But, then, it shares too its "useless" and "trifling" character. It is precisely of the same kind as the proposition, "gold is malleable," cited above as an illustration of "trifling knowledge." On the other hand, if the subject or substance here means a "reality beyond," which is represented or described by the ideas, then it is essentially the same as the fourth kind of agreement and falls under Locke's second general definition of knowledge.

Passing now to the second statement of knowledge, as consisting in the agreement or disagreement of ideas with "real existence," let us note that it agrees with the statement of modern logic which defines knowledge as "the act which refers an ideal content (recognized as such) to a reality beyond the act."[11] "Gold is soluble," as an expression of knowledge, does not now mean the mere reference of the idea, soluble, to the idea, gold. That would be "trifling knowledge." Here it means the reference

[8] *Cf.* SPINOZA, *Ethics*, Part I, Prop. XXVIII.

[9] *Essay*, Book IV, chap. I, sec. 7.

[10] *Ibid.*, sec. 6. The italics are mine.

[11] BRADLEY, *Principles of Logic*, p. 10.

of the entire content, "gold soluble," etc., to "real existence," to "a reality beyond." "Our knowledge, therefore, is real only so far as there is conformity between our ideas and the reality of things."[12] It is true, Locke's ideal content does not have the unity and solidarity which it has in Mr. Bradley's conception. Locke's ideal content is an aggregation, but, in so far as it is taken altogether as the *meaning* and referred away to a reality beyond itself for its *subject*, it appears to be in essential agreement with Mr. Bradley's statement.

A few points should be noted at the outset of a consideration of this second definition of knowledge. First, whereas, in the first definition, the materials of knowledge were the given ideas, here they are a system of given ideas, on the one hand, and of given existences on the other. They are given in separation; the problem is to effect a unity. Second, reality is identified wholly with the side of existence. That is, the real is entirely and unqualifiedly opposed to the ideal—to meaning. Third, reality as existence is taken as a completed and fixed whole. Movement, development, is all on the side of the ideas—of meaning. Finally, meaning means merely representation, either as a copy or as an algebraic symbol. These are the assumptions which underlie Locke's second definition of knowledge and which are responsible for his subsequent difficulties. It is needless to follow all the tacks of the course which Locke steers through these difficulties. It will be sufficient for our purpose to restate what seem to be the fundamental dilemmas and their significance from the standpoint of this discussion.

The first difficulty, or rather the first form of *the* difficulty, which Locke continually encounters, is the very ancient and obvious, but very persistent and still very pertinent, one, of how, if meaning and existence are given apart, the former gets its reference to the latter. Locke's first attempt to deal with this difficulty, as most attempts before and since, virtually amounts in the end to saying that, while they are given apart, they are also given in reference. Waiving for the present the paradox in this state of affairs, with the reference as well as the separation given, the problem of "trifling propositions," on the one hand, and error, on the other, must forthwith be faced. And here it usually happens that in making room for doubt and error the separation is emphasized so much that the problem of reference and connection again becomes acute. The dilemma is a reference given, hence trifling, or a reference which can never be verified, hence uncertain. In the language of modern logic, "thought appears either tautologous or false."

Locke's only solution of the case is an appeal to the Deity or to "nature."

> Herein therefore is founded the reality of our knowledge concerning substances; that all our complex ideas of them must be such and such only as are made up of such simple ones as *have been discovered to coexist in nature*. . . . Whatever simple ideas have been found to coexist in any substance, these we may with confidence join together again; for whatever have *once* had an union in nature may be united again.[13]

[12] *Essay*, Book IV, chap. 4, sec. 3.

[13] *Ibid.*, Book II, chap. 4, sec. 12. Italics mine.

But after this very simple statement of the ground of the reference of the idea as meaning to existence as reality, Locke at once finds himself on the other horn. If the meaning and existence, the idea and reality, are really "found together," if the reference is given along with the separation, how should there ever be any doubt, and where is there any room for error? How can there be any disagreement? Moreover, what meaning can "agreement" have but mere repetition? And even repetition has no significance where there is nothing else. In other words, Locke finds here that he has simply exchanged his "trifling," "tautologous," "analytic," knowledge, consisting of "the reference of ideas to each other in the mind," for one equally trifling, consisting of a *given* or "found" reference of ideas to an existential reality. Thus Locke's difficulty, all the way through, is not to find certainty merely; this he has with a vengeance, in his trifling propositions. The problem is to find a place for uncertainty and error. There must, of course, on the other hand, be a way out of this uncertainty and error. As a whole, the problem is to reach a theory of knowledge that will square with both the certainty and uncertainty, the truth and error, the struggle and satisfaction, so palpably present in experience. The difficulty is in reaching a statement of one that does not exclude the other.

The persistence of this difficulty is apparent in Locke's further attempt to leave a place for doubt and struggle, by an effort to rescue existence and meaning from this pre-established harmony. Locke's procedure at this point again seems very naïve; and yet, if Locke could ask just how far we have advanced beyond it, it might turn out that our patronizing attitude toward his account has less foundation than we could wish. Locke's way of making room for doubt, effort, and error is as follows: while the idea and the reality are thus found together, when they *are* found, yet the finding, after all, involves *searching*. "It is by *trying* alone that I can certainly know what other qualities coexist with those of my complex idea, e. g., whether that yellow, heavy, fusible body I call gold be malleable or no."[14] This searching, "trying," is carried on in the investigation of substances "which have most to do with the affairs of life," by "the further observation of the senses." Now, during this searching there is suspense, uncertainty, and the possibility of error. As a general statement of the location of doubt and error, this, as is the case with most of Locke's general descriptions of experience, leaves very little room for improvement. The difficulty comes, of course, in interpreting it in terms of the rest of his account.

The most immediate and glaring difficulty is that of effecting any kind of a reconciliation of this "trying" with the final givenness of the connection between meaning and reality. It is difficult to see how the searching for this connection between idea and reality, which finally is simply to "appear," can be anything more than mere suspense. How can there be any uncertainty or error if meaning and reality are bound to appear together? The only chance for uncertainty would be

[14] *Ibid.*, Book IV, chap. 12, sec. 9. Italics mine.

merely in regard to the duration of the waiting or "trying." There could be none in regard to the final outcome. Then how can any real error occur? In what is it finally to consist? Locke's answer is, virtually, that we know as a matter of experience that this searching, trying stage is not a mere empty waiting, nor gazing into empty space, but that it is filled with suggestions, guesses, with certain hypothetical connections of ideas and reality which finally, on what ground doth not yet appear, are either rejected as false or accepted as partial revelations, as instalments of the entire fact.

This, of course, still further surrenders the ultimate givenness of the connection between idea and reality, and brings with it a train of fresh difficulties. First, whence come these suggestions, these hypotheses? If Locke dealt with this question explicitly and in this form, he would have answered, of course: "From the continued operation of the senses." And this would again have thrown him upon the other point of the fundamental dilemma of his whole position, viz., the possibility of ever getting rid of the accompanying uncertainty when once it is admitted. For if the senses can and do make doubtful and false connections, how is "the further operation of the senses" to help matters? Or, conversely, if "the further operations of the senses" do somehow make a true connection, why should not the earlier do so? What is the difference between the operation of the senses when they reveal a doubtful or false connection and when they give the true one?

The answer of most epistemology since Kant, and indeed the virtual answer Locke himself makes to this question, is, in its first and most general form, that it is the difference between the *partial* and the *completed* experience. To be sure, we are told in the same breath that a complete completeness can never be reached by human experience; for there is no limit to "the appearances of reality in sensation" and to the consequent reference of ideal constructions to reality. Now, if we are to think of truth in general as consisting in this stream of reference of ideas to reality, what is to break up this stream into specific truths? That is, what is to decide when we have reached *a* truth? The answer to this is that truth, in the particular case, is marked by the appearance of a sense of "harmony," of "satisfaction," or by the appearance of a greater degree of "definition" or "determination" of the idea. But what right have we to any "sense of harmony" and "satisfaction" at any particular time, if the awful gap between our meanings and ultimate reality still yawns? How can we find any "resting" place? Reality, surely, does not give out. And if this suggests that not reality, but *we*, give out, and have to "rest," then shall we say that the point at which we have to stop for breath is where we reach a particular truth, a "relatively" complete and determined experience? And error — what shall it be? A failure to get all the breath we need? "Error is truth, it is partial truth that is false only because partial and left incomplete?"[15] To be sure, we are told further that error is not mere incompleteness; else it would not differ from truth.[16] It is a

[15] BRADLEY, *Appearance and Reality*, p. 192.

[16] As showing just how much difference between truth and error is left from this standpoint, there is an interesting passage in the last chapter of *Appearance and Reality*, p. 541; "Every finite truth or fact to some extent must be unreal and false, *and it is impossible in the end certainly to*

meaning which "collides with reality," a meaning which reality "rejects," "repulses," "repudiates," etc.[17]

But what is the sign of this "collision," "rejection," "repudiation," etc.? The first answer is that it is a disagreement, a collision among the ideas themselves.[18] But does not this come near to begging the point? To say that the collision of the ideas with each other is due to a collision with reality, and that we know they have collided with reality because they disagree with each other, does not seem to put us very far forward. However, in another connection, we get a very pertinent and illuminating answer. "Where experience, inward or outward, clashes with our views, where there arises thus *disorder, confusion, and pain*, we may speak of illusion. It is the course of events in collision with the set of ideas."[19] To be sure, Mr. Bradley in this passage is defining illusion, not error. Indeed, the quotation is taken from the passage in which the distinction between error and illusion is drawn; but to the writer this distinction, as Mr. Bradley states it, seems to belong to the "without-a-difference" species. How much of a difference there is may be gathered from a comparison of the following with the above quotation: "It [error] is, in other words, the collision of a mere idea with reality."[20] And this, which follows shortly after the passage first quoted above: "Therefore, we must have error present always, and this presence entails some illusion."

Now, the "disorder, confusion, and pain" here appealed to are evidently not of a *peculiar* sort arising from the mere failure of our meanings to copy an external reality. They must be the "disorder, confusion, and pain" of any and every sort that arise in "the conduct of life." And if these are the signs that reality rejects our proffered means — the signs of error — their disappearance and the reinstatement of order, control, and satisfaction, in the conduct of life, must, notwithstanding the formal repudiations[21] of the "practical" criterion, be the signs that reality accepts our suit — the signs of truth. Thus, while for both Locke and Mr. Bradley the formal standard for truth and error is given as the agreement and disagreement of meaning with a world of completed reality beyond, the real criterion is found in the relation of these meanings to the order and disorder, the satisfaction and dissatisfaction, of concrete living.

The teleological character of this relation between meaning and reality is still further deepened as we note that order and disorder, satisfaction and dissatisfaction, presuppose some desire, interest, aim. Apart from such an already defined direction of action, order and confusion can have no meaning. And by the time thus much is admitted, one begins to wonder whether these harmonies and confusions in the conduct of life be not something more than mere arbitrary *signs* of truth and error.

know, of any, how false it may be. We cannot know this, because the unknown extends illimitably, and all abstraction is precarious and at the mercy of what is not observed. If our knowledge were a system the case would then undoubtedly be altered. With regard to everything we should then know the place assigned to it by the whole, and we could measure the exact degree of truth and falsehood which anything possessed. . . . . *But any system of this kind seems, most assuredly, by its essence impossible.*' Italics mine.

[17] *Ibid.*, chap. xvi. [18] *Ibid.*, p. 130.

[19] *Ibid.*, p. 549. [20] *Ibid.*, p. 188.

[21] *Cf.* BRADLEY, *Principles of Logic*, pp. 18–21 and 531.

And when we further seek for some details of the way in which this "disorder, confusion, and pain" is produced through the rejection of our meanings by reality, one meets with very little encouragement. We are told that "the idea collides with reality;" but little is vouchsafed concerning the nature of the idea and of this reality that will show *how* such a collision takes place and why it should be confusing and painful. To be sure, confusion and pain are implied in the ordinary connotation of "collision," but collision in the ordinary sense means more than "the collision of a *mere idea* with a reality beyond." In the first place, it is difficult to see how a "mere idea," as simply an intended copy or symbol of reality, can "collide" with that reality or anything else. And the difficulty grows when it is recalled that this reality which the idea is trying to reflect is itself a completed and static affair. "Nothing perfect, nothing *genuinely real*, can move."[22] Why should there be any "collision" between even the false symbol and the reality which is not moving? If it be said that, while the reality does not move, *we* do, and so run against it, aside from the ever-recurring puzzle of the inclusion of motion even as appearance in a static absolute, one must ask: Why and how do we move? And what connection is there between our movement and these ideas which are partial copies of a static reality? In what way does this idea of a motionless reality produce or influence action? Doubtless it would be answered that our activity is due to the imperfection of the idea. If the copy were perfect, if it fully agreed with the reality, no activity would be needed. Activity is due to the imperfection of our knowledge. Aside from the want of any *modus operandi* in such statements, we are aware of this imperfection of meaning only through the "disorder, confusion, and pain of experience," and, as stated above, this disorder, confusion, and pain presuppose activity already going on in some more or less specific direction. In other words, this disagreement between meaning and reality which is somehow to be the stimulus to movement is known only through the very activity which it is supposed to stimulate.

In Mr. Royce's account one reads:

> There is no purely external criterion of truth. You cannot merely look from without upon an ideal construction and say whether or no it corresponds to its object. Every finite idea has to be judged by its own specific purpose. Ideas are like tools. They are there for an end. They are true, as the tools are good, precisely by reason of their adjustment to this end. To ask me which of two ideas is the more nearly true is like asking me which of two tools is the better tool. The question is a sensible one if the purpose in the mind is specific, but not otherwise.[23]

This sounds like the opening of a new chapter in epistemology. Here very little room is promised for the conceptions of a completed immovable reality, or of the merely representative character of meaning. Here the idea is a "*tool*," and is to have its value defined with reference to the "specific use" to which it is put. But when one reads again that the idea's "specific purpose" is, after all, not to relieve

[22] *Appearance and Reality*, p. 500. Italics mine. *Cf.* also BOSANQUET, *Logic*, Vol. I, p. 259.

[23] *The World and the Individual*, p. 308.

the "disorder, confusion, and pain" of everyday life, but is merely to "correspond," photographically or algebraically,[24] to an object; and when one further finds that this object is fixed eternally in the Absolute, and that this correspondence in human experience must be "partial and fragmentary," one is carried back at once to Locke and his problems. One might begin by asking why the idea seeks this correspondence at all. To this we are told that "what the idea always aims to find in its object is nothing whatever but the idea's own conscious purpose or will embodied in some more determinate form than the idea by itself alone at this instant consciously possesses."[25] Still the questions will not down. Why does the idea want a more determinate form? What is the standard for determination in general? And what decides the degree of increased determinateness it is seeking in the object? And if the idea fixes in advance the degree of determination, how can the object add more determination and still agree with the idea? And if this degree of determination is not fixed in advance by the idea, if there is only "a vague idea," of more determinateness, then what is to decide in favor of one object rather than another as supplying the proper degree of determination? This brings us to the problem of truth and error.

In the definitions of truth and error the same difficulties pursue. "An error is an error about a specific object only in case the purpose imperfectly defined by the vague idea at the instant when the error is made is better defined, is in fact better fulfilled, by an object whose determinate character in some wise, although never absolutely, opposes the fragmentary efforts made to define them."[26] But what is one to understand by "imperfectly defined" and "better defined," and what is the measure of "better fulfilled"? Of truth the formal definition is as follows: "It is true, this instant's idea, if in its own measure and on its own plan, it corresponds, even in its vagueness, to its own final and completely individual expression. Its expression would be the very life of fulfilment of purpose which this present idea already fragmentarily begins, as it were, to express."[27] But how is the idea to know whether its present degree of determinateness is nearer than any other to its "final and completed form" which is not yet known? And again, what is meant by "in its own measure" and "on its own plan"? How can it have a "measure" of its "own," if this "final and completely individual" form, never reached in finite life, is the standard? And what are the signs of even this "fragmentary" agreement with this final and completed form?

Moreover, if "Every finite idea is, as such, a general type of empirical and fragmentary fulfilment of purpose,"[28] in just what, after all, does the difference between truth and error, in any particular case, consist? Every idea falls short of the final and complete form of determination. The true idea is one which comes *nearer* this form than another. But if this final form never appears in this life, what is to decide when one idea is "nearer" than another to this "completely individual" form?

[24] *The World and the Individual*, pp. 301 ff.
[25] *Ibid.*, p. 327.
[26] *Ibid.*, p. 335.
[27] *Ibid.*, p. 339.
[28] *Ibid.*, p. 336.

Here it is interesting to turn to Mr. Royce's illustration of the particular case. "Do you intend to sing in tune? Then your musical ideas are false *if they lead you to strike* what are, *then* called false notes."[29] Here surely there is no reference to the absolute idea or absolute object. Here the final degree of determination is just that of the concrete desire. Here it is not the idea's purpose merely to correspond "in a fragmentary way" with an absolute object eternally fixed in the absolute consciousness. It is here the idea's business to help construct an action that shall get rid of the "disorder, confusion, and pain" of singing out of tune. And if we revert to the first passage quoted in which it is stated that every idea "has to be judged by its own specific purpose," we read that "ideas are like tools; they are there for an end." Here, too, surely, the "specific purpose" and "end" of the idea is not a "fragmentary correspondence" with "its own final and completely individual" form; unless, indeed, we are ready to say that "its own final and completely individual" form is simply the form that brings the relief from this present pain and confusion of singing out of tune. And if we say this, then the distinction between finite and Absolute truth and reality would seem to disappear.

And this suggests that, notwithstanding Mr. Royce's most telling criticism of Mr. Bradley's divorce of thought and reality, one can but question whether this appeal to a "final," "completed," and "fulfilled" purpose does not, after all, leave us in the same boat with Mr. Bradley. If it is the very essence of thought, of the idea, to embody purpose, and if "The real as such is the complete embodiment in individual form and final fulfilment of the internal meaning [the purpose] of finite ideas,"[30] and if "To be, in the final sense, means to be just such a life, complete, present to experience, and conclusive of the search for perfection which every finite idea in its own measure undertakes whenever it seeks for any object,"[31] how can there be any place for thought "as such" in the ultimate reality? How can a purpose "fulfilled" and "completed" remain as a purpose? Is not this continual existence of "a fulfilled purpose" a paradox? And are we not then face to face with Mr. Bradley's reality in which "thought as such" has no place?

In general, then, the fundamental difficulty for both Locke and present epistemology appears to consist in a discrepancy between the conception of the nature of knowledge and reality in general and the accepted criteria in the particular instance. There is no organic connection between the satisfaction and dissatisfaction, the harmony and disorder, used as a standard of truth and error in the particular case and the general function of knowledge as reporting or algebraically symbolizing a completed and unchangeable reality lying beyond the process of knowledge.

Now, in such case the discrepancy may be charged to either side or both. It is the thesis of this paper that the seat of the difficulty here is in the general conception of knowledge and reality, not in the standard accepted for the particular instance, and that the problem of logic at present is to bring the general conception of knowledge

[29] *The World and the Individual*, pp. 307, 308. Italics mine. [30] *Ibid.*, p. 339. Brackets mine. [31] *Ibid.*, p. 341

and reality into agreement with these criteria of "order" and "confusion" of satisfaction and dissatisfaction, upon which we fall back in the concrete case. This demands a much further analysis of "the concrete case" than psychology and logic have yet made. Thus far the conceptions of reality as a complete immovable system, and of meaning as merely representative, and as given "loosed from reality," involved in the theories of the general nature and relations of knowledge and reality, have so obscured the situation in the concrete case that the necessity for further analysis of the latter has not been felt. "Disorder, confusion, and pain" have been accepted as merely arbitrary signs, that our meanings are not accepted by reality. The present problem of logic is to work out just this connection between our meanings and the harmony and confusion, the satisfaction and dissatisfaction of concrete experience.

To sum up thus far, Locke, as most epistemology since, starts with meaning given apart from reality, the problem being to get them together. But it is found that, with the separation thus given, the connection must be given also. Then comes the difficulty of finding any place for effort, doubt, and error. On the other hand, when this connection is described as not given, but achieved through effort, it turns out that the connection can be made only through achieving the separation as well. For the separation that is achieved cannot be a complete separation. In an achieved separation the separated members are held in leash. It is Hegel's separation together — synthesis through analysis. We have found also that another phase of this same difficulty has been the attempt to confine movement, development, to the side of meaning only. And here the problem has been to see how the moving, shifting, active ideas can reflect a completed, immovable reality. Here, too, it may be remarked that Locke's system of ready-made, unchangeable ideas — direct offprints from the face of reality — seem to possess a decided advantage in such a representation over the "ideal constructions" of present logic. Locke, of course, does not keep consistently to these given, simple ideas for his knowledge of the real world. But the fact that he feels the need of them, when he is trying to bring meaning and reality together, is a point in favor of the consistency of Locke's conception of knowledge with his conception of the nature of ultimate reality. The internal difficulties of a representational epistemology certainly have not diminished since it has been forced by modern psychology to exchange the static for the dynamic idea. It would seem that the root of the central difficulty in present logic might be stated as the failure thus far to work out the implications of the thoroughly teleological and functional idea which it has accepted from modern psychology.[32] The reconstructive implications of the discussion thus far would sum themselves in the following propositions: (1) that reality can be identified with neither meaning as such nor existence as such; (2) that meaning is not given in separation from existence regarded as reality; (3) that the distinction of meaning and existence is one falling inside reality; (4) that meaning does not merely copy, sym-

[32] *Cf.* SCHILLER, "Personal Idealism," *Axioms as Postulates*, secs. 48, 49. *Cf.* also "The Functional *versus* the Representational Theory of Knowledge in Locke's Essay," *The University of Chicago Contributions to Philosophy*, Vol. III, No. 1.

bolize, or report reality, but helps to constitute it; (5) that, as constituted by the meaning and existence, reality is not an immovable and completed system, but essentially dynamic and developmental.

In attempting a more positive statement of the relation between existence, meaning, and reality to which the difficulties encountered by both Locke and current epistemology point, it is to be said that such a statement here can be only a very general and schematic one. As a point of departure, let us take what was given above as one of the ways of stating the central difficulty and problem. The difficulty is that there appears no organic connection between ideas—meanings regarded as copies or symbols of reality conceived as a complete, fixed existence, and the harmony and disorder, the satisfaction and dissatisfaction, of everyday life which are accepted as the working criteria of truth and error in particular cases. What has the reflection of this fixed existence to do with the influence of ideas on our successes and failures? If we are told that our failures are due to "the collision of our ideas with reality," then we must ask for details. Just how does collision of our ideas with this existence beyond affect us? What are the links in the connection? Or, is this "collision with reality" after all but a name for our failures? The problem is, then, to discover some point of contact of ideas with the harmony and disorder, the satisfaction and pain, in the particular case, and to see whether this involves the representation of a complete and immovable reality.

As already remarked, psychology has been at work for some time on the first part of this problem—especially since it has felt the influence of the conceptions of biological evolution. And, as also remarked, it is the opposition between the accepted results of this work of psychology and old conceptions of knowledge and reality still retained that is responsible for the strained relations in the epistemological household. From his work thus far on this problem of the relation of ideas to "the disorder, confusion and pain" of life, the psychologist tells us that, following the method suggested by evolution, we get a great deal of introductory light on the question by noting the conditions under which ideas develop.[33] He points out, first that activity in which ideas —meanings—are absent is in the relatively mechanical form of habit. By habit he means a co-ordination of activities in which the action at any given moment seems to be an adequate stimulus to further activity. In other words, a habit is a co-ordination of activities that can be wielded as a unit of activity in a larger whole. In such a negative statement of the conditions of ideas the positive side is implied. As this perfect continuity of stimulation, present in the habit form of activity, is marked by the absence of ideas, so we find ideas appearing at the point of interruption of this conti-

[33] Here, of course, we are warned that the existence and meaning of the idea are two quite different matters. The distinction goes without saying, but it is implied in the standpoint from which this paper is written that it is the connection rather than the distinction between these two phases that needs attention nowadays. The attempt to separate the members of this distinction and farm them out to different disciplines for separate treatment is one way of stating what appears to the writer to be at the bottom of the present confusion between psychology and logic, and what is back of the growing conviction that our epistemology needs to be psychologized and our psychology —*e. g.*, the doctrine of parallelism—epistemologized. *Cf.* Professor Dewey's article on "Psychology as Philosophic Method," *Mind*, Vol. XI, O. S., No. 42.

nuity in habit. And here, at the very outset, we reach again the center of the whole problem, viz., the relation of this appearance of ideas to the interruption of habit. Locke and all his successors virtually agree that the ideas do appear at this point. The question is: What is the significance and the manner of their appearance at this juncture? If it is their business to mirror a reality beyond this process of activity, there appears no particular reason why they should not perform that function as well in some other relation; for example, as an activity merely parallel and independent of habit.[34] In other words, is the "disorder, confusion, and pain" involved in this breach of continuity a mere arbitrary sign of "the collision" of some "mere idea" with "a reality beyond" or is it out of a collision, *within reality*, that the idea springs? From the former standpoint the query constantly arises: Whence and why the idea in the first place? And how and why the "collision?" Does reality impress or stimulate in some way a false idea in order to get up a collision with itself? And this is all aside from the difficulty already suggested as to how an immovable reality can *produce* anything, even a false idea, to say nothing of a "collision."

In attempting to trace in a very general way the connection between ideas and this interruption in the continuity of habit, we need to start with some account of this interruption itself. For if we conceive this interruption as coming from without, *e. g.*, as arising from a collision of habit — not ideas in this case — with an immovable reality, the entire web of Locke's difficulties settles about us at once. Stripped of metaphor, what is the meaning of this "collision"? Just how does habit run against this inscrutable and immovable reality? Moreover, if the collision is to be remedied, it must be in this case by habit "backing out" and reconstructing itself. No concessions can be expected from reality. And if the idea is somehow to be the instrument of this reconstruction, how can it do so by merely "reflecting" the static reality? At any rate, two kinds of ideas would appear to be needed, one to "reflect" the static reality, and another, more flexible and dynamic, to help reorganize habit.

It would seem, then, that habit must be regarded as somehow developing its own interruptions. And, after all, this would not seem to be such a difficult conception. It is scarcely more than the commonplace notion, the philosophical significance of which Hegel perhaps first pointed out, that activity is conceived as constantly producing new conditions of its further ongoing; that in activity there must be a constant reorganization of the results of the activity back into the process. This is, of course, equivalent to saying that, in the last analysis, activity cannot be stated in terms of mere habit. It implies that *activity in any final sense must include both a mechanical and a reconstructing function.* As habit constitutes the mechanical, the conserving, materializing function, so the idea is the radical reconstructing function in activity.

[34] This is, indeed, to the writer the meaning of the whole paradoxical doctrine of psycho-physical parallelism. It is an expression of the failure to find any connection between the idea's alleged office of reporting a static "reality beyond" and its manifest dynamic relation to habit as revealed by present psychology. *Cf.* MR. BAWDEN'S article, "The Functional View of the Relation between the Physical and the Psychical," *Philosophical Review*, Vol. XI, pp. 474 81; also Part III of MR. WARD'S *Naturalism and Agnosticism*.

Habit and thought are thus constituent poles of experience. As such, neither can be defined apart from the other. Each limits the other in every particular case, but neither can be regarded as "the ultimate" out of which the other is absolutely evolved. Thus neither habit nor its interruption can be defined apart from some desire, some end. Walking or creeping, as a habit, must be defined with reference to some desire, *e. g.*, a desire for food; but this desire is in turn a part of the process of reconstructing a breach in the process of assimilation. While habit must thus refer to some desire, some end, for its definition, it is, in turn, out of the necessity of meeting new conditions *created by its own work* that new ends, new ideas, arise.[35]

From this very formal statement of the relation between ideas and habit it is apparent: (1) that ideas are here regarded, not as merely reflecting or symbolizing a static reality, but *as doing actual work in reorganizing habit*, a work that may involve symbolizing, but a symbolizing that is a part of an actual reconstruction; (2) the materials of this reconstruction are not given from a reality beyond the process. The material is none other than the disorganized habit itself. There is thus perfect continuity between the material and the use to which it is to be put. With the material for the reorganization given from a reality beyond there can be no assurance that it will answer the purpose. If it does, it is only by the grace of the Deity or the "uniformity of nature."

Such a conception of the logical function of habit makes possible also a consistent view of the place of sensation in knowledge. So far sensation has played a very equivocal rôle in epistemology. On the one hand, it is that "in which reality is given." It is "the point of direct contact with reality." Locke says his simple ideas of sensation are all true to reality. So far sensationalism. But at this point the rationalist observes that if we really do come into "direct contact with reality" in sensation, if the "simple ideas of sensation" are true to reality, and if it is the business of perception to "report reality," then why go on with thought? Why construct "complex ideas" in which we are all the while getting farther and farther from reality? The fact that we do and must go on thinking and constructing complex ideas—continues the rationalist—shows that sensation, instead of giving us reality, gives us only appearances. And, beside these different views of the relation of sensation to reality, no very consistent view appears, in either camp, of just the nature and function of sensation itself. Now it is stated in almost purely physiological terms, and again it appears to almost usurp the work of thought. But, if we find ideas arising at the point of disintegration of habit, and if we take sensation as the first appearance in consciousness of this breach—to use Mr. James's phrase, "The first thing in the way of consciousness"—it would seem to bring us nearer a much-needed definiteness in the conception of the logical significance of sensation. Here sensation, as the first shock of this interruption of habit, constitutes the "this," demanding interpretation—meaning. And this demand for meaning is

[35] *Cf.* Professor Dewey, "Reflex Arc Concept," *Psychological Review*, Vol. III.

something more than a demand for more representation: it is a demand for reconstruction.

But before going farther in this very general and dogmatic fashion, let us resort to Locke's favorite illustration of "the solution of gold in *aqua regia*." First let us note that the process of manipulating gold in liquids involves a circuit of visual, tactile-motor habits, serving some aim, *e. g.*, that of cleaning the gold. Now, the rupture of such a circuit may come either as a visual sensation, in the disappearance of the gold from sight, or as a tactile-motor sensation, in the failure to touch the gold on reaching for it. And here again, however "involuntary" this breach may be, it is to be noted that it must come as a break in, and therefore entirely in terms of, *the activities already going on*.[36] If the interruption be due to "a collision with reality," it must be a reality in the form of the visual-tactile-motor processes already involved. How could there be a "collision" with any other reality? The coming to consciousness of the visual-tactile-motor processes means that what has been a circle of mutually stimulating activities is now broken up and is demanding reconstruction. And the first shock of this "break" is felt as the visual or the tactile-motor sensation — the "this" demanding interpretation and reconstruction.

Now, if we regard the "this," *i. e.*, this mass of visual-tactile-motor habit material thrown up into consciousness as the "existence" which the ideas are to *mean*, we have, at any rate, an "existence" not far "beyond," nor one to be merely copied by the ideas, but an existence which constitutes the very material of the ideas. It is, to be sure, a very active existence; but then ideas, according to present psychology, are very dynamic affairs. Besides, we have already seen that the difficulty all along has been to find an agreement between these very active ideas and an inert, static existence. Such a dynamic existence would also seem promising in the effort to overcome the too great "looseness" hitherto necessarily insisted upon between the existence and the ideas. "Necessarily," because it has been only through such a "loosing" from its static existence that the idea could gain freedom and flexibility enough to be of service in "the conduct of life"—though, to be sure, this freedom becomes a serious obstacle to its reunion with existence.

Passing now to the function of *meaning*, it might appear that with "existence" made so dynamic as above, the active ideas as the embodiment of meaning might now be regarded as the mere "symbols" or "representatives" of existence. This, indeed, would seem to be more nearly possible now that the discrepancy between an inert existence and its active representatives is removed. But if this were the sole function of the ideal construction, it is difficult to see how it would help matters. Indeed, it would seem to make matters worse, since all it could do would be to bring the disintegration of habit into consciousness. If the only business of thought were to go on reporting this disintegration of habit, consciousness would soon be reduced to a vast pile of psychical scrap-iron.

[36] *Cf.* BALDWIN, *Mental Development-Methods and Processes*, 2d ed., p. 256.

It has just been said, if mere reporting or symbolizing existence were "the sole function of meaning," etc., this implies that representation, symbolization, etc., is a part of the process of meaning. When the breach in the visual-tactile-motor co-ordination, as above sketched, comes, the first step in the process of reconstruction is to define and locate the interruption. This involves a symbolizing, a "reflecting" if you please, of the activities concerned. But, once more, even this first process of reflection is not a *mere* reflection. It is a reflection in which the work of reconstruction has already begun. For when this interruption passes beyond the stage of the mere "shock and inarticulate presence" of sensation, into ideas, into *meaning*, the very fact that the old co-ordination expressed in our illustration, in "gold insoluble" is reported as possibly broken, involves the beginning of the reconstruction expressed in "gold soluble." Unless experience is to fall into absolute chaos, into a state of mere negation, one co-ordination can be disintegrated only through the beginning of its own reconstruction.[37] With absolutely no element of reconstruction present, consciousness would lapse into the mere "shock" of sensation. Meaning, then, in its very beginning, stands for an actual work of reconstruction, not for a mere reflection of the materials to be reconstructed.

With existence interpreted as the material to be reconstructed, and meaning as the process of reconstruction, the question of their relation should have, perhaps, a little special notice. First, it is apparent that the connection here required is of a very different sort from that demanded between a static existence and its representative. Here the relationship is not one of "coexistence" and "correspondence point for point," but is that of the interpenetration of material and process. Nor are existence and meaning here "given apart," the problem being to work them into this relationship. As the interrupted habit is "material" in the process of reconstruction *only*, so there are no ideas, no empty meanings, wandering about unattached to any existence. As there is no mere process of thought, grinding away, as an empty mill waiting for grist, so there is no pile of habit fragments lying about as material waiting to be put into the hopper. Here existence and meaning, the material and the process of reconstruction, develop together as the two complementary, inseparable, and constitutive functions of one inclusive process. In short, the problem of connection with which Locke struggled disappears, simply because there is no such separation of meaning from existence as that with which he started. Meaning here is not "given loosed from existence." From the very outset of the experience, beginning in the visual-tactile-motor sensation interpreted as the "disappearance of gold," existence, as constituted by the activities involved in the habit matrix, is the very *Stoff* and content of the idea, of the meaning; and the latter is simply this material in process of reconstruction.

Locke's unconscious tribute to this organic relation between existence and meaning

[37] This is, of course, "the positive character of negation" upon which present logic insists. *Cf.* Bosanquet, *Logic*, Book I, chap. vii, and Bradley, *Principles of Logic*, chap. iii.

appears, as has already been noted, in his answering the inquiry after the validity of his simple ideas with an account of their origin; a procedure for which Locke has been much condemned, but which, after all, if he could have freed it from the conception of the completed character of existence and of the merely representing function of the idea, would have made impossible the extreme separation of the problems of origin and validity so strenuously insisted upon by most of the neo-Kantian epistemology.

With this very general interpretation of meaning, existence, and reality, and their relation to each other, the question which has been urged so insistently throughout the discussion, upon other views, should be noticed—the question, namely, of a standard of truth and error, including an interpretation of doubt and certainty. If meaning is the reconstructive function of activity, what is to determine the limits of this reconstruction in any particular case? When is the reconstruction "true"? And if meaning is in such close connection with the material of habit, if the latter is indeed the very *Stoff* of the meaning, why should there ever be any uncertainty and error?

First, let us recall that the problem of reconstruction is not one of reconstruction of habit at large. It is the reconstruction of a certain set of activities already engaged in a specific work, *e. g.*, manipulating gold in liquids. Here in a very general form our criterion is already in sight. If the disintegration of the co-ordination of eye and hand, activities involved in manipulating gold in liquids, constitutes the *demand* for reconstruction, the restoration of a co-ordination between the eye and hand, *with reference to handling gold in liquids*, must constitute the criterion for the completion, the "truth," of the reconstruction. The conclusion, "gold-soluble-in-*aqua-regia*," means the establishment of a new habit of manipulating gold in liquids. Here "agreement," harmony, between meaning and existence does not mean that one copies the other; on the contrary, it means that the one responds to the demand of the other for *change*, for *reconstruction*. The only way, then, in which the idea can be *false* to "the reality as it appears in sensation" is through its failure—not to copy, but to change it, for the only reality appearing in sensation is just the disintegrated mass of habit demanding reorganization.

If the "truth" of the meaning consists in its being a reconstruction of habit with reference to a certain demand, what shall be said of uncertainty and error? We have already seen that meaning, as a reconstruction, is not a mere reflection of work already done, but is a new work, a new creation achieved. It is the former interpretation, indeed, as has been repeatedly pointed out, that makes it so difficult to account for error and to prevent knowledge from being "trifling." But if thought means an actually new work to be done, manifestly at the outset there must be uncertainty, not of reaching *any* outcome—this would land us in the paralysis of absolute skepticism—but uncertainty concerning the exact character of the outcome. That is, uncertainty means that thought, instead of being a symbol of an already developed reality, is itself the instrument of development. It means that life is not given, but must be won. On the other hand, the "perfect certainty" for which Locke longed would mean the

complete reduction of experience to a mechanism, in which there would be no place because no demand for thought, indeed for consciousness of any kind.

And actual error—failure, what is it to mean? Locke's answer is: "The disagreement of ideas with reality;" Mr. Bradley's: "The collision of a mere idea with reality"—the "rejection," "repudiation" of meaning by reality. And the signs of this "disagreement," "collision," and "rejection" are the "disorder, confusion, and pain" of everyday life. We have already seen how difficult it is to find any connection here between the sign and the thing signified. But if we can regard the "reality" in this case as the mass of disorganized habit demanding reconstruction, and if we can take this "disagreement," "collision," and "rejection" to mean that, the work of reconstruction being an actual work to be done and not being performed at a single stroke, it may therefore at a given stage be incomplete *with reference to what is wanted*,[38] it would seem we should have reached a basis for the conception of error which would make possible some connection between it and its sign. For surely it is not difficult to see the connection between the incompleted reconstruction of these disorganized activities and "disorder, confusion, and pain" as its signs. And at this point it might be said that in a certain sense this "disorder, confusion, and pain" is due as much to a lack of "collision" as to the collision of ideas with reality. That is to say, what is needed at this point is a further working over of the habit material, in a sense more "collision" of habit and ideas. And here, too, we may say of error, as of doubt, that it is not failure in a final sense, it is simply unfinished work.

Here an important objection will be urged to this statement of the meaning of truth and error. It will be said that this conception of the criterion runs into the infinite "regressus." Thus the specific interest, *e. g.*, manipulating gold in liquids, with reference to which the habit, its interruption, and the reconstruction itself are defined, is itself an ideal construction and must in turn be referred to other interests and habits for its definition, and so on without end. It is, indeed, just this everlasting "othering" of thought that is its bane for all representational views of knowledge. But let us note first that this "regressus" objection derives its force from the assumption that the thought-habit form of experience is *transitory;* and that it must, therefore, be referred to something "beyond" for a beginning and an end. With this assumption in mind, the reference of a particular work of thought to some interest involving previous thought must appear to be in the elephant-tortoise class. But freed from this assumption, this "regressus" need mean only that we conceive experience as a process the results of which at any given point constitute the material for and stimulus to further activity and that we accept experience thus conceived as our "ultimate reality." It means merely the commonplace enough fact that interest at any given moment is the outgrowth of previous experience, and cannot be defined

[38] "Truth and error are essentially relative to the interest of the subject. To put a question seriously is to *want* to know the answer. A person cannot be right or wrong without reference to some interest or purpose. A man wanders about a town. . . . . Just so far as he has no definite aim he cannot go astray."—Stout, essay on "Error," *Personal Idealism*, p. 10; *cf.* also same essay, sec. vi.

apart from it, and also that it is the further development of previous experience—a development, not toward an ultimate, fixed goal, taken as a standard, but a development in the sense that the present is built out of the past. Stated from the negative side, it means that the "disorder, confusion, and pain," the relief of which is accepted as the sign of the "truth" of the reconstruction, is not mere "disorder, confusion, and pain" at large, but is always of a certain kind, and that this kind is determined with reference to an interest which is the outgrowth of previous experience. Thus the disappearance of gold in *aqua regia* produces "disorder, confusion, and pain" only to one already manipulating gold in liquid. On the other hand, the fact that the old process of manipulating gold in liquid falls into disorder and confusion means that it reaches no abiding form; that in the very process of its own ongoing it develops new activities which must be reorganized into it. Thus again does experience, as constituted by the interacting functions of thought and habit, appear as the process of eternally rebuilding itself out of the products of its own activity.

Another and perhaps more fundamental way of putting the objection just noted is that this statement of the criterion of truth and error, in terms of a concrete interest, does not do justice to the *universality* of meaning. If the work of thought be "true" when it relieves the disorder, confusion, and pain of the situation here and now, whence its universality? Whence the conviction of the value of the work done here and now for other situations? What is the ground of that "probability" to which Locke finally appeals for "practical certainty," but for which he could offer no explanation but the will of the Deity or the uniformity of nature? First, it may be remarked that all theories of knowledge, from Locke on, holding to an immovable reality and the representational function of thought, have certainly had difficulties enough with this phase of the problem, and whenever they have gone beyond some form of the pre-established harmony view of universality, it appears they have done so at the cost of either the complete and immovable character of reality, or the merely representative character of thought, or both. We have, of course, for a long time been quite certain that the universal must somehow be present in the particular. Just how this occurs is the problem. We have stood bravely, too, for the "concrete" as opposed to the "formal" universal; yet when one looks for statements of the *method* of this "concrete universal," they turn out to be either little more than formal descriptions of the necessity for it, or statements of it which are hard to reconcile with a static reality and a merely "reporting" knowledge. All accounts of the concrete universal, from Hegel on, which have attempted to do more than point out the demand for it, have based it on the conception of growth, development, involving *purpose*. One or two passages from current literature will suffice for examples:

> In this class of objects (mechanical devices, *e. g.*, a watch) we may fearlessly say that it is the *purpose* which is the essence, and that generic judgment rests on the knowledge of essence. In all other classes of objects such a view has degrees of precariousness, and can only be applied to the purpose as immanent, and therefore as not determinate, and as uncertain in its bound-

aries. Nevertheless, when we predicate in the organic world "growth," "development," "self-preservation," "irritability," *we are really referring mechanical processes to an idea of life—an idea of self-relation*, of "inner" and "outer," which is a higher result, though it *is* a result, of their purely mechanical nature.[39]

We have already seen the part which purpose plays in Mr. Royce's account of meaning. The following passages may be added:

Universal judgments arise in the realm where experience and idea have already fused into one whole: and this is precisely the realm of internal meanings. Here one constructs and observes the consequences of one's construction. But the construction is at once an experience of fact and an idea; an expression of a *purpose* and an observation of what happens. Upon the basis of such ideal constructions one makes universal judgments.[40]

Again:

But what then is the test of the truthful correspondence of an idea to its object, if object and idea can differ so widely? The only answer is in terms of *purpose*. The idea is true if it possesses the sort of correspondence to its object that the idea itself wants to possess.[41]

The significance of these statements of meaning in terms of "purpose" is that it promises an intrinsic basis for universality and unity. Meaning as purpose at once becomes determinative of its own "object." The object it constructs, in realizing itself, must be universally valid for *that* purpose. Material that cannot serve the purpose cannot become its "object." The object is simply the expression of the purpose. Here too we have a basis for a unity of "the many in the one" other than the unity of mere identity. We have already seen the difficulty and failure in the attempt to construct a unity out of entities either physical or psychical, or a composite of both. But the idea as purpose arises out of the demand for a reconstruction of disintegrated habit. As "an embodiment of purpose" it is precisely the business of the idea to reorganize, to unify this manifold of disintegrated habit. As existences, there is no possible way for this manifold to become one. They can be unified only in purpose.

Now it would seem that these statements of meaning in terms of purpose should shut out at once all static conceptions of reality and all conceptions of meaning as merely representative; for it would seem to be of the very essence of a purpose or a plan to be reconstructive. But the force of these implications appears broken when we discover that the "purpose" which the idea embodies is, after all, not that of reorganizing the disintegrated habit to the relief of the "disorder, confusion, and pain" of the present situation, but is that of corresponding in a "partial" and "fragmentary" manner with "its own final and complete form" eternally fixed in the Absolute.

Moreover, such an interpretation of the purpose embodied in the idea seems to offer little basis for that intrinsic and "concrete universality" for which the very appeal to purpose is made. It is very difficult to see what basis this "partial and fragmentary correspondence" with the absolute idea can have other than some sort of

[39] Bosanquet, *Logic*, Vol. I, p. 237. Italics and parenthesis mine.

[40] *The World and the Individual*, Vol. I, p. 289.

[41] *Ibid.*, p. 306. Italics mine.

a pre-established harmony. And as for the presence of the universal in the particular — the concrete universal — how can the universal, conceived as an "eternal," "completed," and fixed "whole of content," be present in a purpose which is confessedly but a mere shred of the whole? On the other hand, as before observed, if in the universal the particular — the finite, is "completely fulfilled," how can there be left any particular in the universal? The complete fulfilment of the particular finite purpose is its annihilation. And with the disappearance of these finite purposes, have we anything left for our universal but Spinoza's abstract identity?

Now if, instead of regarding the idea as "having" a purpose, we take it as *constituting* the defined purpose or plan of action, involving the construction of an object, through which some "disorder, confusion, and pain is" to be relieved; and if we further recall that there is no other material for this construction than just the mass of disintegrated habit out of which the purpose itself, under the stimulus of the disorder and pain of the disintegration have sprung, it seems we have a basis for the universality at once intrinsic and concrete. Here the "universal in the particular" means that the particular purpose is the outgrowth of previous experience and has no other material for its realization than the results of this preceding activity; and also it means that this work of reconstruction must in turn become the stimulus to and material for further experience. The "particular in the universal" here means that the purpose is not mere reconstruction at large, but is made in response to a specific demand. The unity here is not the static unity of whole and part, but the unity of *growth*. The necessity and universality of the reconstruction here made in response to a specific need is grounded in the fact that the experience here and now, with gold in liquids, is the inevitable outgrowth of past activity, and that it is also the only basis of any future experience with gold in liquids.[42]

Hence the conviction that the future is as secure as the present and past. It is, indeed, a curious notion that the future alone is "contingent," while the past is fixed and abiding; that "what's done is done." For in every day's work in history and science, in every new problem solved, in every new advance in any direction, it is precisely the *past* that is being reconstructed. In our illustration it is the old construction, "gold-insoluble," that is changed. The past is still in the making. The past, as well as the future, is "contingent." On the other hand, there can be no future experience which is not built on this past and present reconstruction. Whatever future comes must be continuous with the present and past. The world may come to an end; it cannot be turned into absolute chaos. This is, of course, only the Kantian platitude that the future must be "intelligible."

In this evolutional character of experience we find the ground for that "practical certainty" of the connection between meaning and reality which Locke, to the last, could refer only to the Deity or to "the uniformity of nature." With experience conceived as a process of reconstructing itself out of the materials of its own production,

[42] *Cf.* BALDWIN, *op. cit.*, pp. 323 ff.

there must be continuity. But when we say, "The future must be continuous with the past and present," we, of course, cannot mean that the present construction will be maintained in that future in its present form. It too must be disintegrated and serve as "material" for the reconstruction of further experience. If just when and where and how it is to serve were determined, we should have, indeed, that "perfect certainty" of which Locke dreamed, but we should have too an Absolute in which there would be no future; in which the last reconstruction had been made, the last problem solved, the last battle fought — a "complete," "perfect," Absolute, if you will, but an Absolute which, if we are to construe out of our present psychology, would be merely a vast system of habit, an Absolute in which there would be no place, because no demand, for either thought or feeling. Probability, confidence, faith, hope, all mean that experience is a *re*-construction. Uncertainty, doubt, the problem, the need of reflection, of courage, of work, mean that experience is a re-*construction*.

In this attempt at some very general reconstructive statements no special paragraph has been devoted to the conception of ultimate reality. It has been manifest throughout that reality is here conceived as just this process of experience of which "existence" and "meaning" have been described *as constitutive functions*. Such a reality is, of course, not of "the-same-yesterday-today-and-forever" type. It is not a reality which gathers all truth into one, completed, eternal whole, and in which "all purposes are completed and fulfilled." It is not a reality in which all thought and effort disappear in a vast becalmed sea of everlasting immediacy. It is a reality of activity, of development, whose own very ongoing is ever creating a demand for new purposings, new thought, new effort; a reality that promises — not "eternal rest," but Eternal *Life*.

THE RELATIONS OF PSYCHOLOGY TO PHILOSOPHY

THE RELATIONS OF STRUCTURAL AND FUNCTIONAL PSYCHOLOGY TO PHILOSOPHY

JAMES ROWLAND ANGELL

THE tendencies which have contributed to render psychology so largely independent of philosophy are for the most part identical with those which have brought it under the guiding influence of biology. The prevalent disposition to model psychological procedure upon biological patterns is a conspicuous expression of the force of this influence and one which has led to some interesting anomalies in current psychological usages. When one undertakes to treat the mind as an organism, it is natural to suppose that one may adopt the practice of the biological sciences and proceed to the construction of a mental anatomy, dealing with the facts of psychical structure, and a mental physiology, dealing with psychical function. Indeed, this is apparently the precise program which many of our contemporary psychologists attempt to execute. The legitimacy of the distinction between the structure and the function of consciousness is assumed as essentially self-evident. In view of this fact it is not without significance that psychologists should have failed to follow more consistently the example of the biologists in the development by the latter, as relatively independent sciences, of morphology and anatomy, on the one hand, and physiology, on the other. Certainly no psychologist has as yet attempted either a purely structural or a purely functional account of consciousness. Moreover, there is commonly no disposition to countenance the ideal implied in such an undertaking, and in practice psychology appears as a science engaged with both the anatomy and the physiology of the mind. It is the purpose of the present paper to inquire into the nature and relations of these two phases of the psychological field and to point out certain consequences touching the status of psychology among the philosophical sciences, which seem involved in the conclusions we shall reach. It will be convenient to begin with a brief examination of the concept of psychical structure.[1]

On the negative side it is clear that in psychology the term "structure" cannot refer to spatial relations, as it does in anatomy and morphology, nor has it often been thought necessary since Descartes's time to call in question the spaceless character of consciousness. The morphological cell and the gross structures of anatomy accordingly find no immediate and perfect analogues in the psychical organism. But con-

[1] For typical authoritative statements of the scope and problem of psychology, as contemporary writers regard these, see WUNDT in the *Philosophische Studien*, Vol. XII (1896), pp. 1 ff.; also MÜNSTERBERG, *Aufgaben und Methoden der Psychologie: Grundzüge der Psychologie*, Vol. I, pp. 1 199, *passim*. Professor Münsterberg's exposition in the *Grundzüge* is too elaborate to permit of ready articulation with the common formulæ and too recent to allow of confident condensation. The independence of psychology from philosophy is ably maintained by Dr. SCRIPTURE in an article entitled "The Problem of Psychology," in *Mind*, Vol. XVI (1891), pp. 305 26.

There is probably no more convenient statement of the generally accepted views concerning the relations of the philosophical sciences to one another than is afforded by LADD'S *Introduction to Philosophy*.

sciousness does report of itself a certain complexity of content revealed in the form of distinguishable conscious qualities. The physiological and the psychological organism have this point in common, then, that both are complex and thus describable (potentially) in terms of their constituent factors. To speak of the structure of the psychical organism is simply a convenient mode of indicating this fact of complexity. This, however, is the sole particular in which on the positive side the analogy with organic structure is really applicable to consciousness. Even this application requires some limitation, as we shall presently see.[2]

The situation comes clearly to view the moment we examine a specific instance of alleged psychical structure. When sensation, for example, is cited as a structural element of consciousness, as it is by many modern writers, the usual implication is that it represents a qualitatively irreducible psychic datum roughly comparable to the atom of an earlier generation of physicists.[3] Such a psychical element as this evidently offers, even upon casual inspection, sufficiently important distinctions from the structural constituents of anatomy and morphology to make the two very imperfect counterparts of one another. That the one element is spatial in character and the other is not we have already remarked. Moreover, the one element represents a relatively durable entity, the other does not. The sensation has at best (*pace* Professor Münsterberg) an existence covering a moment or two of time. Furthermore, it is reasonably certain that the morphological element, when actually obtained, is what it pretends to be, *i. e.*, a real portion of the organism of which it is supposed to be a constituent. Sensation, on the other hand, is by general consent admitted to be in a measure an artifact. At all events, it seems to be commonly agreed that the entire analytical process by means of which consciousness is resolved into its elements is of a vicarious character, resulting in the attainment of symbolic representatives of the components of actual experience, but not in the securing of the prototypes themselves. Certainly the limitations of this analytic procedure through which the structural components are discerned is in need of most careful scrutiny from the standpoint of what Professor James calls the "psychologist's fallacy." For it seems possible that the experience of normal psychical life, as distinct from the psychologist's experience, is only in a mediate secondary way complex. The complexity commonly manifested by states of consciousness is a complexity of reference beyond the psychical moment,

[2] The ablest defense of structural psychology with which I am acquainted will be found in an article by PROFESSOR E. B. TITCHENER, entitled "The Postulates of a Structural Psychology," *Philosophical Review*, Vol. VII (1898), pp. 449-65. In connection with this should be consulted the two acute and cogent papers of Professor W. Caldwell, who under the guise of a critique upon Professor Titchener aims a number of powerful shafts at the weak points in the armor of presentationism: CALDWELL, "Professor Titchener's View of the Self," *Psychological Review*, Vol. V (1898), pp. 401-8; "The Postulates of Structural Psychology," *ibid.*, Vol. VI (1899), pp. 187-91.

The position of phenomenalism in psychology finds its strongest advocate among English writers in Bradley. *Cf.* "A Defense of Phenomenalism in Psychology," *Mind*, N. S., Vol. IX (1900), pp. 26-45. A trenchant critique of this type of view in which Münsterberg appears as whipping-boy is to be found in SETH'S *Man's Place in the Cosmos*. A useful paper discussing matters germane to these is that of MISS CALKINS, "Psychology as Science of Selves," *Philosophical Review*, Vol. IX (1900), pp. 490-501.

[3] *Cf.* upon this point and upon the whole question of the description of psychical contents, MÜNSTERBERG, "Psychological Atomism," *Psychological Review*, Vol. VIII (1900), pp. 1-17.

rather than a complexity felt as inherent in consciousness itself. Viewed dynamically from without, consciousness is multipolar; viewed dynamically from within, as regards its feeling, it is ordinarily unipolar. Such a structural element as sensation simply represents the psychologist's device to express the fact that consciousness, when viewed retrospectively, does not appear homogeneous, and that among the unhomogeneous qualities which are thus distinguishable, certain ones appear to be incapable of further analysis, sensation being among these irreducibles. Whether we agree with Professor James that the analysis of perceptual experience into sensations is merely an analysis of the objects to which the perception refers, or whether we agree with Mr. Stout in his contention that our analytic distinctions are representatives of undistinguished differences in the original experience under consideration, it is at least clear that sensation is no discrete psychical entity compacted with other similar entities into the complex we call perception.[4] Moreover, when we rigorously distinguish the non-introspective experience, which belongs to everyday life from the post-mortem type of experience, with which the psychologist commonly deals, we find, as we have previously intimated, that the significance of the structural elements of consciousness is increasingly circumscribed and artificial. This is true even on the basis of the view which regards introspection as essentially a constructive process, producing a novel state of consciousness, which serves to represent ordinary experience. This conclusion must not be interpreted as a challenge to the tenability of every implication of the concept of psychical structure. It is intended simply to emphasize the disparity between this psychological form of the structure concept and that current in biology. As has been pointed out, the concept of psychical structure extends only to the implication of a specific kind of complexity. Beyond this it is irrelevant and inapplicable.

That the biological idea of function is applicable in a general way to the life of consciousness is hardly open to question. The precise lines of classification sometimes employed in biology, *e. g.*, functions of adjustment to the external environment, functions of internal organic metabolism, functions of reproduction, etc., may not be immediately available, but the general biological notion of organic activity certainly requires no essential transformation. The point which does, however, warrant a few words concerns the structural implications of certain psychological terms commonly employed to indicate functions, for example, "judgment." As the main point, which we desire to bring out in the remainder of the paper, does not hinge upon this consideration, we shall dismiss the matter with a somewhat cursory comment.

It will undoubtedly be admitted that every description of function involves, tacitly at least, some reference to structural elements, just as the actual functions themselves involve structures. Thus, judgment as an act will be allowed to involve factors usually called structural, such as images, for example. That judgment itself in its totality as a psychical event is also a structural component of consciousness, is not so likely to be

[4] It will be remembered that much of the criticism upon the significance of Weber's law issues in precisely this conclusion.

admitted. To be sure, so high an authority as Brentano has accredited to judgment the position of a psychological ultimate, but Brentano's whole view is essentially of a dynamic and functional character, and his ascription of this position to judgment could not without more ado be cited as in any way a claim for the structural character of the process. But if we direct our attention to actual psychical experience in its felt immediacy, the evidence justifying the view that judgment has a structural significance for consciousness is quite as good as that available for the assignment of the image to the ranks of psychical structures. If it be said that judgment is complex and that the image is relatively simple, we shall not deny this, but simply insist that we are under obligation to remember the limitations previously noted concerning the real meaning of complexity in states of consciousness. If the analogy of the psychological element with the biological cell, for instance, were altogether tenable, judgment, supposing it to be structural at all, might then conceivably enough figure as the counterpart of a tissue or a gross organ. But we have already observed the defects in these analogies, and, in point of fact, the judgment as a time-occupying process is not *merely* synonymous with the psychical elements capable of analysis out from the matrix represented by it. In its entirety it presents, when compared with the image, a unique segment, or phase, of consciousness, which can with propriety be regarded as structural. Indeed, it is on the whole a truer representative of psychical structure than the image, because it is less of an abstraction than the image, less remote from actual conscious experience. This is possibly but a cumbrous way of contending for a specific *quale* characterizing judgment in distinction from other psychical events. In any case, we have now devoted all the space to the matter which is appropriate and we may sum up the position we wish to set forth in this way: Many psychical processes ordinarily regarded as distinctly functional, *e. g.*, judgment, not only involve such elements as are commonly conceded to be structural, but are in themselves events possessing unique structural attributes.

Whether or not we agree to this view of the nature of judgment, it is certainly a suggestive fact concerning the general relations of structure and function in mental life, that the same terms are so often used indifferently to indicate either the one or the other. Probably the terms "sensation," "image," and "affection" are as widely used in a structural sense as any that one could select. Yet each of these is also used in a functional sense. Thus, sensation is described as the psychical function by means of which the organism is first brought into contact with its environment. Again, the image is spoken of as the conscious process by which the world of objects and relations is symbolized and manipulated. *A fortiori* should we find a similar thing true of those psychological terms occasionally, but less commonly, regarded as structural, *e. g.*, "conation." Now, were there nothing beyond the mere verbal identity in the terms applied to structures and functions, one might regard this fact simply as evidence of linguistic inadequacy, implying nothing positive as to the relations among the psychical facts themselves. That our available terminology is defective no one can question, but this consideration is far from affording a complete explanation of the circumstance

referred to. Fortunately our biological bias, which prepares us for almost any kind of intimacy in the relations of the structure-function elements, offers us a clue to the correct interpretation of the facts. Not only are we reminded in biology that every function involves a structure, an organ, for its execution, but we are also informed that these functions modify the structures. Especially is this true of the molecular arrangements in nervous tissue. In psychology it might almost be said, that the functions produce the structures. Certainly, so far as we may be considering any specific structural content of a state of consciousness, *e. g.*, a sensation (in distinction from the general fact of content), we shall always find that this sensation is determined by the demands made upon the organism by the environmental situation, *i. e.*, that it is functionally determined and that it will vary with each specific situation with which the organism has to cope. One may of course hypostatize this sensation and, dissociating it from its particular surroundings, regard it as a type of a relatively static structural element, for which specific function is a secondary and unimportant consideration. But the actual sensory experience, which constitutes the prototype of this hypostatized sensation, is not only capable of being viewed as an expression of functional activities, it cannot be correctly viewed nor accurately described in any other way. It is never a mere sensation in general. It is always this *specific* sensation produced by certain particular, momentary organic conditions. The forty thousand, more or less, of sensory qualities, which the psychologist describes, have no actual existence apart from his description, save when the exigencies of experience call them into being, *i. e.*, when there is functional demand for them. It appears, therefore, that the fundamental nature of functions, which biology discloses, is even more in evidence in psychology, where structure and function represent simply two phases of a single fact.

The considerations which we have thus far canvassed suggest that our psychology stands in need, not so much of a firmer foundation for the distinction between psychical structure and psychical function, as it does of a further development of both branches of the inquiry based upon the distinction and a clearer recognition of the real relation between the two. Upon the teleological nature of the distinction it is, perhaps, unnecessary to comment. But certainly the present categories recognized as respectively structural and functional occasionally overlap, and thus emphasize the necessity for further clarification of their relations.

Despite the unquestioned applicability to consciousness of the idea of function, any psychology which calls itself functional is still in certain quarters viewed with a slight distrust. It is thus sometimes asserted, as an evidence of the superior reliability of the results of structural psychology compared with those of functional psychology, that the former has settled down upon the elementary nature of sensation and affection, for example, with far greater finality (although this finality is a trifle precarious) than functional psychology has attained with reference to any of its categories. Taken at its face value, this contention is of a somewhat specious character. As a matter of practical wisdom in the distribution of one's energies at the present

moment, it may be that more certain rewards are to be anticipated from a pursuit of psychological analyses of the structural variety than from those of a functional character. But the evidence offered points less directly to the psychological superiority of the structural methods of work, than it does to the differences in complexity among the several kinds of psychical attributes which the psychologist finds himself under obligation to analyze, describe, and, if possible, explain. Plenty of parallel cases might be cited from the biological sciences. Thus, for example, the anatomy of the lungs and the physiology of respiration have been much more completely worked out than the corresponding treatments of the brain. Notwithstanding the limitations upon the analogy of psychical with organic structure, one may view the asserted superiority of structural psychology over functional psychology, if this superiority be conceded, as affording in general simply one more instance of the tendency illustrated by the history of all science, *i. e.*, the tendency toward the development of scientific knowledge concerning the static and structural phases of the cosmos, prior to the attainment of such knowledge about its dynamic and functional features. However the facts may stand as regards the precise validity and import of this claim for structural psychology, there can be no reasonable doubt that the smaller the segment of consciousness one transfixes under his introspective objective, the easier it is to emphasize the structural features of such sections, and the harder it is, because of the greater actual remoteness from life conditions, to do justice to their functional attributes. It will be remembered in this connection that the structural elements upon which there is widest agreement, *i. e.*, sensation and affection, are the products of elaborate analytical simplification, corresponding in no exact sense to any actual moment of conscious experience. The converse fact is equally obvious. The more complex the psychosis under examination, the more readily is one's attention diverted to the functional activity involved, and the more difficult does it become satisfactorily to distinguish the structural characteristics of the complex. The psychology of attention affords an illustration of the case in point.[5]

So long as psychology confines its examination to the structural aspects of consciousness, it seems to have a clear field and to be in no danger of trespass upon other branches of inquiry, either philosophical or biological. But the moment that functional problems are attacked certain difficulties appear concerning the severance of psychology from the several other departments of philosophical investigation.[6]

[5] Criticisms upon the value of psychology for educational practice, etc., which rest upon the asserted remoteness of the psychologist's facts from the actual facts of psychical experience, obviously hold true, if anywhere, in largest measure when directed against structural psychology. Indeed, I have yet to meet any criticism of this type which appeared to me apposite when directed against the possibilities of functional psychology. The reasons for the retarded development of functional psychology we have already mentioned.

[6] I do not know of any adequate formulation of the program of a functional psychology. The thing itself is about one on every hand in the contemporary psychological literature, but it is, perhaps, too young to have become fully self-conscious and so has escaped the incubus of a creed. The following references, however, will all be found valuable in clarifying the scope of such an undertaking: EBBINGHAUS, *Grundzüge der Psychologie*, Vol. I, pp. 161-9; STOUT, *Analytic Psychology*, Vol. I, pp. 1-50, and *passim*; DEWEY, "The Reflex-Arc Concept in Psychology," *Psychological Review*, Vol. III (1896), pp. 357-70; "Principles of Mental Development," *Transactions of the Illinois Society for Child-Study*, 1899, pp. 65-83; ELLWOOD, "Prolegomena to Social Psychology," *American Journal of Sociology*, 1899, pp. 807-22.

If the contention once be granted that psychology cannot succeed in its effort to determine what consciousness is as regards its make-up without a determination of what consciousness does, the further inference is inevitable that psychology must proceed to inquire into the how and why of conscious operations. In other words, any *complete* statement as to what operations consciousness really performs necessarily involves an account of how and why these operations are executed. The practice of physiology illustrates and confirms this position. A description of the path traversed by a blood corpuscle in its circulatory cycle would in so far be a statement of what occurs in circulation. But how the results which arise from the circulation are produced would be entirely to seek, and no one would for an instant consider such an account as exhaustive or satisfactory. But if one does go farther, it is patent that in asking how the results mentioned do come to pass, one is simply investigating what other operations are involved. It is not only in the Hegelian logic, therefore, that the adjective and the adverb reveal a dialectical interplay. In physiological and functional problems the question "how" is practically identical with the question "what." Moreover, any such physiological formulations of function as actually are met with contain a proximate response to the question "why." A complete account of physiological activities would clearly include answers to each of the questions, what, how, and why particular functions are operative. Accordingly, if functional psychology is in reality a mental physiology, we may expect to find it engaged with the search for answers to just these same questions as they apply to the life of consciousness.[7]

Now let us examine briefly, in the light of the preceding considerations, what relations are sustained by psychology to the normative philosophical disciplines. Theoretically it is a matter of indifference where we begin, practically it will be convenient to take up logic first.

Logic and psychology obviously have their immediate point of contact in the cognitive processes. The psychological problem of cognition is generally supposed to be solved when an account has been given of the constituents of the knowledge process and of the modes in which under the actual conditions of practical life these processes function. It has been usually maintained that for psychology the truth or falsehood issuing from any cognitive process was a matter of wholly secondary consequence, and on these lines a practical boundary between psychology and logic has been established. Logic, on the other hand, anyhow the formal logic, is commonly assigned the investigation of just these same cognitive processes, but now from the standpoint of their consistency, their production of valid conclusions, their avoidance of fallacy.[8] The development of the inductive logic has in recent years issued in an examination of this same principle of consistency and truth, as it is involved in the

[7] The force of the theory for which I am contending appears to me to be indirectly supported by the considerations set forth in W. MCDOUGALL's suggestive articles entitled "Contribution toward an Improvement in Psychological Method," *Mind*, N. S., Vol. VII (1898), pp. 15–33, 159–78, 364–87.

[8] A brief and effective exposition of a frequently accepted view concerning the relations of logic and psychology is given by G. M. STRATTON in an article entitled "The Relation between Psychology and Logic," *Psychological Review*, Vol. III (1896), pp. 313–20. See also a criticism of Stratton's paper in the interests of "Rational Psychology," by G. H. HOWISON, *ibid.*, pp. 652–7.

process of discovery rather than in proof. Many eminent logicians take great pains to emphasize the radical distinction between psychology and logic. Yet an examination of their treatises upon logic discloses a large amount of space devoted to analyses and discussions that are almost purely psychological, in the sense in which this implies that they are concerned with the content of the logical processes and not primarily with the determination and formulation of canons of thought. The modern theory of the judgment, which is so central in contemporary logic, is a case in point. The examination of the concept is another, and the list might be carried out at considerable length. This fact has sometimes been explicitly recognized and formulated in the statement that logic borrows its raw material, viz., the facts of the cognitive life of consciousness, from psychology. There is, however, seldom any economizing of space on this score.[9]

If psychology could confine itself exclusively to structural problems, there would seem to be no theoretical difficulty in distinguishing its field from that of logic. Conversely, so long as logic rigorously confines its inquiry to the problem of determining the conditions under which valid thought processes arise, it need not traverse any territory pre-empted by structural psychology, even though in the execution of its task it employs psychological material — a material, be it said, which contains, as logic actually receives it, both structural and functional elements. But any systematic development of a functional psychology must inevitably result in the creation of a logic. This is, forsooth, precisely what logic is. Indeed, logic has often been called the applied psychology of reasoning. But it is more than that, for that would only apply strictly to the cases where, as in rhetoric, the subject is treated with reference merely to improvement in the exercise of argument, proof, or investigation. The essential identity of functional psychology and logic will appear more conclusively from the considerations which we shall next examine.

The tendency of modern logic, if one may trust such generalizations, certainly seems to be increasingly toward the placing of the criterion of validity and truth within the limits of the purely practical. Truth as the Absolute is chiefly a possession of the metaphysician and epistemologist. Truth or consistency, either of them, from the logician's point of view is primarily resident in practice. The formulation which works in practice is the logically true and valid thing. The truth which can in some way be verified in experience is the logician's type of truth. The constant appeal for a criterion is to the facts of practice and not to a transcendental standard of excellence apart from these concrete details of actual life.[10] Even in the principles of formal

[9] In SIGWART'S great work on logic two-thirds of the first volume is given over to an essentially psychological analysis of judgment and concept. Similarly in WUNDT'S *Logic* more than two hundred and fifty pages of the first volume are devoted to an examination of conscious processes which differs only in thoroughness from that which the ordinary psychological text affords. Whether one classifies the work of HOBHOUSE'S *The Theory of Knowledge*, as logic or as epistemology, it is equally interesting to remark that the earlier chapters are almost wholly psychological in character.

[10] One of the most luminous discussions of the philosophical consequences of this logical conception is afforded by W. JAMES'S address "Philosophical Conceptions and Practical Results" (delivered before the Philosophical Union of the University of California). Professor James announces himself as the prophet of C. S. Peirce, whose work in logic is so widely known. The special doctrine in question is set forth in a paper in the *Popular Science Monthly* for 1878, under the title "Illustrations of the Logic of Science."

logic, such as the laws of contradiction and excluded middle, the actual leverage for the doctrine is always obtained by reference to the objective world of everyday experience. This is as true of the significance attaching to deductive as to inductive procedure. It has, moreover, always been true of the plain man's manner of thinking. Ulterior and supposedly absolute guarantees of truth have never stood in his presence, when confuted by the facts of practice. Although the plain man is not of much consequence when he attempts consciously to philosophize, his practical procedure is nowadays gaining some repute as an arbiter in philosophic disputes. He is not introduced at this place as a demonstration, but simply as an additional piece of presumptive evidence regarding the justice of the balance by which modern logic is increasingly inclined to weigh truth.

The warrant for this insistence upon the category of the practical is of course peculiarly obvious and fundamental in the foundation of inductive and investigatory procedure. But the ultimately correlative character of deduction and induction renders the application of the category to deduction equally defensible. It is not, however, the practical as a mere category of the work-a-day-world which is implied here. At all events, much more than this is implied. The idea which is here at issue involves the larger dynamic conception of experience itself as a universe or system in which truth is ultimately synonymous with the effective, and in which error is not only identifiable with partiality and incompleteness, but particularly with that form of inadequacy which issues in the failure of practice, when conceived in its entirety.[11] The contemporary logical treatment of the judgment (in which modern logic seems to find its most characteristic mark) is essentially given over to an exposition of this function as a part of practice. The older severance of the reflective faculties, so called, from the activities of mere practice has yielded to a point of view in which reflection and ratiocination are not only thought of as possible contributors to practice, but as constituting themselves immanently and immediately most important instances of it. For this type of view constructive thought *is* practice in its most intelligently creative, formative stage. So far as modern logic has added anything to the achievements of the ancients, it is surely in just this protest, for which it stands, against the effort to treat the validity of thought as something capable of investigation and formulation apart from the actual facts of experience.

It is a far cry from all this, perhaps, to the complication of functional psychology with logic. But the point which it is sought to bring out is this, that logic in its search after the criterion of logical truth and consistency, its search for the principles of valid thinking, is intrinsically engaged in determining, not some purely abstract transcendental ideal, but the concrete principles of practice. The identity of this

[11] Interesting commentaries upon this general point of view will be found in the following places: ROYCE, *The World and the Individual*, First Series, pp. 265-342, Second Series, pp. 379 ff.; VENN, *Principles of Empirical or Inductive Logic*, pp. 32-6; LADD, *Philosophy of Knowledge*, p. 468; SCHILLER, "Axioms as Postulates," especially pp 126-8, in STURT's volume of collected essays entitled *Personal Idealism*. Despite his protests against the doctrine, Mr. Bradley hardly succeeds in avoiding its meshes. *Cf.* BRADLEY, *Appearance and Reality*, pp. 184-96, 550. See also his *Logic*, pp. 18-21.

undertaking with certain problems currently accounted the exclusive possession of psychology (at least from the standpoint of functional psychology) now remains to be exhibited.

When it is said that the problem of psychology, so far as it deals with the cognitive processes, is confined to the investigation of what actually does occur in the knowledge-bringing operations, and in no way touches the question of what ought to occur, it is apparently implied that there is some absolute standard of consistency to which the rationalizing activities may conform, but often do not. Now, however this may be, in point of fact the actual account of reasoning and its subordinate processes, which are contained in our psychological text-books, are closely comparable with the statements one finds in the corresponding chapters of our logics. They are impartial descriptions of the supposed processes concerned in these phases of mental procedure. In treatises of both varieties the mechanisms of the inductive and deductive modes of thought are set forth, the evolution of the judgment and the relation of this to the concept are expounded, and, were it not for the fact that the authors generally call attention to the supposed distinction, one might read extended passages without the slightest suspicion of a radical difference between the logician's and the psychologist's analysis of cognition. To be sure, the psychologist usually foregoes an examination of fallacies and the logician commonly eschews any extended discussion of perception and imagination. But, despite such a nucleus of differences in the topics treated, the points of community already mentioned obstinately remain and refuse to yield to any interpretation which deprives them of their most obvious implication, *i. e.*, the implication that logic and one portion at least of psychology are really one. As we shall presently see, no effort to preserve the distinction that psychology and logic treat a common subject-matter from different points of view can be maintained, when functional psychology is allowed to enter the lists.[12]

If one adopts the view, as most psychologists do, that consciousness is not merely epiphenomenal, but is really an efficient agent in the furtherance of the life-activities of the organism (the view of common-sense), we must admit that one of the points at which consciousness is most obviously of value is presented in the cognitive functions. In the general mediation, represented by the cognitive processes, through which the individual recognizes the beneficial or the harmful and thereby regulates his conduct, it is not for a moment a matter of indifference whether or not the results of the exercise of these processes are true or false. Not only in the case of every-day practical problems is this true, but also in every possible case of reasoning, however abstruse and however remote from the immediate interests of the life-process. It is not primarily because such truth or falsehood may in its subsequent consequences be harmful or helpful, that we speak of the cognitive process as involving this category of organic value, although this is evidently one phase of the matter; but much more

[12] To illustrate the similarity of subject-matter and treatment which is revealed by our psychologies and logics, we may take the following recognized representatives and compare the suggested passages: CREIGHTON, *Introductory Logic*, pp. 1-16, 260-73, 329-34; SULLY, *The Human Mind*, Vol. I, pp. 431-74; DEWEY, *Psychology*, pp. 202-34.

because the act itself in which such a conclusion is reached is an adjustment to environmental conditions conceived in their widest and truest aspect, and its truth or falsehood is simply another name for its successful or unsuccessful functioning in the total process of adaptation.

This brings us then to precisely the same point which we reached a moment ago in considering the tendency of logic. If psychology is permitted to discuss function at all—and we saw that, without being arbitrarily truncated, it cannot avoid so doing—the truth or falsehood of cognitive processes cannot be a matter alien to its boundaries, because such truth and falsehood are simply impressive names for relatively complete (*i. e.*, successful) and relatively incomplete (*i. e.*, unsuccessful) operations of adaptation. Whether false reasonings would in such a case form a chapter in functional pathology is entirely unimportant at this time. It does not appear that this would necessarily follow.

It has, perhaps, been made sufficiently clear in the preceding statement that there is in the view here advanced no necessary reference to immediate overt failure or success in the individual's adaptive activities. Such a result is, to be sure, often in evidence, but in the realm of the higher and more abstruse thought-processes it is often so veiled as to baffle confident detection. In such cases the doctrine we are here defending finds its application in the undeniable formation during all reflective activity of generally trustworthy or untrustworthy habits of mind. The evident deferment of the full and complete consequences in cases of this character cannot fairly be interpreted to the prejudice of the theory.

Unless one regards the cognitive function as a mere luxury of the organism, it is difficult to see how one can escape from the view just presented. If the knowledge-processes are of value to the organism, it obviously must be because of what they do. No one questions that they serve primarily to reflect and mediate the external world, and this they can only do effectively provided they distinguish the true from the false. It would seem fairly clear, therefore, that a functional psychology in any event, however the case may stand with a structural psychology, cannot possibly avoid a consideration of this aspect of the cognitive activities. But the problem to which this view leads is essentially identical with the accepted problem of logic.[13]

At the risk of tedious iteration, a brief résumé of the argument is here offered. Modern logic shows an increasing disposition to locate truth in practice, to make truth

[13] Logics which, like Mr. Bradley's and Mr. Bosanquet's, include so much of the immanent criticism of the logical function in its entirety with so much of psychological analysis and so much of epistemological and metaphysical by-play, are of course peculiarly difficult to dispose of in any summary way. These writers (Mr. Bradley avowedly) have gone out exploring, from the logical problem as a center, into all the surrounding country, and they have unquestionably brought back with them most valuable spoils. But this general philosophical campaign, carried on under the banner of logic, makes it somewhat precarious to attempt treating its leaders as one might, if they had confined themselves to the logical problem in its usual significance. I cannot, however, in any case sympathize with the implication contained in the second part of the title of Mr. Bosanquet's scholarly work. Logical doctrine proper is certainly not to be called morphological. Whatever is explicitly morphological in logic is in reality material borrowed from structural psychology. Indeed, Mr. Bosanquet practically surrenders his position by admitting that his morphology must include function. It is clear what he means, and equally clear that "morphology" is, therefore, not a felicitous word for his field.

a category, not of the solely or primarily transcendental, but rather of the distinctly immanent variety. Truth is thus something which belongs to the reflective faculty, not as this appears when abstracted from practice and made purely theoretical, but as it really is when viewed amid its normal surroundings, *i. e.*, a part, and an integral part at that, of the universe of practice. Concretely this tendency is exhibited in the treatment of the judgment, the concept, the deductive and inductive forms of inference. Psychology, accepting the common-sense view of consciousness as efficacious in determining the fate of the individual organism, locates the deliberative, and therefore controlling, factors of consciousness in the cognitive processes. It is consequently by means of the knowledge-processes that decisions of actual import are reached, and it promptly becomes a part of the attempt to understand how the adaptive activities of consciousness are carried on, to understand how truth and falsehood, consistency and inconsistency, practical success and practical failure are attained through the mediation of the various modes of consciousness. This is clearly true of any psychology which attempts to go beyond the mere elements of the process, and we have already seen the logical difficulty, if not impossibility, of stopping short at this point.

Let it not be supposed that there is any intention here to criticise the present provisional lines of distinction between psychology and the rest of philosophy. These lines are, to be sure, in some respects unsatisfactory. But our immediate interest is simply to show that the prevalent distinctions are even more practical and arbitrary than has commonly been confessed. For example, the statement that logic, ethics, and psychology treat an identical subject-matter, though from different points of view, gives a working differentia which has proved useful. But, if the contentions advanced in this paper are warranted, this description of the facts is certainly not accurate. A thorough-going and courageous functional psychology must ultimately issue in investigations which are nowadays the exclusive possessions of logic, ethics, and æsthetics respectively. A cursory account of the case as it stands in ethics and æsthetics may render clearer certain phases of the position we are considering. We may conveniently examine the case of ethics first.

We must at the outset disavow any intention to discuss those purely anthropological and historical considerations which are often and with much of propriety included in ethical doctrine. What we have in mind is the more exclusively philosophical inquiry into the nature of right and wrong, the good and the bad. Precisely as in the case of logic, we meet here with a large amount of material which is obviously psychological in nature. The earlier chapters in almost all the modern text-books on ethics are dedicated to an investigation of impulse, desire, conscience, motive, ideal, etc., from the standpoint of the actual psychological processes involved in these elements of the ethical life.[11] All this is ostensibly carried on, however, to the end that we may

[11] The critical and constructive treatise and the student's text-book are both replete with psychology. Illustrative of the former is HODGSON'S *Theory of Practice*, in which almost all of the first volume is assigned to psychological considerations. MACKENZIE'S *Manual of Ethics* may represent the latter class. In this work one whole book (pp. 43-116) is explicitly reserved for discussions of psychological matters.

at length be able to describe what constitutes good and bad conduct. Now, logically considered, this mode of attacking the problem immediately suggests the localization of the good somewhere in actual practice, and not in a remote ideal which practice strives in vain to attain. Historically, too, the influences to which modern ethics has been exposed have led to emphasis upon the essentially social nature of the good and of the right. In this manner ethical value has come to be regarded, not simply as something which has significance for practice, not simply as something at which practice ought to aim, but as resident in practice itself and as constitutive of the universal element in practice. This tendency is as characteristic of Mr. Spencer and the evolutional ethical writers as it is of the advocates of T. H. Green's way of thinking.[15]

Needless to say, this is a view peculiarly identified with the psychologist's standpoint. If cognitive consciousness is looked upon by him as constituting a medium in which are devised adjustments of a more adequate type than are mechanically provided for in the physiological organism, much more must he regard volition and its issuance in overt conduct as the crucially significant feature of the case. It is obvious to the point of platitude that consciousness, if it be valuable at all to the organism, must be so in volition. But supposing it valuable is equivalent to supposing it selective of the beneficial. When taken broadly, good and bad conduct are by the agreement of practically all contemporary ethical writers, however they express it, equivalent to Mr. Spencer's perfectly or imperfectly evolved conduct, to perfectly or imperfectly equilibrated individual and social influences, to the completest or most incomplete adaptation and development of the individual in a similarly developed society. Nor does this position necessarily involve an oversight of the insistent distinction between ethical and biological value.[16] The distinction is, to be sure, transcended in this view, not, however, by denying it, but by exhibiting its full implications and foundations. Moral value gets expression, then, in practical values represented by the activities of the developing individual in the developing environment. Moral action thus becomes, like logical truth, the practically effective action as over against the partial and incomplete, which accordingly represent badness and error.[17]

The dilemma which emerges from these considerations is plain. Either we must suppress functional psychology, or else admit that the so-called ethical examination of the element of value in conduct—being in point of fact simply an examination of the condition of largest effectiveness in conduct—belongs in reality to the field of functional psychology; and we must admit, further, that a functional psychology which did

[15] Compare SPENCER, *Data of Ethics*, chap. 3, and *passim*; ALEXANDER, *Moral Order and Progress*, pp. 97–111; DEWEY, *Outlines of Ethics*, pp. 95–102, 214–21; also *The Study of Ethics, A Syllabus*, pp. 17–26, 124–9, and *passim*; J. SETH, *Study of Ethical Principles*, pp. 258–82.

[16] *Cf.* DEWEY, "Evolution and Ethics," *Monist*, Vol. VIII (1898), pp. 321–41. Among the most acute and penetrating analyses of the concept of value are to be mentioned the following: EHRENFELS, "Werththeorie und Ethik," *Vierteljahrschrift für wissenschaftliche Philosophie*, 1893, pp. 76–110, 200–266, 321–63, 413–75, and *System der Werththeorie*; MEINONG, *Psychologisch-ethische Untersuchungen zur Werththeorie*.

[17] The most searching analysis of certain phases of this general doctrine has been made by PROFESSOR ROYCE in his work entitled *The Religious Aspect of Philosophy*, especially pp. 449–60.

not give an account of these elements would be a bastard discipline and not what it pretended to be.[18] The unavoidable coalescence of the problems of ethics and functional psychology is nowhere more obvious than in the realm of social psychology. This is not the place to attempt an exhaustive definition of the scope of this branch of psychological inquiry. But for the purpose in hand it is sufficient to refer to such investigations as Professor Baldwin has carried on. A large portion of his work entitled *Mental Development, Social and Ethical Interpretations*, might with equal propriety be classified as psychology or ethics. Nor does it escape the force of the dilemma to assert that social psychology is essentially a border-line field of inquiry, which merges with ethics on one side and with functional psychology on the other. A closer inspection of the facts will show that all psychological and ethical questions with which the sociologist concerns himself are fundamentally questions of how and why consciousness performs certain operations and what the results are, *i. e.*, are questions intrinsic to the conception of functional psychology. Again, as we said in connection with logic, it is not maintained that the present principle of demarcation between the two supposedly independent fields of investigation is especially prejudicial to the trustworthiness of the conclusions thus far reached by them. But the connection is surely more intimate and organic than is generally admitted.

The case of æsthetics is more complicated than that of either ethics or logic, because of the relatively inchoate condition of æsthetic doctrine. Whether we shall mean by the term "æsthetics" a criticism of taste, an attempt to formulate canons for the production of art, the philosophy of beauty, or an analysis of the psychology of æsthetic appreciation, is largely a matter of individual opinion or caprice. When used in connection with properly philosophical subjects, it would seem that the most appropriate meaning to assign the term is that in which it is equivalent to the scientific theory of value in feeling. This correlates it at once with logic, which is accredited to the examination of the value or validity in the knowledge-process, and with ethics, which is concerned with the case of value in conduct.[19]

Even the most formalistic of writers upon æsthetics feel it obligatory to give some account of the elementary psychological aspects of feeling.[20] This is in part a repetition, accordingly, of the situation which we found in current logical and ethical usage. In these discussions of the nature of feeling, and æsthetic feeling in particular, it is usually maintained that the value element in this phase of consciousness is immediate. Cognitive and volitional experiences, if valuable, are ordinarily regarded as being so because of some ulterior consequences which issue from them. Kant is, perhaps, the classical exponent of this view of the immediacy of the value in æsthetic

[18] The following citations will suffice to exhibit the incorporation of ethical material into psychological writings: BAIN, *Emotions and Will* (3d ed.), pp. 261-99, 440-501, and *passim*; DEWEY, *Psychology*, pp. 399-424; SULLY, *The Human Mind*, Vol. II, pp. 155-71, and *passim*; BALDWIN, *Feeling and Will*, pp. 205-33, and *passim*.

[19] A scholarly defense of æsthetics as being a normative philosophical science, and not a merely empirical account of certain phenomena of consciousness, is to be found in VOLKELT, *Aesthetische Zeitfragen*, pp. 195-222.

[20] For example, ZIMMERMANN, *Allgemeine Aesthetik als Formwissenschaft*, chap. 1.

feeling.[21] Strangely enough this doctrine is held by the writers who, if the principle were carried over and given its inevitable application in ethical experience, would reject it with asperity. "Art for art's sake" is the shibboleth which presents on the side of criticism and appreciation the same conception that is involved in this view of feeling. The adequacy of the theory evidently cannot be considered at this point. But granted once that feeling does have its essential value in itself, and it immediately becomes clear that it can only be understood when it is given its proper setting in the totality of conscious operations, *i. e.*, when it has been analyzed by a psychology of function. Much more is this true of any theory which locates the value of feeling outside itself. Now the moment that one inquires into the value of feeling and the criterion of such value, one is doing precisely what any functional psychologist must do. One cannot describe completely the function of feeling in organic life without attempting to make out how it operates and why. When these questions have been answered, its value will already have been exhibited and the reasons will have been made plain for the lesser or greater desirability which we recognize as attaching to various forms of it.[22]

The intrinsic unity of the problems propounded by æsthetics and functional psychology is strikingly illustrated by certain recent attempts to give, in connection with the general description of affective consciousness, a biological or physiological account of the significance and origin of æsthetic feeling.[23] The conception of feeling as representing the immediate response of the organism in its entirety to various kinds of stimuli, and the further conception of this response, as indicative of the increased or decreased vitality of the organism, affords a practical instance of how a functional psychological doctrine of feeling must in the nature of the case include an account of the phenomena commonly called æsthetic, and how it must traverse the question of value in feeling, if it once enters this field at all.

In logic, ethics, and æsthetics we have, therefore, simply systematic developments of problems primarily belonging to a functional psychology. Or, put conversely, functional psychology, if not estopped, must issue in a logic, an ethics, and an æsthetics. The questions raised by the normative philosophical disciplines are in every instance of vital practical significance for the correct understanding of ordinary psychic activities, and no account of conscious function can disregard them without remaining obviously defective and incomplete.

The view here presented does not rest for its justification upon any special theory

[21] KANT, *Kritik der Urtheilskraft*, pp. 3-17 (original edition).

[22] The dominance of psychological interests in present-day æsthetic writers is well illustrated by two conspicuous books, *i. e.*: HIRN, *Origins of Art*, in which five of the first six chapters are devoted to psychological subjects, and GROOS, *Der ästhetische Genuss*, which is from beginning to end largely and avowedly concerned with psychology. In its richness of psychological material FECHNER'S *Vorschule der Aesthetik* furnishes the prototype of these works.

The introduction of æsthetic analyses into psychological treatises is exemplified in the following works: BAIN, *Emotion and Will* (3d ed.), pp. 225-63; SULLY, *The Human Mind*, Vol. II, pp. 133-55; DEWEY, *Psychology*, pp. 309-25; KÜLPE, *Outlines of Psychology* (translation), pp. 250-58.

[23] The best example of this tendency is probably GRANT ALLEN'S *Physiological Æsthetics*, in which he develops certain of Herbert Spencer's doctrines. MARSHALL'S book—*Pain, Pleasure and Æsthetics*—contains excellent critical expositions of these theories.

of the mental elements, either as regards their number or their nature. The psychologist who subscribes to the tripartite division of conscious elements is under no greater obligation to accede to the doctrine than the defender of the bipartite classification. Whatever view of the elements be adopted, a functional psychology must canvass the general processes at present termed cognitive, affective, and conative. In this canvass the questions treated by the normative philosophical disciplines under the head of value must arise, because they are synonymous with the problems of effective functioning. It remains, then, to formulate briefly the relations of functional psychology to metaphysics and epistemology.

By metaphysics I imply any inquiry which undertakes to solve the problem of reality, to ascertain its nature and content. Epistemology, as set over against this, is the problem of the nature and limits of knowledge in its most general and fundamental aspects. It is a familiar observation that metaphysics and epistemology, when thus conceived, are radically opposed to one another. For the metaphysician, who postulates or concludes to a given form of reality, knowledge is already accounted for inside his scheme of reality. On the other hand, the epistemologist has tucked reality —along with unreality—into his little bundle of knowledge, and forthwith the metaphysician is deprived of his patrimony. To be sure, certain of our best modern writers do not concede this mutual antagonism of metaphysics and epistemology, maintaining rather, that the two inquiries are essentially complementary treatments of a fundamental *Welträthsel*.[24]

It would seem to be fairly clear that epistemology represents an effort to carry out to the last possible point the program of logic in its more inclusive conception.[25] From the standpoint of many writers, the psychology of the cognitive processes would seem to be even more intimately connected with such an inquiry than with logic. Psychology professes to investigate primarily the mere facts of cognition, the nature of the knowledge-process taken at its face value, *i. e.*, a process reflecting in some manner a world outside of itself. Epistemology is an inquiry into the ulterior significance and warrant of this process, an examination really of the foundation, upon which rests the tacit assumption in the psychology of cognition, to which we have already referred. This statement is not tantamount to the assertion that epistemological doctrine is itself free from similar tacit assumptions of the nature of the process which it undertakes to examine. On the contrary, it is probably here that we have the clue to the various forms of epistemological theory often classified as sensationalism, rationalism, etc.

Now, it certainly does not require a very flexible interpretation of logic as concerned with a determination of the validity of the thought-process, as involving an analysis of the means of avoiding error and securing truth, to make this discipline

[24] Cosmological investigations I do not discuss, because, despite the fact that they deserve a separate treatment, they are in their general character offshoots of the metaphysical inquiries, and for our purposes they may be omitted without harm.

[25] The inevitable entanglement of psychology with logic and epistemology is admirably brought out in a paper by D. G. RITCHIE, entitled "The Relation of Logic to Psychology," *Philosophical Review*, Vol. VI (1897), pp. 1-17.

eventually synonymous with the epistemological inquiry into the ultimate nature of knowledge, and consequently into the ultimate nature of the truth attained by logical procedure. Indeed, it is quite within the limits of conservative statement to say that much of the interest in modern logic is distinctly of an epistemological character, in the sense in which this means that the interest has shifted from a determination of the mere mechanical details of the ratiocinative processes, in which it was chiefly resident during the ascendency of formal logic, to a determination of the ulterior warrants and implications of the whole cognitive function. Mr. Bradley's definition of judgment as the "reference of an ideal content to a reality beyond the act," is, perhaps, a fair illustration of this disposition to introduce conceptions which belong to an epistemological and ultimate order of problems, in contradistinction to the more immediate and proximate problems involved in the older conceptions of logic. Fortunately it is not necessary for us to pass upon the justice of the criticisms directed at epistemology. The latter may of course prove to be a futile and superfluous undertaking. But the epistemologist has succeeded in formulating a problem whose relations to logic and psychology it is entirely possible to point out. This task is our present business, and we shall be safe in concluding from the foregoing considerations that, if a functional psychology cannot be distinguished in point of content from a logic, it will be equally difficult to draw any sharp line of distinction between epistemology and either logic or psychology. This is evidently but another way of saying that, if one follows with sufficient persistency and thoroughness the question (which comes to light in a functional psychology) of the validity of thought-processes and the mechanism by which they arrive at that which we call truth, one must come upon whatever reply is attainable to the problem of the ultimate nature, warrant, and significance of knowledge.

It is conceivable that all which we have said about psychology and epistemology might be acceded to as a provisional statement, with the reservation that a precisely converse statement would be equally true. This reservation would mean that it answers quite as closely to the facts to view the whole psychological problem as in a sense an outgrowth of the epistemological problem, as to adopt the position which we have presented. A similar, but not identical, contention is often advanced as regards both epistemology and metaphysics, but especially metaphysics, viz., that psychology, like all other would-be natural sciences, rests on a foundation of unexamined assumptions and presuppositions whose criticism and analysis are the peculiar business of these disciplines just mentioned. Now, there is unquestionable warrant for this view, so far as concerns the exposition of the merely logical relations of the problems treated by these several inquiries. Psychology as actually carried on certainly does make such assumptions, and metaphysics undoubtedly does examine them.[26] There is, therefore, a possibility of setting forth the relations involved in other ways than those chosen in this paper. This fact, however, confirms, rather than detracts from, the

[26] These psychological assumptions and certain points of contact between psychology and metaphysics are succinctly set forth by PROFESSOR JAMES in his *Principles of Psychology*, Vol. I, pp. 183, 184; Vol. II, pp. 569–79.

force of the point which we are interested to make. Start from the psychological standpoint and we insist that you cannot avoid certain functional statements. Once enter upon statements of function, and you cannot, save by purely arbitrary limitation, stop short of a logic, an ethics, and an æsthetics. Furthermore, in the same movement which carries you into logic, you will inevitably find yourself drawn back into epistemology. Nor is this transition accomplished, after the conventionally accepted manner, as a result of merely changing your attitude toward a fixed material. The attitude is one and the same throughout, the attitude of *really* understanding the structure and function of consciousness.

It is, as already indicated, a matter of indifference for the general view set forth in this paper and outlined in the preceding paragraph, what theory one entertains as to the relations of epistemology and metaphysics.[27] The metaphysical problem sustains essentially the same relations to the logical and psychological problems of cognition as does that of epistemology. It represents the last step in one direction in the effort at complete rationalization of thought and conduct. It may accordingly be successful or unsuccessful; it may fall within the problem of epistemology on the ground that reality is a category intrinsically subordinate to knowledge; or it may be made to include the epistemological problem on the ground that reality must transcend knowledge, in the sense at least in which this means that reality must contain knowledge as one among other elements. Finally, either problem or both problems may be regarded as insoluble and essentially futile. These alternatives affect us not at all. We are alone concerned to recognize the psychological reality of these problems and to point out that we must inevitably encounter them in any systematic functional psychology.[28]

At this point the weary reader, reflecting that the rose by any other name would smell as sweet, may well remind us that the doctrine herewith set forth contains, even if true, no practical consequences for the interrelations of the disciplines which we have discussed. That is, however, somewhat too sweeping a statement. Such a view as we have outlined removes, if accepted, once and for all any possibility of regarding the fundamental philosophical sciences as merely incidental to one another. They are, on the basis of this conception, irrepressible outgrowths from a central and basic problem, which we have chosen to designate as the problem of the structure and function of consciousness. They are organic developments of a common root and represent phases, or stages, in the solution of a single complex problem. There need be no fear

[27] So far as I am aware, the best brief statements concerning the matters under discussion at this point will be found in the following articles: D. G. RITCHIE, "The Relation of Metaphysics to Epistemology," *Philosophical Review*, Vol. III (1894) pp. 11-30; A. SETH, "Epistemology and Ontology," *ibid.*, pp. 568–82; J. DEWEY, "The Significance of the Problem of Knowledge," *University of Chicago Contributions to Philosophy*," Vol. I (1897), No. 3; J. H. TUFTS, "Can Epistemology Be Based Upon Mental States?" *Philosophical Review*, Vol. VI (1897), pp. 577-92. A luminous application of the conceptions of a functional psychology to the field of critical historical interpretation in philosophy is afforded by two of PROFESSOR A. W. MOORE'S papers entitled respectively: "The Functional *versus* the Representational Theories of Knowledge in Locke's Essay," *University of Chicago Contributions to Philosophy*, Vol. III (1902), No. 1, and "Existence, Meaning, and Reality in Locke's Essay and in Present Epistemology," *Decennial Publications of the University of Chicago*, Vol. III (1903). See also PAULSEN, "Introduction to Philosophy," *passim*.

[28] PROFESSOR LADD, in his *Philosophy of Mind* (page 75), states explicitly that all philosophic problems emerge from the attempt to develop a complete scientific psychology.

of vagueness and confusion as a result of adopting such a view, for the functions with which these several inquiries (ethics, logic, æsthetics, etc.) deal are undoubtedly separable and distinct. The disposition to carry on the investigation of these functions with a measure of independence is thus thoroughly justifiable, and the prevalent practice accordingly finds its warrant, not only in the extrinsic advantages, arising from a division of labor, with its consequent economizing of time and effort, but also in the intrinsic differentiations actually found in the operations of consciousness itself, which these disciplines reflect. Finally, it may be said that in the writer's opinion the position advanced in the present paper is not so much a formulation of a mere program capable, if authorities agree, of being put into effect, as it is a description of tendencies clearly operative in contemporary psychology and philosophy.[29] Certainly one can hardly survey the unchecked invasion of ethics, logic, and æsthetics by psychology without recognizing that, however fondly tradition and theory may cling to their existence, the time-honored boundaries between psychology and these sciences have in practice been extensively obliterated. Nor can one pass in review the more important psychological writings of the day without detecting the intrusion into them of investigations, discussions, and theories which, dealing ostensibly with mental functions, trespass in reality upon the preserves of the normative philosophical sciences. If a center of gravity for the detached portions of philosophy be necessary, psychology possesses as a claimant for this honor the notable advantage over its rivals that it is explicitly devoted to the study of the individual as such, from whom all philosophical problems emanate and to whom all solutions of them revert. When this psychological study is interpreted in a functional, as well as in a structural, sense, the theoretical distinctions between psychology and philosophy have ceased to exist.

[29] For an interesting statement of a view in many particulars similar to that herein developed, see two articles by JOHN DEWEY, "The Psychological Standpoint," *Mind*, Vol. XI (1886), pp. 1–19; "Psychology as Philosophic Method," *ibid.*, pp. 153–73. See also a criticism of these papers, entitled "Illusory Psychology," by SHADWORTH HODGSON, *ibid.*, pp. 478–91, and PROFESSOR DEWEY'S reply, *ibid.*, Vol. XII (1887), pp. 83–8. Professor G. H. Mead has suggestively outlined a theory of the relations among the philosophical sciences, when these are conceived from the functional standpoint, in an article entitled: "Suggestions toward a Theory of the Philosophical Disciplines," *Philosophical Review*, Vol. IX (1900), pp. 1–17. *Cf.* also CROOM ROBERTSON'S valuable paper on "Psychology and Philosophy," *ibid.*, Vol. VIII (1883), pp. 1–21, in which a position is taken, regarding the intimacy of relationship between psychology and philosophy, not wholly foreign to that advanced in this discussion.

THE DEFINITION OF THE PSYCHICAL

THE DEFINITION OF THE PSYCHICAL

GEORGE H. MEAD

THERE is greater uniformity in the use of the term objectivity than in that of the corresponding term subjectivity. We know what we mean when we assert that we have an object before us, for the simple reason, if for no other, that we can act with reference to it. Objectivity is the characteristic of a cognitive process which has reached its goal. The success of the cognitive act furnishes the criterion of objectivity, and that without even defining what the nature of the category is. In contrast with the unequivocal character of objectivity stand the various significations attached to subjectivity. Historically it has completely boxed the compass. It meant some centuries ago what objectivity now connotes. The change is one that is parallel with the appearance of the modern individual, with the ascription of logical values to his peculiar consciousness which had belonged to the *mundus intelligibilis*.

Today subjectivity may connote that which is not-objective in the sense given above, that in whose regard one cannot or may not or should not act. Again, it may rather imply emotional coloring. It may be used with reference to psychical consciousness, and swallow up into itself all consciousness from the standpoint of a subjective idealism. To the dualist of one school it includes all that is conscious, and is contrasted with extended substance whose existence is largely an inference. Again, there is a subjectivity that is ascribed to the teleology of the acts of a person; thus the state of immediate purposeful consciousness would be subjective, while the abstract things of reflective scientific thought would be objects. Here subjectivity connotes immediacy, while objectivity means abstraction. Finally subjectivity may be found among the abstractions, belonging to the peculiar contents of a scientific psychology.

While many roads to objectivity may be taken by different types of thought the goal reached is identical. For practical purposes the object is recognizable, and the philosophical standpoint cannot affect its nature. But there is no such criterion of subjectivity, and its nature varies with the standpoint and system. There is, however, one constant characteristic which is a part of most definitions given it: the subjective is that which is identified with the consciousness of the individual *qua* individual. But the recognition of this does not locate subjectivity as the value of the object for action fixes objectivity. The process of reflection has ceased when action is reached, and no theory of reflection can change the object; but the peculiarities of individual consciousness lie well within the process of knowledge. Action takes place in a common world into which inference and interpretation have transmuted all that belonged solely to the individual subjectively considered. As subjectivity refers to the consciousness of the individual, and as the phase of consciousness which is peculiar to individual

as such is generally placed within the process of reflection, the definition of subjectivity will depend upon the function which a theory of logic ascribes to the individual consciousness in the formation of the judgment. I can see no escape from this for our modern psychology, recognizing as it does that the subject-matter of its science is abstracted from concrete experience. Only an empiricism that assumes to start from sensations as concrete elements of reality can escape the necessity of accounting for the abstraction by which it obtains its material and of relating that process to the whole cognitive act of which reflection is a part. And yet modern psychology, that seeks to free its skirts from metaphysics, assumes that it may take its object as it finds it, and that it is given in the same sense and same general form as the object of the other sciences. While the relation of psychology to the other philosophical disciplines is undetermined, or, what is the same thing, while the peculiar abstraction which gives us the psychical content is not organically related to the other abstractions within the process of reflection, we shall have no certain criterion for recognizing the subject-matter of psychology. By way of illustration of this situation it is worth while to consider certain definitions of the "psychical" which are made the basis of our present psychological analysis.

Wundt[1] states that psychology "investigates the whole content of experience in its relation to the subject and in its attributes directly derived from the subject." "Psychology has as its subject of treatment the total content of experience in its immediate character."[2] "Psychology investigates the contents of experience in their complete and actual form, both the ideas that are referred to objects, and all the subjective processes that cluster around them. Its knowledge is, therefore, *immediate* and *perceptual:* perceptual in the broad sense of the term in which not only sense-perceptions, but all *concrete reality* is distinguished from all that is abstract and conceptual in thought."[3] It would, however, be a mistake to assume that this statement implies a psychical content which is not the result of an abstraction. For the author says distinctly that the attitudes of the physical and psychical sciences take "two points of view of the same unitary experience," and it is impossible to look at anything from one point of view rather than another without abstracting from that other. Furthermore, to quote from the *Logik:*[4] "The reality of the object consists in this, that it can be thought of as abstracted from the psychical experiences of him who presents it . . . ." It is, of course, impossible for the physical sciences to abstract part of the content of consciousness without leaving an abstraction behind. If we examine Wundt's theory of the psychical more narrowly we find that he assumes that naïve unreflective consciousness may be considered as both subjective and objective. Subjectivity is represented by the phases of emotion and volition, and objectivity by the presentation (*Vorstellung*). This subjectivity is as yet, as I understand the author here, not synonymous with the psychical. Reflection starts with the attempt to deal

[1] C. H. JUDD, *Outlines of Psychology*, p. 3.

[2] *Ibid.*, p. 4.

[3] *Ibid.*, p. 5.

[4] Ed. II. 2. Abth., p. 263.

with the contradictions which appear in our immediate presentations. These contradictions have reference, not to the existence of the object which is given with the same immediacy as the subject, but to the "how" of its appearance. The effect of this attempt to explain the contradictions in the "how" of immediate existence is to withdraw into the subject the object of presentation (*Vorstellungsobject*), which becomes then subjective as well as feelings and volition. In the place of the object of presentation appears the mediate or conceptual object and the sensuous presentation which has become subjective is now only a symbol of this concept. "Subjective and mediate knowledge are in this wise correlative ideas, in that, exactly in proportion as certain elements of perception are withdrawn into the subject, the remaining elements are regarded as parts of a mediate knowledge, *i. e.*, a knowledge brought about by a previous logical correction."[5] In this fashion, also, a complete gulf has been placed between these two parts of consciousness, which it has not been possible to bridge. Another expression for the same situation is found in the statement that the object of the mediate sciences—the physical sciences—is a concept, whose content is not given but constructed, and whose existence, therefore, is subject to doubt. The object as content of the immediate science—of that of inner experience, of psychology—is, on the contrary, given and not constructed. Its existence is never subject to doubt, and the only treatment to which it is subject is that of analysis. Its objects are always particular in their content and universal concepts in psychology have no place except to enable us to review and hold together a mass of instances.[6] Still another statement of the same relation between the two types of experience is found in the analysis of the category of substance. This is defined as "that which everywhere denotes an object, to which the objects of sense-perception refer symbolically, but which can itself be only conceptually determined."[7] Now this category is a necessary part of the apparatus of the physical sciences on account of their mediacy, while it is not only unnecessary but impossible in psychology because, so far as the content of experience is concerned, there is no reference to something beyond. In psychology substantiality is replaced by actuality, and substance is replaced by the subject that is known only as an activity.[8] The final result of this standpoint is something as follows: In naïve consciousness a predicate of subjectivity is given to the contents of emotion and volition, but the division between physical and psychical is not made, since every phase of consciousness can under varying conditions be both subjective and objective. In fact, in immediate consciousness every phase has these two sides. When we are forced to a rational or mediate explanation of our world the elements of presentation or idea which have been predominantly objective are withdrawn into the subject—the sphere of the emotions and the will which now must become entirely subjective. They are so withdrawn simply because they fail any longer to explain our experience, and this explanation can take place only by the assumption of mediate objects that we can pre-

[5] WUNDT, *System der Philosophie*, p. 143.

[6] *Ibid.*, pp. 142 ff.

[7] *Ibid.*, p. 163.

[8] *Logik*, Bd. II, 2. Abth., p. 247.

sent only in conceptual form. These contents of presentation, however, continue to function as symbols, since our thought is both intuitive and discursive at the same time. They have, however, no other function than that of providing the necessary sensuous element which is symbolic of the mediate object—the concept. For this purpose the memory image is especially adapted, because in it the elements which our apperception selects stand out more distinctly, and the other elements retreat more completely behind them than in the presentations of immediate perceptions.[9] They still, however, serve only the purpose of symbolizing the object of mediate knowledge. There seem to be, then, two types of psychical contents, that which has always been predominantly subjective—the emotional and volitional phase of consciousness—and that which is withdrawn into this subjective field because of the necessity of mediate knowledge which is after all forced to use immediate presentations.

One cannot but be struck by the functional difference between these two contents of the psychical world. Emotion and volition retain their primitive value and validity. They have lost nothing by the passage from the immediate perception to knowledge. On the other hand, the presentations (*Vorstellungen*) are but the shattered ranks of a defeated corps that has collapsed in its attempt to explain the objective world. Giving place to the concepts they become but tags and signs of their successors. The justification for treating as identical in nature two series that have appeared as the results of such different processes is to be found presumably in the fact that our mediate knowledge involves, not only abstraction from the presentative phases of consciousness, but also from the feelings and the will. There is, however, this great difference, that when the process of reflection is completed and by means of conceptual knowledge we have attained to an explanation of our world, the emotions and the will in evaluation and apperception enter into their original heritage. The world continues my world and valuable for my ends and my conduct just as it was before the reconstruction became necessary. But the presentation is forever deprived of any but symbolic function. The content of the world can never again be immediate—colored, sounding, feeling. Before this garden of sensuous content stands the angel with the flaming sword of logical abstraction. We have eaten of the tree of knowledge, mediate and immediate, and, though the world remains for feeling and action, it is no longer good for food nor a delight to the eyes. The psychical has two very different functions. In the realm of the feelings and the will it offers a field in which our values and ends may be analyzed and reconstructed so that they may appear again with added reality and content. The other function is that of offering a refuge for former real objects which are now but ghostly symbols of the reality which they once constituted.

Külpe defines subjectivity as the "dependency of facts of experience upon experiencing individuals"[10] and recognizes that the value of the definition depends upon the further definition of the individual. This is identified as the corporeal individual—the individual known to physical, especially physiological, science. The ground for

[9] *Logik*, Bd. II, p. 34.

[10] *Grundriss der Psychologie*, trans., p. 2.

this identification is found partly in the fact that there is nothing equivocal about this individual, and partly in the recognized dependence of various phenomena which are generally admitted to be psychical upon physiological conditions. Extend this dependence to all so-called psychical experience and assume that every such state has a corresponding physical condition and we have at least great definiteness in the definition. Such a treatment has the advantage of being unquestionably scientific in the accepted sense. It finds certain data with which it deals as simply given. It defines the field within which these data may be found, by perfectly comprehensible criteria, and limits its inquiry to this field. The especial boast of this scientific psychology is that it may be experimental, for confining its data to correspondents of physiological processes the experimental determination of these conditions must have definite bearing upon the parallel psychical events.

Of course, this type of psychologist is little interested in the function which the psychical phase of consciousness has in the whole process of knowledge. But it is permissible to inquire if it does fulfil any function and what this is. One function indicated almost at its birth is that of determining the error of observation. This error of observation implies that the observing and experimenting scientist is an instrument played upon by the physical universe of which he is a part. His observation is the effect which the physical outer event has upon this mechanism. The result of the observation is a further external physical event. Between the two outer events lies the inner process. The peculiarity of this inner process lies in the fact that besides being a part of this larger physical complex it presents certain parallels to the outer so-called stimuli or physical forces acting upon the organism. That is, light and sound and pressure and taste and odor not only arouse certain effects in the mechanism of the animal form, but these effects within the animal form become in turn forces which are in some degree proportionate to these outer forces, and which operate in the nervous system in some sense as these forces operate in the environment of the form. It is the relation of microcosm to the macrocosm in wholly physical terms. This is the first parallelism. To return to the experiment, when the scientist observes a star we note two occurrences. There is the neural occurrence in which the light of the star is represented by retinal and central nervous processes that associate themselves with others which stand for tactual, temperature, spatial, and an indefinite number of other events on the outside. Besides this representation of the star light in its connection with other forms of outer energy there is the outer registration by the scientist of the light, its time, its color, its surroundings, etc. Here is a second parallelism dependent upon the first, but both are referred to the first series. This second parallel series serves as a complex of stimuli for the human organism in the place of the original complex of forces. Now the error of observation lies in the inaccuracies of this second complex which should take the place under various circumstances of the original complex. And these inaccuracies are the result of the intermediacy of the first parallel complex between the original and its external representative.

That is, physically we construct a complex of recorded data and description which have the effect of an original physical complex—have that result upon the physiological mechanism. This construct is what we call scientific material and even science. From this scientific standpoint the animal organism is simply a fearfully and wonderfully complicated piece of apparatus whose numerous mean variations must be determined. When apperception is denominated the inhibitory action of certain frontal tracts in the brain, and feeling is called the reaction of these centers upon the sensational processes, and emotions the fusion of the feelings and the sensations, and the will apperception, and reasoning nothing but a more or less complicated series of reproductions associatively originated, it is evident that we have reduced this mechanism to the level of the apparatus and theoretically can determine not only the accuracy of the observation but also of the scientific reasoning.

This materialistic psycho-physical parallelism is dominated by the methods of the physical sciences not only in its own method but also in its selection of material. Of course this statement has left out the subject-matter of the science—the psychical series. But the interesting fact is that it can be left out. If we recognize only those psychical states which have physical counterparts we will be more scientific the less we say about anything but the counterparts. Unfortunately we can lay our hands only on the psychical states throughout a large part of the domain of psychology and we are forced to make these do for the corporeal elements. Thus the answer to the question we put above, is that the function fulfilled by the psychical in this type of psychology is that of giving the mean variation of the individual who is (perhaps unfortunately) a necessary part of the scientific machinery. We start from certain data and arrive at certain more or less accurate reproductions of the data from which we start, *i. e.*, the physical universe. If our reproduction of it were quite accurate and adequate we might quite overlook the apparatus by which it was made and there would be no scientific psychology. But unfortunately for science and fortunately for psychology, or perhaps the psychologists, there is the error of observation. The psychical will have no greater functional value in the universe of knowledge than the imperfect photo-chemical processes of the eye have in a given universe of energy. However, they have not even the interest which the eye presents to the scientific observer, for to science it will always be better represented by the corporeal individual and his states. The psychical is nothing but the imperfect or individual statement of the universe and all the import which this imperfection has is better stated in the theoretically given corporeal counterpart. Actually there are two reasons for considering it. In the first place, the corporeal counterpart is only theoretically there for the most part and we must make the best of a bad bargain, using the psychical which is there for the corporeal which isn't, and, in the second place, the generosity of scientific curiosity may be counted upon to interest itself in anything that it meets. And these are precisely the grounds which Münsterberg gives for the existence of psychology as a science.

Münsterberg recognizes an original condition of actuality in which subject and object are given, but no reflection and no science. Here reign only the categories of validity and value; that of existence is not found, being operative only in the field of reflection.[11] The problem of science is practical. It is the determination of that which is to be expected.[12] The method of science is the separation of the object from the subject. In this way we abstract the processes of the universe from the teleological construction of actuality, and are able to determine what is likely to happen irrespective of the end and purposes of the subject. This process is now one that is not only distinct from the original purposeful act, but one whose subject is equally abstract and colorless. Instead of being a controlling, determining agent who fashions a universe of means, it is now but an observer carefully ignorant of any end which he may have in the future, necessarily so, lest his wishes may cloud his observation and vitiate his science. This *ego—das vorfindende Ich*—is then carefully to be distinguished from the actual *ego—das actuelle Ich*. It is also to be distinguished from the subject or subjects given in social consciousness—*der vorgefundene Subject*.[13] The aim of science is to find necessary relations among these abstract objects, or better, necessarily determined systems. We find two of these, that of the physical sciences and that of the social sciences. The first are causally and the second teleologically organized. Now in neither of these does the psychical appear. It does not form a part of the mathematically determined order of nature nor is that which the social sciences treats psychical. These sciences treat the whole individual and his methods of conduct. The psychical is simply what is and must be abstracted by the cognitive processes of the *vorfindendes Ich* in its presentation of the known world of science. It is the error of observation again. Every theoretically perfect statement of that which is to be expected will be stated in physical terms. "In order practically to determine the connection of things [*Zusammenhang*] we have abstracted the object from the subject [*das aktuelle Ich*] and have divided the object into its related part, the physical, and the unrelated part, the psychical [belonging to *das vorfindende Ich*], and in this way have logically constituted the physical and psychical as such; the psychical as unrelated (*nichtzusammenhängende*) does not serve directly the end out of the logical pursuit of which its existence sprang. After it has once been conceptually obtained and recognized in its scientific reality, it will become of course also an object of scientific theory, and must therefore in some way be described, ordered, simplified, and explained. It arose logically out of the search for relation, as soon as it is determined it must be scientifically treated, without reference to the question whether the results serve the purpose, whose accomplishment was the motive for its original appearance. The theoretical interest in the unrelated [the psychical] harmonizes entirely with the fact that it was the treatment of the related [the physical] which brought the unrelated [the psychical] to light. That every result of this theoretical work actually serves the practical purpose of making the physical result more comprehensible

[11] *Grundzüge der Psychologie*, p. 56. [12] *Ibid.*, p. 59. [13] *Ibid.*, pp. 59 ff.

from the psychical side, is for theoretical psychology secondary."[14] As was said before, the interest in psychology is an unmotived scientific curiosity plus the secondary desire to get the psychical links which will replace the physical ones which are missing.

If we turn to another group of thinkers, and select Bradley as the first exponent, we meet the following definition of a "psychical fact." "A psychical fact is anything which is immediately experienced and has duration, quality, intensity; or is any one of these aspects, as a mere distinguishable aspect—so far, that is, as one aspect is taken as belonging to something that possesses the other aspects also; or, again, is any relation existing between any facts as previously defined."[15] This definition needs further elucidation. In the first place, Bradley regards the object of psychology as the "facts immediately experienced in a single organism or soul, and those facts regarded merely as events which happen."[16] He regards the soul as a mere "totality of immediate experience." The point that needs emphasis is that, for the author in question, psychology deals merely with events that happen. He is as eager as the others to get metaphysics out of psychology, though perhaps more for the sake of the metaphysics than for the sake of psychology. "If this can be done in other sciences, it surely can be done in psychology too. In the other sciences the so-called principles that explain the facts are working hypotheses, which are true because they work, but which need not be considered as a categorical account of the nature of things. The physicist, for example, is not obliged to believe that atoms and ether do really exist in a shape which exactly corresponds to his ideas. If these ideas give rational unity to the knowledge which exists, and lead to fresh discoveries, the most exacting demand upon the most exact sciences is fully satisfied. The ideas are verified and the ideas are true, for they hold good of the facts to which they are applied. And to suppose that the metaphysician should come in, and offer to interfere with the proceedings of the physicist, or to criticise his conclusions, is in my judgment to take a wrong view of metaphysics. It is the same with psychology. There is no reason why this science should not *use* doctrines which, if you take them as actual statements of fact, are quite preposterous. For the psychologist, as such, is not interested in knowing if his principles are true when taken categorically. If they are useful ways of explaining phenomena, if they bring unity into the subject and enable us to deal with the fresh facts which arise, that is really all that, as psychologists, we can be concerned with. Our principles are nothing but working hypotheses: we do not know and we do not care if they turn out to be fictions, when studied critically."[17] As an illustration of this method in psychology take the author's "law of individuation," whose working he defines as follows:

> Each element tends (that is, moves unless prevented) by means of fusion and redintegration to give itself a context through identity of content. . . . The reader may dismiss this statement as mere "transcendentalism;" but until my error is shown me I shall believe that it

[14] *Grundzüge der Psychologie*, p. 91.
[15] *Mind*, Vol. XLVII, p. 355, note.
[16] *Ibid.*, p. 354.
[17] *Logic*, p. 316.

is strict empirical psychology, a mere statement of the way in which events do happen. We may call it, if we please, the law of Individuation, and should find that thought and will are each one case of it, made distinct by the different fields in which particularization is worked out. But we must remember that our law perhaps to some extent uses a scientific fiction. It is convenient to speak of the movement of each element, but we must not assert (or deny) that in reality the element can do or be anything — unless, indeed, we are prepared to make psychology a battlefield for metaphysicians.[18]

There are two "scientific fictions" here — the elements themselves and their operation by means of "identities of contents." If we return now to our definition we find there these elements and the relations by means of which we can think these elements in the bare happenings. First, in regard to their abstractness, which renders them fictions, they are immediate — a term which "negatives and excludes phenomena so far as their content is used beyond their existence."[19] That is, as mere immediate experience they are events which cannot in this character ever become knowledge or thought. They may provide the material for thought, the presentations, but as psychical they can never become thought. The characteristics which render them fit material are duration, quality, intensity. Without discussing these categories, it is evident that they are chosen as giving the basis for the relational thought-process. Each psychical fact or element is a content that is undeveloped thought, but as psychical it must remain such, or else its content would inevitably get beyond its existence. Besides providing the material of thought, psychology provides also the machinery. That is, this material must arrange itself and change itself by redintegration and fusion in such a fashion that in its structure it needs only the interpretation of "individuation" to become thought. But these laws or relations can only be introduced into this psychical structure by a scientific fiction. For laws are not facts and relations are not events. Our scientific procedure, however, allows their introduction as a mere statement that the psychical material is organized in such and such a way, or, as the author states it, "the above relations are not facts, save and except so far as they exist between facts as previously defined."[20] The psychical fact is a statement of experience so far as it may be regarded as a series of events, which have no reference beyond themselves as mere events, and their arrangement may be recognized simply as a resultant fact while it is merely psychical; and we may even talk of the laws of individuation as operating within these limits, if we only remember that we are using scientific fiction. This is my humble interpretation of Bradley's position. The statement may be given in Bradley's own terms. "To thought realized as thought, its psychical existence is something necessary, but still *per accidens* . . . . And as thought cannot make phenomena, it contents itself without them, and is therefore symbolic and not existential. And, aiming at totality which events never give, it converts their degradation to its ideal uses, while it builds its own world out of them, and lives both in them and apart."[21]

[18] *Mind*, *loc. cit.*, p. 360, 1.
[19] *Ibid.*, p. 354, note.
[20] *Ibid.*, p. 355.
[21] *Ibid.*, p. 381

There is but one point in this presentation that is of importance to this discussion; and that is the logical position of the psychical. Wundt, as indicated above, finds in the psychical that which has been withdrawn from the object, when this is subjected to epistemological criticism. The psychical, however, maintains the immediate character of unreflective experience, its reality, or rather its actuality. It is not an event; it is a piece of immediate experience which has been, it is true, condemned, but which has still the quality of actuality. Just as in immediate unreflective experience we distinguish between our volition and much of our emotion, on the one side, and the object, on the other (though from Wundt's standpoint this is a distinction of aspect and not of things), so, after reflection has abstracted the idea or presentation (*Vorstellung*) from the object and thought has substituted the conceptual object for the object of sensuous experience, we distinguish this subjective phase of consciousness from the object. It is true that this body of remains has another content or function in the formation and mediation of the concept. It provides the image which is, after all, in the most abstract thinking a necessity in the presentation of the most general object. But its constitution is not determined by this function. In Wundt's statement it is because the memory image is peculiarly susceptible to symbolic use that it serves as image for the concept.[22] The memory image has not this susceptibility because it serves this function, but it serves the concept in this capacity because it has this susceptibility. In contrast with this conception of the psychical is that which Bradley partly states and partly implies above. The situation is not fundamentally different from that presented by mathematical theory of physics and physics itself. The logical problem of these sciences is the presentation of the experiences of the physical environment in terms of quantitative identity. Physics in accomplishing this end is justified in assuming and constructing any objects which it wishes. If the mathematical theory of vibration demands a molecule which shall be a system of a certain number of elements, there is no reason why physics should not assume such a system. In other words, the method of thinking the physical experience will determine what material and what structure of that material will be presented by the physical sciences. And, as Bradley says metaphysics would be officiously meddlesome if it undertook to pass upon the formal legitimacy of these objects before physics might use them, he claims the same privileges for the theory of knowledge which he grants so openhandedly to the physical theory. Logic may order from the psychological machine shop just such objects as she wants. They are to be, not "*Vor*stellungen," but "*Be*stellungen." What Bradley resented in the traditional doctrines of the associationalist was not that his psychical atoms were metaphysical monstrosities, but that they were logical monstrosities. Call them events or aspects of events, and let them fuse and redintegrate as per the law of individuation, and Bradley will be before anyone in showing the door to critical metaphysics as a hypercritical old woman. The psychical from this standpoint is the raw material whose form and structure will depend

[22] *Logik*, p. 46.

upon the theory of thought. The great advantage of this treatment of psychology is that the science is freed from all dependence upon the corporeal individual. All questions as to the where and how of these psychical events are ruled out as not pertinent. Such questions amount to the demand that they prove their reality independent of their legitimacy as working hypotheses. The psychical contents are then the bases for the working hypotheses of logical and ethical theories. One further advantage of the attitude is that it is not even bound to regard the psychical as peculiarly the consciousness of the empirical individual. That is, this type of consciousness is not psychical because it is that of the individual as such, but under certain conditions the particularity of the individual is expressed by the fact that for the time being he identifies his consciousness with these psychical contents. Finally immediacy, being defined as mere deprivation of reference beyond existence, has no function beyond that of stripping the content of experience of all relations that might interfere with perfect freedom in forming hypotheses. To present this same point in a different way, the conflicts and collisions in experience which are responsible for its development cannot be conceived of as taking place in a consciousness which had not reached the stage of reflection. The reflection is essential to the existence in consciousness of the conflict. The reflection does not arise from the conflict. As Bradley states it, "the image is not a symbol or idea. It is itself a fact, or else the facts eject it."[23] Images as images could not come into conflict with each other, and fuse and redintegrate so as to bring out the identical meaning or content, unless the thought-process were there to control what takes place. "The conclusion I would add is that the intellect would never have appeared upon the scene, if it had not been present and active from the first."[24]

If we turn now to Ward and Stout, we get the following definitions: "The standpoint of psychology, then, is individualistic; by whatever methods, from whatever sources, its facts are ascertained, they must — to have a psychological import — be regarded as having a place in, or being a part of, *some one's consciousness* . . . . The problem of psychology, in dealing with this complex subject-matter, is, in general, first, to ascertain its constituent elements, and, secondly, to ascertain and explain the laws of their combination and interaction."[25] Psychology investigates the history of individual consciousness, and this coincides with the history of the process through which the world comes to be presented in consciousness.[26] "What is throughout distinctive of psychological method is that it is not concerned with the validity of individual judgment, or with the worth of individual volition, but only with their existence and genesis."[27] "Psychology is the science of the processes whereby an individual becomes aware of a world of objects and adjusts his actions accordingly."[28] In these definitions we have the recognition of the individual as the peculiar habitat of the psychical. From this standpoint we may proceed phenomenally, and simply under-

[23] *Logic*, p. 35.

[24] *Ibid.*, p. 460.

[25] WARD, *Encyclopædia Britannica*, 9th ed., Vol. XX, p. 38.

[26] STOUT, *Analytical Psychology*, p. 7.

[27] *Ibid.*, p. 12.

[28] STOUT, *Manual of Psychology*, p. 4.

take to find our elements, or we may determine these in some sense in advance by making the genesis of knowledge and conduct in the individual out of this type of consciousness the peculiar interest of psychology. This standpoint is open to a criticism which we have indicated earlier, that the individual here considered is an empirical fact which must be determined psychologically as well as any other characteristic of psychical states. The reply is that the individual as subject is always there over against his states of feeling, and psychology must recognize this presence.[29] But this reply does not do away with the ambiguity involved in the use of the term "individual" or "subject" or "self" or *ego*. Bosanquet says that knowledge is never a development from the subjective to the objective, but a development within the objective,[30] and this must be the position of these authors as long as the individual as "subject" is simply an implication of the known object. In so far as states of consciousness are referred to the subject as distinct from the object they cannot be cognitive. The psychological individual then never does attain to knowledge. As long as the states of consciousness may be termed subjective, he does not know, and when they become objective, he is no longer the individual with which psychology deals. Are we dealing, then, with an abstract individual, such as Bradley refers to as simply one mass of elements of feeling? In that case its presence, however universal, is not the criterion for a selection or abstraction that has been made before we find it. We need a psychology to present this individual. He cannot be a presupposition. If it is the real individual of unanalyzed experience, and our psychology deals with the genesis of his knowledge and conduct, there is a passage from the subjective to the objective, and the canons of logic and ethics will have forced their way into psychology, even if metaphysics is not introduced with them. And this cannot be avoided by prefacing that psychology deals with these processes simply as data, not with their validity.[31] For the nature of the steps is going to be determined by the goal toward which they are moving, and no treatment of the steps will be adequate which overlooks this relation. Furthermore, if it is a development, no sharp line can be drawn between the genesis and the result. The phases and the sciences that treat them will shade into each other as do morphology and general biology. These authors slur over a difficulty with which Bradley has dealt with subtlety and acumen.

James treats the consciousness with which psychology deals as efficacious, as a selective agency that actually operates in the control of the physical system.[32] He also regards it as conditioned in a causal sense by the physical, more especially the nervous system. He finds the simplest method of stating this to be the soul-theory:

> If there be such entities as souls in the universe, they may possibly be affected by the manifold occurrences that go on in the nervous centers. To the state of the entire brain at a given moment they may respond by inward modifications of their own. These changes of state may be pulses of consciousness, cognitive of objects few or many, simple or complex. The soul

[29] WARD, *op. cit.*, p. 39.

[30] *Essentials of Logic*, p. 22.

[31] STOUT, *Analytical Psychology*, p. 12.

[32] *Psychology*, Vol. I, p. 138.

would be thus a medium upon which (to use our earlier phraseology) the manifold brain processes *combine their effects*. Not needing to consider it as the "inner aspect" of any arch-molecule or brain-cell, we escape that physiological improbability; and as its pulses of consciousness are unitary and integral affairs from the outset, we escape the absurdity of supposing feelings which exist separately and then "fuse together" by themselves. The separateness is in the brain-world, on this theory, and the unity in the soul-world; and the only trouble that remains to haunt us is the metaphysical one of understanding how one sort of world or existent thing can affect or influence another at all. This trouble, however, since it exists inside both worlds, and involves neither physical improbability nor logical contradiction, is relatively small. I confess, therefore, that to posit a soul influenced in some mysterious way by the brain-states and responding to them by conscious affections of its own, seems to me the line of least logical resistance so far as we have yet attained.[33]

I have quoted the passage because it shows admirably how much ease and gratifying elbow-room introspective psychology of the present time finds in the statement. If one only pushes aside for the moment the militant phenomenalism of the day and abandons the exacting formulæ of an external scientific method into which our expressions are so painfully drilled, how much more readily we can express very much that the psychologist has to express by talking freely of the soul and nervous system, as interacting agents! But there is something more in evidence than the ease which comes with abandoned full-dress uniform and court etiquette; there is a clear intimation of James's "pluralism"—what may be almost called a working-pluralism. If ease and fulness of description and resuscitation of psychical states can be obtained by the assumption of a soul, of a nervous system and soul existing in relations of mutual causal influence, in the assumption of a process of knowledge that is simply there for recognition, not for explanation, there is no reason for the psychologist's not assuming them. But whether they do assume them or not depends, of course, on what the psychologist is trying to do. The background and environment of thought into which the psychology of Wundt, of Külpe, of Ward, of Bradley, must fit is in each case almost *sui generis*. I am not referring simply to those individual differences which are characteristic of any thinker, and which distinguish his work from that of another in the same field, though the results are for all purposes of scientific use of the same sort. It is still true in psychology that these individual differences have a further value, which reaches deeper than the personal equation and interest and style of, say, two astronomers. For example, the discussion over the psychological category of activity which raged in *Mind* some years back has reference to the recognition or denial of recognition of an element in the material of the science. As long as the discussion deals with the interpretation only of the material, the different scientists stand upon the same ground and may safely and profitably discuss their respective plans of the structure to be raised there. But Mr. Bradley is perhaps not going too far when he intimates that this discussion is a scandal in contemporary psychology, since it has to do with the question of the reality of the very ground upon which the science is supposed to be built.

[33] *Ibid.*, p. 181.

To return to the position taken at the opening of the paper, the attitude of the psychologist determines his definition of the psychical, and with that the very material with which his science is to deal. It is an old maxim that one can find only what he is looking for. If the introspecting psychologist is looking only for a psychical state which can be correlated with nervous currents, and indeed only with the incoming nervous currents, he will see but elements of presentation. If the psychical image serves only the purpose of functioning for conceptual objects through emphasis upon their distinguishable phases, and then is lost in the limbo of cast-off abstraction, then he will see only abstractions that stand and wait outside the constructive process of knowledge, although he may usher in above a constructive principle of apperception. If his theory of knowledge relegates the psychical to the dumpheap in mining for the universal and the necessary, he will find only scraps of consciousness, interesting as indicating that from which they have been or should be wrested, but especially because their very lack of meaning leaves the elementary psychologist the happiest freedom to produce elements by the hundreds of thousands. We may say that any point of view in the theory will have in a certain sense its own psychical content. It is this fact that lends peculiar interest to the generous welcome which James extends to so many points of view. It is certainly much easier to conceive the unity of consciousness from the standpoint of a soul. The category of personality enters much more readily, and the references of such states as those of pleasure and pain are more readily made to a soul. In the meantime the soul is not used except when needed. Otherwise the phenomenalistic point of view is maintained with the advantage of the actuality of psychical experiences. Thus, while other psychologists are compelled to get the psychical by stripping it off from experience by logical criticism, or to define it by its correlation with certain physical states, James's view is as broad in its sweep as that of the psychologist of the old Scottish school. All consciousness as mind comes within his scope. The position is on all fours with his theory of cognition; that "the psychologist's attitude toward cognition . . . . is a thoroughgoing dualism. It supposes two elements, mind knowing and thing known, and treats them as irreducible."[34] From this standpoint the whole content of consciousness is given in psychical form. It is not that the whole furniture of earth and hierarchy of heaven[35] may be psychical, but that it *is* so regarded, that is the result of this attitude. Of course, this attitude is not a metaphysical one, but a working hypothesis; but its effects for the psychologist are identical, so far as the content is concerned with which he deals, and is vastly superior to a metaphysical position in that the epistemological problem is shoved to one side. Thus the relations, presenting so many difficulties to the psychologists, become simply other irreducible feelings. "If there be such things as feelings at all, then so surely as relations between objects exist in *rerum natura*, so surely do feelings exist to which these relations are known. . . . . If we speak objectively it is the real relations that appear revealed; if we speak subjectively, it is the stream of consciousness that matches each of them by

[34] *Psychology*, Vol. I, p. 218.

[35] See WARD, *op. cit.*

an inward coloring of its own."[36] In fact, the whole magnificent chapter on "The Stream of Thought" is a monument of the success of the method. For James everything that could be conceived of as a state of a soul, did such a soul exist, is psychical. But while this is a brand by reference to which the psychical herd may be rounded up, it is no description of their peculiar quality, and could not be such unless it became a metaphysical term.

James gives five characters of thought, *i. e.*, the psychical:[37]

1. Every thought tends to be part of a personal consciousness.
2. Within each personal consciousness thought is always changing.
3. Within each personal consciousness thought is sensibly continuous.
4. It always appears to deal with objects independent of itself.
5. It is interested in some parts of these objects to the exclusion of others, and welcomes or rejects — *chooses* from among them, in a word — all the while.

The standpoint here is entirely phenomenalistic. The data are assumed as given, and there is no interest save in the description of them as they appear to the dispassionate observer. All of these characteristics mark the thought as distinct from the object which it may know. Its personality, incessant change, sensible continuity, invariable reference to an object, and selective interest in its object, characterize the subject side of the conscious process. An object is impersonal, may be persistently identical in its content, may be discontinuous and discrete, may be known, but has no necessary reference to a subject — at least not from the standpoint of James's psychology — and does not change its structure and nature in answer to our shifting interest. This contrast, however, is all with reference to the thing which exists outside, not to the reproduction of it which the mind makes, and necessarily makes, in its process of cognition. The object in this sense is nothing but the entire meaning of the thought or cognitive state of consciousness.[38] The object is constructed, and what it is to be is entirely dependent upon the selective interest of thought.[39] If we take this description of the mind which presents outer reality and does so much more, building up by comparisons what is certainly not to be found in a world simply of things that are independent of such processes as comparisons, we have by all odds the richest statement of the psychical consciousness that philosophic literature has yet presented, though it would be difficult to maintain all the characteristics of the psychical suggested in the chapter on "The Stream of Thought" for these inner reproductions and amplifications of outer reality. Certainly in these amplifications through processes that give us the pure sciences we reach the height of impersonality and objects which exist for our thought *sub specie aeternitatis*. It is true, on the other hand, that we have but to retrace the steps of the pages that lie behind to see how in the stream of thought they have again the characteristics that James has endowed them with. It is certainly true that, as James presents them, all the furniture of earth and the hierarchy of heaven are psychical, and

[36] *Ibid.*, p. 245.
[37] *Ibid.*, p. 225.
[38] *Ibid.*, p. 275.
[39] *Ibid.*, pp. 11, 333, 634, note 2.

yet that much becomes not only more than psychical, but quite the opposite of psychical, without losing its habitat in the human mind.

In these presentations of current doctrines of the psychical, which are not intended to be fully adequate to their authors, but simply to indicate how profoundly their methodological presuppositions affect their conception of the subject-matter of the science, I trust the assertion that psychology is bound to determine the functional value of its abstraction in the process of reflection has been strengthened.

The problem may be now stated in the following form: Shall we assume, with Wundt, that the psychical elements arise from the analysis of reflection and that the result of that reflection is to substitute for the original object, first, a conceptual physical object which never may be actual—may never be presented—and, second, a still actual psychical content which has been withdrawn from the object (Münsterberg's position here is methodologically the same); or, shall we say with Külpe, that in a unitary experience reflection *reveals* a mechanical and an associative order, of which the mechanical or physical statement is methodologically the determining side, by relation to whose elements all the associative or psychical elements must be determined as correspondents, recognizing further that reflection reveals—does not create—this distinction, since "images," feelings, and volitions have always been necessarily subjective;[40] or with Bradley and Bosanquet, shall we consider the psychical merely the phenomenal appearance of the material which, to be cognized or rationally used in conduct, must cease to be psychical and become universal,[41] and maintain therefore that reflection does not create or reveal the psychical, but ceaselessly transforms it, and that the psychical is an abstraction which can never appear in its own form in a cognitive consciousness, but must remain simply a presupposition of the theory of the attainment of knowledge by the individual; or with Ward, shall we assert that the subject of psychical experience and of objective experience are the same, that the transcendental *ego*, who has masqueraded in ethereal clothes in a world all his own, is nothing but the everyday *ego* of psychology; above all, that he is to be unquestioningly accepted as one phase of the subject-object form of experience, although he is neither the empirical self of psychology which can be an object, nor yet a mere "function of unity," and although, further, this pious refusal ever to put asunder subjectivity and objectivity is in crying opposition to the fact that half the time subjectivity signifies the denial of objectivity, and although it is not possible consistently to define the psychical by its reference to the subject end of a polarized experience when the subject is hardly more than an assertion which perpetually dodges definition; or, with James, shall we take up again with the soul and a dualistic theory of knowledge, in order that the psychical may mirror the whole possibly known reality, and when we have

[40] *Einleitung in die Philosophie*, English translation, pp. 59, 205, note 6.

[41] It is agreed on both sides that, as psychical existences, ideas are particular like all other phenomena. The controversy is confined to the use we make of them. I should maintain that, so far as they remain particular, they are simple facts and not ideas at all, and that, where they are employed to extend or modify experience, they are never used in their particular form. - BRADLEY, *Logic*, p. 37.

entered into this rich heritage, shall we promptly send the soul to another and a metaphysical world and politely dismiss the dualistic theory of knowledge as a great mystery, while we dally with plural selves and spend our psychical substance in phenomenalistic analyses and teleologically constructed objects; or shall we attempt some other definition of the psychical which will orient it with reference to immediate experience, to reflection, and the objects and conduct that arise out of reflection, and which will vindicate the relation of the psychical to the individual and that of the individual to reflection? I think this would involve the recognition of a cognitive value in the individual *qua* individual over and above the "function of unity" and that function implied in the mere ascription of activities (identified in one way or another with attention) to the subject. Is it possible to regard the psychical, not as a permanent phase, nor even a permanent possible aspect of consciousness, but as a "moment" of consciousness or in a conscious process, and which has therefore cognitive value for that process? It is this suggestion that I wish to consider and discuss.

A variety of assumptions as to the existence of the psychical, some of which have been discussed, suggest themselves at once. We may assume that our consciousness is always psychical in content—that we can always reveal by analysis the psychical constituents, that the mind either adds meaning to these, and so makes knowledge out of them, or that this meaning arises simply through the fusing and assimilating of different states of consciousness by each other; or we may assume that the unitary character of consciousness involves the presence of both the subjective and objective as in some sense parallel, though our analysis reveals these as separate phases whose distinction appears only in the analysis. The difference between these points of view does not turn upon the question of the presence in psychical form of contents, but upon the question as to the way in which they appear—the question of elements, for example, and as to the fashion in which this psychical content becomes knowledge and the assumption of other processes of thought. Or a point of view may be taken which assumes that the psychical is a result of the analysis, not a discovery of it. And then the question may still further arise as to the destiny of this psychical content; does it disappear or does it persist as a necessary part of the more complex character of the analytical consciousness? Another aspect of this latter question would involve the theory of reflection itself. May this persist as an ultimate phase of consciousness, *i. e.*, one that carries its own satisfaction within it; or does it necessarily lead up to a consciousness which is not reflective; or may it do either under different circumstances? The same question might be put in the form: Can reflection be conduct, or is it necessarily a phase in the preparatory stage of conduct? And having met the question as to the value of the psychical for knowledge, we could go on indefinitely asking questions. It is not my purpose to answer any of these questions dogmatically, but to take a point of view which seems to me to be involved in that of a number of thinkers, and which seems also to be peculiarly promising.

It is assumed, then, that the psychical does not appear until critical reflection in

the process of knowledge analyzes our world. Up to this point the volition and emotions are not psychical, nor subjective in the sense of psychical. I do not mean that they are not recognized as such, but that their nature is not subjective in a psychical sense. With Wundt this position recognizes that the entire content of consciousness is subjective and objective at once in this unreflective stage. The world and the individual stand upon the same basis of reality. The distinction is one that is made within the universe of reality, not with a view to interpreting reflectively this reality. The analysis of this consciousness would not reveal a psychical, any more than it would reveal a conceptual atom or molecule. It does not seem to me that Wundt has consistently maintained this position, for he says that the presentation is withdrawn to the subjective phase of consciousness as a result of analysis, and that it — the presentation — continues to exist with the same immediacy that it had before, though without its objective reference, thus implying what he has explicitly denied, that the volitional and emotional phase is subjective in the sense that it is not also objective. We have already seen that this Wundtian analysis leaves us with elements which have only symbolic value in the statement of the reality of experience. On the other hand, he has emphasized the constructive phases of psychology over against certain parallelists, insisting that psychology must recognize in perception and conception a result which is qualitatively different from the mere mass of elements which an analysis shows to have entered into the constructs of cognition. But though we seem to have our hands upon immediate psychical experience here, we find that it is only by a method of residues that he reaches this conclusion, comparing the elements of the analysis with the object which was dissected, and this is after all only an indirect analysis. His voluntaristic psychology suffers from the impossibility of getting anything more than the results of apperception into psychical consciousness. Before advancing to the consideration of Dewey's position, we must see whether his voluntaristic psychology introduces immediacy into the statement of the psychical.

There is a contradiction here between Wundt's theory, noted above, that the volitions and emotion have retained the original immediacy of unanalyzed experience, and the actual treatment in terms of presentation they have received at his hands. If these states of consciousness have been psychical from the start, if our logical criticism has simply withdrawn the presentation (*Vorstellung*) into a field of unquestioned subjectivity, it is strange that psychology has extended such a tardy recognition to this field. Why is it that the will has remained so long in the gall of metaphysics and the bonds of ontology, while the ideas have been psychologically studied for centuries? The fact of the case is that, historically considered, instead of the presentation becoming psychical by being withdrawn into the field of the unquestioned subjectivity of the will and the emotions, the will and the emotions have received psychological treatment in so far as they have been drawn or withdrawn into the field of the presentations. But even the treatment of attention in terms of results, and the description of the will in terms of the sensations of muscular contractions and joint movements, and of

the emotions in terms of the feel of characteristic attitudes and visceral disturbances, are not immediate presentations of these phases of consciousness, but a reference to elements that answer to the conditions under which the feelings arise; and as the complete tale of these conditions includes a number of groups, some selection must be made. The most tempting group is that of the physiological organism and its physical environment. But the psychologist is as clearly justified in selecting another group, such as that which determines the appearance of the judgment. It is just as true that all our experience can be presented in the form of the judgment, as it is that it can be stated in the shiftings of the strains and stresses of the physical system made up of the animal and his surroundings. If the sociologist succeeds in analyzing the social objective content of experience into elements which he can show are conditions for social conduct, he will be at liberty to indicate the psychical correspondents of these elements and have his own parallelistic system of psychology for strictly private consumption.

In all these methods we start with the analysis of given experiences and obtain a statement of elements that must answer to the conditions of the experience. To obtain a psychology of the process the method is very simple. Find in each case the psychical element that corresponds to the objective condition, and there arises a complete psychological theory of the experience. It should be added, to show the perfection of the method, that the psychologist recognizes the psychical element by simply noting and picking up what he has stripped off from the original object in his scientific analysis, as unessential because purely individual. For instance, take emotion presented as an object in conduct. Secure a clever and accommodating actor, whose business it is to present this emotion. Analyze his conduct into its essential elements, which will then be the conditions for the appearance of the emotion as a part of social experience. These conditions will be a series and combination of characteristic attitudes and much less definitely determined vaso-motor upheavals. The states assumed to correspond to these are the psychical elements of the emotion. Finally, what is it that you have neglected in order to recognize that you have shaken your fist in the most terrifying manner of the profession? Obviously the feel of the emotion. In like manner attention as an object means the perception of certain things in some particular relation and the ignoring of other things. The objective analysis gives these certain things clear and distinct, and the rest vague, and certain connections or relations between these clear and distinct things in the events of experience. This may be translated into terms of the tensions of sense-organs and the postures of the body that make the sensing possible and of the functioning of the association fibers of the central nervous system. Even the recognition, that psychical elements corresponding to these elements are something less than the actual experience, and that there is an activity implied in the feelings of activity, does not bring this something more into the field of the psychical with which the science is occupied. The assertion that the subject to which these activities are referred along

with other states is there because it must be there, or because the subject-object relation can't be got rid of, does not enable us to materialize anything more than corresponding elements. In a word, if the volitional and emotional phases of experience can be presented by the psychologist only in certain effects, we are forced to deal with these effects, after the fashion of the consistent parallelist, as elements corresponding to the conditions under which they arise. In general, the attempt to seize a psychical content which is only a by-product of an analysis undertaken in the search for an objective reality, results necessarily in a parallelistic statement — a statement in terms of the reality sought. This is as true of the older associationist and the modern logical school as of the physiological psychologists. One can see only that which he is looking for, and what else comes within the field of vision must be seen in terms of this. Sensations and other presentations rejected in the hunt for the reality of sensuous experience are no more positive psychical contents than the detected misstatements in a historical document are positive accounts of the process of consciousness by which they were introduced. If we have no direct knowledge of their appearance in the documents, we are helpless in our attempt to interpret them. It has been the acquaintance with the history, with the growth and decay, of the religious and political institutions of the Greek and Hebrew peoples that has made positive data out of the products of destructive higher criticism. Nor are the emotional and volitional rejects more direct and immediate material, as long as we deal with them in terms of that which does and does not make up the object of knowledge. This whole type of psychology can do no more than state the objective conditions under which the criticised act of cognition with its content of feel, emotion, and effort took place. That these psychologists have not confined themselves to this is undoubtedly true, but their scientific method can only assume psychical elements that correspond to definite conditions of objective experience.

The principal reason that one can be led astray in this matter is found in the fact that the statement of the logical analysis is not made in terms of an immediate experience. We transfer ourselves bag and baggage to the world of conceptual objects, recognizing the sensuous object only as something abstracted from. And yet we know that controlled sensuous experience is the essential basis of all our science. Even the most abstract speculation must have some point of sensuous contact with the world to render it real. We criticise various sensuous experiences in their representative character, and substitute for them the atoms and molecules of exact science. This is done, however, upon the basis of experiences in the laboratory, which are as sensuous as the experiences which we criticise. To be sure, we generalize our criticism and so bring the experiences in the experiment under the same statement, and this subsumption as a later act is theoretically correct. What is not legitimate is to assume that in the immediate experiment, the unquestioned data of the senses occupy logically the same position as those which we have criticised. In all our modern inductive science we deal with certain objects which are not analyzed in our analysis of other

objects. The *ex post facto* legislation by which we transfer this analysis back to the objects, whose immediacy was a precondition to it, is certainly out of place in a science which is supposed to deal with immediate experience. That is, it is not justifiable to demand of psychology that it regard all sensuous contents as psychical because analysis has shown certain of them not to be objective, while in the same experience other sensuous contents are necessarily regarded as objective. It would not be profitable here to enter into the logical question of the relation of the subject to the predicate, but it may be assumed that any theory of the judgment will imply the reality of some element of sensuous experience which is the contact point of the subject with the world. The reality of the sensuous "this" and "now" in any judgment, in any analysis, makes it impossible to present any immediate experience, however abstract, in which the sensuous content is entirely stripped off and relegated to the objectively unreal. Psychology cannot, then, pretend to be both a theory of perception by sensuous contents that can be only representative of the outer real object, themselves confined to the consciousness of the individual *qua* individual, and at the same time a theory of immediate experience. It is certainly curious that, while the long struggle of modern reflection has brought the world of knowledge into the experience of the self, the theory of the peculiar experience of that self should have no place in the doctrine of reflection. But how can one dodge this conclusion if his psychology deals only in rejects? For it cannot get its material till the reflection is complete, and an attempt to restate the process of reflection in the psychological terms which the reflection has furnished must presuppose the reflection itself. If we start our psychology with rejects, there is no stopping-point short of the dumpheap. And an immediacy which is left over from an original immediate situation is a contradiction, since it has been confessedly obtained by a process of mediation.

For purposes of definition here "immediacy" implies the coincidence of presence and meaning, and "mediacy" means reference to something beyond. If the psychical is then to be immediate, it must be a part of the consciousness of the moment to which belongs the unitary act. It cannot be later discovered to have been a part of that moment, nor arise as a product in a reproduction of that unitary act or state. The individual must be conscious directly of all the predicates by which the psychical is defined before it can exist as such in his consciousness. Merely to demonstrate that there must be a psychical content is to take one's stand within the fallacy of the Cretan who affirmed the mendacity of all Cretans. Hence, if the psychical in this sense exist at all, there must be states of consciousness in which what is peculiar to the individual and a moment of his existence finds its meaning in these very peculiarities—not simply as contents which can be investigated because they happen to be there—but as contents whose very limitations make them organic phases in the cognitive act. They must be deprived of their reference to anything beyond, else they would not be peculiar to the individual and the moment; for if the momentary refer to that which transcends it, its presence is no longer coincident with its meaning. A

reject has no meaning, even if we admit that it is present; or, if meaning is given to it — as that of the image providing content for the concept, or serving as representative of a neurological element which cannot yet be found — its meaning goes entirely beyond itself, and it ceases to be psychical at all. Unless we can show that the psychical as such is normally functional, we certainly can never produce it in the very peculiarities by which we must define it.

This is the position taken by Dewey in the article on "The Reflex Arc Concept."[42] He approaches the position from the discussion of the reflex-arc concept, but his quarrel with the psychologists he criticises is in the end the same as that which I have endeavored to present as inevitable — the quarrel with the doctrine that sensation is an isolated content analyzed out through its correspondence to an outside element.

> The result is that the reflex-arc idea leaves us with a disjointed psychology. . . . . Failing to see the unity of activity, no matter how much it may prate of unity, it still leaves us with sensation or peripheral stimulus; idea or central process (the equivalent of attention); and motor response, or act, as three disconnected existences, having somehow to be adjusted to each other, whether through the intervention of an extra-experimental soul, or by mechanical push and pull.[43]

And his proof of the futility of this psychology is that no such psychical elements answering to physical counterparts exist. Instead of a psychical state which is dependent upon a physical excitation, investigation shows in every case an activity which in advance must determine where attention is directed and give the psychical state the very content which is used in identifying it. In the simplest cases it is the direction of the sense-organs and their co-ordination in larger acts that is responsible for the actual contents of color, sound, odor, etc., which the psychologist treats as dependent only upon external physical conditions. To a reply that the psychologist assumes a complex co-ordinated nervous mechanism, with its inherited adaptations, over against which the outer physical stimulus is the only variable that needs to be taken into account, Dewey responds that either the physical mechanism must be taken as a bare system of motions, whose procedure is nothing but a shifting of stresses, in which case there is no such thing as stimulus and response at all, or else we must make our statement of the physiological system in terms of the same activity as those demanded for the psychological process. In the end what we see, hear, feel, taste, and smell depends upon what we are doing, and not the reverse. In our purposively organized life we inevitably come back upon previous conduct as the determining condition of what we sense at any one moment, and the so-called external stimulus is the occasion for this and not its cause. If we ask now for the results which such a disjointed psychology is actually able to present, the answer is that, just as the physical stimulus is reduced to nothing but a system of masses in motion in which the stimulus as such completely disappears, so the so-called psychical elements reduce to nothing but a series of sensations in which the character of response is as effectually destroyed

[42] *Psychological Review*, Vol. III, p. 358. [43] *Ibid.*, p. 360.

as was that of the stimulus in the abstract physical world. We have sensations of motions as well as of colors, and nothing but sensations. Putting, then, the two parts of the argument together, in the first place, this disjointed psychology gives us nothing but sensations which cannot even be got into a sensory-motor arc, but are doomed to remain forever in their own abstract world of registration; and, in the second place, no such elements of sensations are found to exist, and what we have been pleased to call such have in them the whole content of the act of which we were supposed to make them a part.

The author concludes that the distinction between stimulus, whether psychologically or physiologically investigated, and response is not one between pre-existent elements; that any phase of the act which could be obtained by analysis may be regarded as stimulus or response. The decision between the two predicates depends upon the direction in which the attention shifts. A type of analysis which follows in the wake of logical and physical sciences, gleaning that which they have dropped, harvests only unreal abstractions. Instead of attempting to identify elements, it is the duty of psychology to look upon these predicates as tools of interpretation. Which is another way of saying that sensation does not serve as a stimulus because of what it is as an independent content, but that it is a sensation because it serves as a stimulus. It is evident, then, that the definition must be made in terms of the act, not in terms of a content; and the following are the definitions given:

> Generalized, the sensation as stimulus is always that phase of activity requiring to be defined in order that a co-ordination may be completed. What the sensation will be in particular at a given time, therefore, will depend entirely upon the way in which an activity is being used. It has no fixed quality of its own. The search for the stimulus is the search for the exact conditions of action; that is, for the state of things which decides how a beginning co-ordination should be completed. Similarly, motion, as response, has only functional value. It is whatever will serve to complete the disintegrating co-ordination. Just as the discovery of the sensation marks the establishing of the problem, so the constitution of the response marks the solution of this problem.[44]

And a little farther on:

> The circle is a co-ordination, some of whose members have come into conflict with each other. It is the temporary disintegration and need of reconstitution which occasions, which affords the genesis of, the conscious distinction into sensory stimulus on the one side and motor response on the other. The stimulus is that phase of the forming co-ordination which represents the conditions which have to be met in bringing it to a successful issue; the response is that phase of one and the same forming co-ordination which gives the key to meeting these conditions, which serves as an instrument in effecting the successful co-ordination. They are therefore strictly correlative and contemporaneous. The stimulus is something to be discovered; to be made out; if the activity affords its own adequate stimulation, there is no stimulus save in the objective sense already referred to. As soon as it is adequately determined, then and then only is the response also complete. To attain either means that the co-ordination has completed itself.[45]

[44] *Ibid.*, p. 368.

[45] *Ibid.*, p. 370.

There are two situations suggested here—that in which the co-ordination is broken up by conflict between its members, and the other that in which the activity in its original form determines its own adequate stimulation. In the first case we have the presentation and solution of a problem, in terms of sensation and response. In the second instance, the author states that "there is no stimulus save in the objective sense." These so-called stimuli are further defined "as minor acts serving by their respective positions to the maintenance of some organized co-ordination."

Although the author has definitely postponed the application of this doctrine to the distinction between sensational and rational consciousness, and to the nature of the judgment, there seem to be some fairly evident conclusions that may be drawn. In the first place, there are presented here certain situations in which the psychical is the nature of consciousness, not because any analysis, or even introspection, produces or, catching our thought as it disappears, reveals a phase of which we were not conscious before, but because the inevitable conflicts of conduct deprive us of the stimuli which further action requires; in other words, deprive us of the objective character of some part of our world. If we compare this position with Wundt's, the following distinction appears at once: Wundt assumes that the logical criticism arises when our anticipations are not satisfied and the interpretations of former experiences are contradicted. The result of this logical criticism, however, is simply to dislodge our objects from their objective position and relegate them to a subjective world, just as they are, deprived only of their validity. And their places are filled by the conceptual objects which a scientific imagination fashions out of figments light as air. That is, Wundt assumes that the criticised object may retain its organized content and yet lose its validity. He denies the mutual dependence of the validity and the form of the content. Dewey assumes that the object or stimulus loses its form in losing its validity. Furthermore, during this state the whole effort is toward a constitution of the object or stimulus again. The object loses its validity and organization as object at the same moment, and at the same moment it becomes psychical, but not as the shade of an object done to logical death, and doomed henceforth to haunt the shadows of a subjective Sheol. The illustration which is given in the article on the reflex arc is of the child of our modern psychology—not the child of the associational period, that meditative *Bambino* of the Milanese school with the orange in his hand; but that somewhat ponderously curious child with the candle, who seems to be taken out of a Dutch interior. Of this child and his candle the author says: "The question whether to reach or abstain from reaching is the question: What sort of a bright light have we here? Is it one which means playing with one's hands, eating milk, or burning one's fingers? The stimulus must be constituted for the response to occur."[46] Now, if these questions are the stuff that the psychical is made of, we are dealing with states which do not have to be caught from behind, as they whisk around the corner, and studied in the faint aromas which they

[46] *Psychological Review*, Vol. III, p. 367.

leave behind them. We are very frankly conscious of our problems and the hypotheses which they call forth, and the problems are not coy visitors that will not remain to be interrogated. We are not dealing with images that have to be cautiously dissected out of our objects, nor even with fancies that vanish as soon as we show an interest in their pedigree and visible means of support. Other theories of the psychical imply an analysis which preserves the content of the criticised object as subjective experience. But at once the difficulty arises of presenting this content. What the psychologist has actual recourse to is the abstraction of qualities from objects which have not been criticised. For example, in dealing with color as psychical we assume at first that, if we had not to distinguish the colored object as it appears to us from that object as our physical theory defines it, it might never have been possible to separate the color from the so-called real thing. But, in the second place, when we ask for the color which has been stripped off from the object, and which has in the process become psychical and subjective, what is offered to us is the logical abstraction of color from objects that remain objects for all the abstraction, under the assumption that it must be the same as that which this critical experience found on its hands when the object evanesced; while the reject itself would be most difficult to reproduce, and only the professional gymnastics of the trained introspectionist would be at all equal to the task, and he comes off with aromas and suggestions, fearfully avoiding the Jabberwock of the psychological fallacy. We deal with substitutes and correspondents in the place of the psychical material which is too subtle for our grasp. And this holds not only for the psychical derived from criticism of physical experience, but also for that which comes to us from the criticism of thought and imagination. Thought maintains its objectivity as proudly as does sense-perception and the analyst who tries to separate thought from the thing is apt to come off with all the object or nothing according to the school that he patronizes. But it is not difficult, of course, to abstract thought in logic, and it is easy to set up these abstractions as the psychical content, or, more correctly, the same thing as the psychical content which an epistemology has shown must be subjective purely.

The position taken by Dewey is that in this psychical situation the object is gone, and the psychical character of the situation consists in the disintegration and reconstruction. The question then arises: In what form do these contents appear when this disintegration and reconstitution takes place? It does not appear in the form of an object, for it is just this character that it has lost, and consciousness here certainly does not consist in the presentation of copies of objects that will not serve as stimuli, but in their analysis and reconstruction. An answer may be found in that classical description of psychical consciousness, James's chapter on "The Stream of Thought." Are there any of the characteristics of the stream which are not unmistakably present when we face any problem and really construct any hypothesis? The kaleidoscopic flash of suggestion, and intrusion of the inapt, the unceasing flow of odds and ends of possible objects that will not fit, together with the continuous collision with the hard, unshakable

objective conditions of the problem, the transitive feelings of effort and anticipation when we feel that we are on the right track and substantive points of rest, as the idea becomes definite, the welcoming and rejecting, especially the identification of the meaning of the whole idea with the different steps in its coming to consciousness—there are none of these that are not almost oppressively present on the surface of consciousness during just the periods which Dewey describes as those of disintegration and reconstitution of the stimulus—the object. No person who bemoans insoluble difficulties in front of him that does not paint the same picture, though with no such brilliant brush. No scientist who describes the steps of a dawning and solidifying hypothesis who does not follow in the same channel, with the same swirl and eddy of current, and the same dissolving views upon the shores. If there is ever a psychical feeling of relation, it is when the related object has not yet risen from the underworld. It is under these circumstances that identities and differences come with thrills and shocks. Most of the persons who bore us with themselves, and the novelists who bore us with others, are but dilating upon the evident traits of such phases of our life, and they need lay no claim to professional skill of the trained introspectionist to recognize these traits. Let me add also that James's account of the hunt for the middle term in the reasoning process, and much that he writes of the concept, fit perfectly into this phase of experience, and that here as well the psychologist's fallacy seems to have become perfectly innocuous. Consciousness here cannot help being psychical in its most evident form, and the recognition of it is unavoidable under whatever terminology, technical, or non-technical, we may cover it.

The real crux of the situation is to be found in the feelings of activity. Are they reduced to simple sensations of motion and effort, or may the activity appear directly, without representation? Can we psychically be consciously active, or is psychical consciousness confined to the results of activity? As long as the analysis is logical, *i. e.*, as long as we simply abstract various characteristics of the objects and ascribe to the self assumed psychical elements corresponding to these, changes or motions will be inevitably translated into answering bodily changes or motions, and the only psychical elements that can be attained will be those presumed to accompany them. When psychology attempts to present these elements, it refers to certain feels, as we indicated above. We are now in a position to see where these contents come from. They cannot be the rejects, for reasons already adduced, but they may be the really psychical states forced into an integral act for purposes of interpretation. A successfully thrown ball means to us distance covered, weight of the ball, momentum attained, an entire objective situation. A mistake in the weight of the ball will give rise to a disorganized phase of consciousness, which will be subjective or psychical until it is readjusted. Here the efforts in their inhibition of each other provide us with states of feeling which we assume to be those which accompanied the co-ordinated process, though we could not detect them. This I take to be the real psychologist's fallacy, the attempt to introject a psychical state into a process which is not psychical. We assume that the individual who did move had an unanalyzed consciousness which

contained the motion and this feeling of effort, whereas the feeling of effort belongs to a state in which the individual is not able to move, or in which at least the effort and the motion are in inverse proportion to each other. It is not the individual who could build up a world of masses and momentums, of carrying distances and varying velocities, that has feelings of effort. He has a universe of life and motion instead. Force these elements, however, into this universe by a reflective process, and the only statement you can make about them is that they are feelings *of* those motions. To generalize this statement: the psychical contents which belong to these phases of disintegration and reconstitution, if referred to physical or logical objects that belong to other phases of consciousness, can be only representative, can be only sensations *of* something. They inevitably lose their immediacy. To present a concrete instance: the man who hesitates before a ditch, which he is not sure that he can jump, is conscious of inhibited activity. If he were sure of his ability to jump it, in the place of that consciousness he would have an estimate of the width of the ditch and the spring as an objective motion. If now we say that the sense of effort which comes with the inhibition is the subjective side of that which is objectively expressed as motion, we introduce into the original process a complexity which was not there for our consciousness. We were consciously moving. But we are told that beside this conscious motion there was this feeling of effort which has been borrowed from the subjective phase. This is not the motion. At most it can be but a feeling of motion. We carry over as an element a content whose peculiar quality depends upon its functional value in one phase of consciousness into another, and insist that it exists there as the subjectivity of this second phase. Under these circumstances it is reduced to the position of standing for something, and this so-called subjective consciousness is made of nothing but sensations of registrations.

I should add that the experimental psychologist is apt to trouble himself comparatively little about this or any other content of subjectivity. He assumes its existence answering to the physical situation, and confines himself to determining these physical situations with reference to the conditions under which this subjectivity is supposed to appear.

If we do not confuse these two phases of consciousness, I see no more difficulty in the immediate consciousness of activity in the subjective situations than of the motion in the objective. It appears primarily in the shifting of attention in the adaptation of habitual tendencies to each other, when they have come into conflict within the co-ordination. They involve effort in the stresses and strains of these different activities over against each other. I cannot go into the discussion of the interpretation of attention in terms of the innervation of the muscles of the sense-organs and of the head and chest. I must confine myself to the demand that we leave different stages of conscious processes to themselves—to their immediacy—and to the assertion that, when we do this, no one phase can be made merely cognitive of another, whether we have reference to contents or activities.

The conclusion was reached above that psychical consciousness could be immediate only in so far as it was functional. We may go a step farther and add that, in so far as the psychical state is functional, it cannot be a sensation of something else that is not in that state. Its functional character confines its reference to this function, which is that of reconstruction of the disintegrated co-ordination.

The discussion so far has considered the immediate characteristic of the psychical. The other element in the definition is its identification with the experience of the individual *qua* individual. The implication of the functional conception of the psychical is very interesting. If the psychical is functional and the consciousness of the individual at the same time, it is hard to avoid the conclusion that this phase of our consciousness—or, in other words, the individual *qua* individual—is functional in the same sense. This individual cannot be the empirical "me" that exists in such profusion in the modern genetic and pathological psychologies; nor yet can it be the transcendental self that is nothing but the function of unity; nor the self whose realization is the goal of the ethics of Green and his ilk; nor the individual whose whole content is the other way of stating the knowable universe. For this individual cannot be an object; and yet it must have a content, but that content cannot be an ideal either of conduct or of knowledge. It cannot be an object, because, for many reasons, some of which will be developed later, it belongs to the subject end of the polarized process of cognitive experience; it must have or be a content, because psychical consciousness does not belong to the normative phase of reflection, and deals therefore with relations and laws only in their appearance within certain fields of experience; it cannot be an ideal, because it must be immediate, and therefore its reference, so far as it is psychical, must lie within its own phase of consciousness.

There is nothing that has suffered more through loss of dignity of content in modern positivistic psychology than the "I." The "me" has been most honorably dealt with. It has waxed in diameter and interest, not to speak of number, with continued analysis, while the "I" has been forced from its metaphysical throne, and robbed of all its ontological garments; and the rags of "feelings of effort about the head and chest," of the "focalization of sense-organs," the "furrowing of the eyebrows" seem but a sorry return for the antique dogmas. But the greatest loss is the constant drain from the "I" to the "me." No sooner is a content of subjectivity made out than it is at once projected into the object world. This is the peculiar theme of our social psychology.[47] The recognition of the social character of the self, that the *alii* of our experience are not secondary inferred objects with which our reason endows directly perceived physical things, but constructs whose content is derived from subjective consciousness—this recognition involves the objectifying of a content which used to belong to the subject. In Baldwin's address before the Yale Philosophical Club, upon "Mind and Body from the Genetic Point of View,"[48] this exhaus-

[47] See BALDWIN, *Mental Development in the Child and the Race*, chap. II, *and Social and Ethical Interpretations*, chap. I.

[48] Published in the May, 1903, number of the *Psychological Review*.

tion of the subjective content in socially organized, and therefore objective, minds is shown in a series of "progressions." Starting with a presumed "protoplasmic" condition of consciousness, out of which arise first the "projections," answering to persons and things, there appear next the "progression" of persons into selves, the *ego* and *alii;* and finally the recognition of the body, answering to the mind of the other and the corresponding relation of mind and body in the *ego*. In the final reflective attitude there is left nothing but mind and body. The subjectivity is entirely exhausted. The author is strictly logical in demanding that we recognize the completely correlative positions of mind and body in this position. Attempted reduction of the one to the other is a denial of their mutual dependence not only in their genesis, but in their functions in the reflective process. But this striking application of the results of genetic and social psychology to the epistemological problem leaves the same irreducible parallelism which we have discussed, and surrenders the problem of transcending this dualism to some other philosophic discipline.

The interesting situation suggested here is that, if we do accept this dualism for psychology, we do it at the sacrifice of a subject that is anything more than an assumption — possibly an assumption of some particular psychical processes such as attention, apperception, but still a subject that can never appear *in persona* within the domain of psychology. It is all very well to send a sergeant-at-arms into the fields of the transcendental *ego* after him. If it actually appeared, its presence would, according to Baldwin, act like the nymph's magic kiss and reduce the whole experience to "protoplasmic" babyhood. That is, from this genetic standpoint the subject as a conscious stage must disappear before the reflective stage can arise. It must disappear in order that the contents of mind and body may arise. It is as much a presupposition here as it is over against the processes of attention or the activities in general; which is tantamount to saying that the relation of the psychical to the subject cannot be made a characteristic in the definition of the psychical. For the relation to an empirical "me" cannot be made particular. We inevitably generalize the experiences of these "me's" so that what belongs to one may belong to another. To say, with Wundt, that our concepts are used merely for the purposes of classification and arrangement, implies that we can present the material outside of the conceptual formulation. We have already seen that this is Wundt's assumption, but that it is an assumption which is hopelessly unproductive of any psychical content. These contents turn out to be nothing but the rejected elements of the object when it is subjected to logical analysis, and therefore stated in terms of the conceptual object in whose interest the abstraction is made. We have also seen that there is a phase that is not stated in terms of such an analysis, one that arises in the period of disintegration and reconstitution of the stimulus-object; that the content in this period is not what is abstracted from the former object when the conceptual object is erected in its place, but the content that appears when experience has lost its objectivity because of the conflicting tendencies to react, and that, instead of its being a reject, for the time being it includes all

that is given at all. Not only this, but it is characterized by the consciousness of the reconstruction, of activities of attention and organization. We have seen that, as long as the activities of experience are present only in terms of their results, they can only appear in the form of sensations of the activities, but that in this stage the directing attention is immediately given. Thus, in the theories we have criticised, the subject is represented in two aspects, neither of which can presumably be present in the material with which the science deals; first as a content, the original subjectivity out of whose "projection" or "imitative introjection" arise not only the others' selves, but reactively our own, and second the "activities" that answer to attention or apperception; but in this phase of disintegration and reconstruction both these aspects *are* immediately given. The disintegration of the object means a return, with reference to a certain field, to the original phase of protoplasmic consciousness, and within these limits there is neither mind nor body, only subjectivity. The reconstruction is the immediate process of attention and apperception, of choice, of consciously directed conduct.

This stage of disintegration and reconstruction requires a more detailed description and analysis. The characteristics which identify it with the reflective consciousness are the sharp definition of the problem within one field of consciousness and the forms which the other contents of consciousness take in the statement and solution of the problem. The assumptions made in this description are: (1) that consciousness is so organized with reference to conduct that the objects in cognitive experience may all be regarded as means to the accomplishment of the end involved in that conduct; (2) that this end may be stated in psychological terms as the expression of an impulse; (3) that when the co-ordination is unbroken the stimulus is the object determined by the preceding processes of the act; and (4) that the rest of the field of consciousness is organized with reference to this object, and may be stated either in positive or negative terms of it; (5) that, in so far as the co-ordination is unbroken, the end is for the time being adequately expressed in terms of the means, *i. e.*, the object and its background which provide an adequate stimulus for continuance of the activity, and thus the distinction between the act and the conditions of the act does not appear; (6) that when the co-ordination is broken up—or, in other words, when an adequate stimulus for the expression of the impulse is not given, but the conflicting tendencies to act deprive the object of its power as a stimulus—then consciousness is divided into two fields: that within which the new stimulus or object must be constructed, and the rest of experience which with reference to the new possible object can have no other content than that of conditions of its formation. An illustration of these characteristics can be found in social experiences in which we are forced to reconstruct our ideas of the character of our acquaintances. As long as we can act with reference to them successfully, that which we later consider our ideas of them constitute their characters as persons. That the organization of these characters springs from our mutual relations, and that the psychological statement of these relations would be found in our social impulses or activities, the analysis of social objects since Hegel, and the results of

genetic and social psychology have, I think, abundantly demonstrated. It would also be admitted that the particular form which that character took on, in any instance, depends upon what particular social activity we are engaged in, and that the whole social environment would be more or less definitely organized as the background and sustaining whole of the individual or individuals who were the immediate stimuli of our conduct. If we assume now that some experience should run quite counter to the nature of an acquaintance as we have known him, the immediate result would be that we would be nonplused and quite unable to act with reference to him for the time being. The immediate result would be a state of consciousness within which would appear mutually contradictory attitudes toward the acquaintance which would inevitably formulate themselves in a problem as to what the real nature of the man was, and over against this a mass of data drawn from our experience of him and of others that would constitute the conditions for the solution of the problem. The contradictory attitudes of approval and abhorrence include in their sweep not only the man in question, but also ourselves in so far as mutual interrelationship has helped to form our selves over against his. Or, in other words, we should be as uncertain of our own capacity of judging him as of the man himself. In so far the subject and object relation, the *ego* and *alter*, would have disappeared temporarily within this field. The situation may be of such hopeless perplexity that consciousness in this regard could be well called protoplasmic; or at least would be of the same nature as the original subjectivity due to checks and inhibitions out of which is projected the other selves of a social consciousness.

There follows the definition of the problem, the delineation of which would be a task for logic. But there is a phase of the process with which logic does not deal or has not dealt; not because logic is a normative, while psychology is an explanatory and descriptive science simply, but because in that phase the content and the procedure cannot be distinguished. It is the hunt for a hypothesis, when the consciousness is more or less incoherent or, in other terms, the distinction between subject and predicate cannot be made. To return to the illustration, we are uncertain whether the conduct of our acquaintance is abhorrent, being logically a predicate and psychologically a stimulus to action, that of repulsion; or whether this possible predicate is not a prejudice of our own, being therefore subject. Given either alternative, and it takes its logical position, but for the time being it is actually neither, and cannot become such but by a further reconstruction in which there will emerge subjects and predicates which were never there before. Modern logic is ready enough to admit that the judgment is a process of reconstruction, by which, through ideal interpretation of our world, it becomes another world, but what it does not seem to me to recognize is that the idea has to arise, and that while it is arising it is not idea and cannot function as such; that the ideas we have are abstracted from our old world and cannot reconstruct it; and that we must allow for the situation in which what is essentially novel emerges before it even takes on the form of a hypothetical predicate. What I wish to

insist upon is that, while we have not as yet a predicate, we also have no subject; that, while the negative statement of the problem clears the ground for its solution, it does not give that solution; and that the statement of the rest of experience in terms of the conditions of the solution of the problem, the gathering of data, does not give the positive touch of reconstruction which is involved in the presentation of a hypothesis, however slight and vague it may be; that this step takes place within the field of subjectivity, which in so far is neither me nor other, neither mind nor body. And it is in this phase of subjectivity, with its activities of attention in the solution of the problem, *i. e.*, in the construction of the hypothesis of the new world, that the individual *qua* individual has his functional expression or rather is that function.

To appreciate this we need to consider this situation in consciousness from another point of view — that of the relation of the conditions for the solution, reflectively presented, to the problem itself. From the standpoint of science, these conditions are the data of investigation. They are abstractions which arise through the conflict. In the illustration used above the conduct is abstracted from the particular person and particular situation within which it appeared. This abstraction is due to our inability to treat the person as an acquaintance and continue our relations with him, or, on the other hand, to surrender him and pass judgment upon his conduct as we would but for our past knowledge of his character. This datum is therefore strictly correlative to the psychical consciousness of the conflicting tendencies and the disintegration of the object, but the ability to present this reflective content is due to the integral character of the rest of our world. This forms the basis upon which the reconstruction can take place. Not that this world will not eventually be brought within the reconstruction, at least by implication, but that for the time being the world and the individual have sufficient coherence to give the conditions under which the problem may be solved, representing, as they do, the organized system which remains the criterion of the reality of the result. The individual corresponding to the world of data or conditions is that given in the state of subjectivity. But it is evident that, as the function of the world is to provide the data for the solution, so it is the function of the individual to provide the hypothesis for that solution. It is equally evident that it is not the individual as a "me" that can perform this function. Such an empirical self belongs to the world which it is the function of this phase of consciousness to reconstruct. The selves of our scientific theory are part of the data which reflection presents to us. We have already seen that the content which is ascribed to them cannot be immediate. Furthermore, one of the results of the reconstruction will be a new individual as well as a new social environment. The reference which is made of this state of subjectivity to the presented self is therefore only in the sense of a statement of the conditions under which the new self is to be organized. In the meantime the experience in this psychical phase is not a presentation, but an immediate and direct experience. That is, this is the self in the disintegration and reconstruction of its universe, the self functioning, the point of immediacy that must exist

within a mediate process. It is the act that makes use of all the data that reflection can present, but uses them merely as the conditions of a new world that cannot possibly be foretold from them. It is the self of unnecessitated choice, of undreamt hypotheses, of inventions that change the whole face of nature.

If we ask now what sort of scientific treatment this phase of consciousness may receive, we find the reply already given. It cannot be a presentation of contents. These presentations all take their place among the data or conditions of this activity. On the other hand, there is nothing mysterious about its flow. It may be as vividly and definitely described as any immediate experience, but it is not the content as content that constitutes the scientific character of the description, but its definition in terms of the laws of analysis and construction. It will not be a statement of the laws of these processes. This statement would belong to general logic, but the formulation of psychical experience in terms of those laws. The theory of the conflict within an organized universal whole is logical, but the statement of the conflict of an impulse with a co-ordination of impulses and the inhibition of these impulses will be a scientific treatment of the psychical. The theory of the reconstruction of a given world as subject through the interpretation of a hypothetical idea or predicate lies in the sphere of logic, but the shifting of attention in the reco-ordination of the impulses, the control of the outgoing activities by the sense-processes during this co-ordination, and the like, will fall within the science of the psychical.

There appears to be, therefore, a field of immediate experience within reflection that is open to direct observation, that does not have to be approached from the standpoint of parallelism, but which is a presupposition of that parallelism, as it is of all presentation of data, which voluntaristic psychology presupposes, but does not directly deal with, and for which there is arising the modern discipline of functional psychology. Over against this would still stand the parallelistic psychology as presenting the conditions under which empirical bodies and minds must act in the reconstructions arising within the field of the psychical. For this functional psychology an explicit definition of its subject-matter seems highly important. That suggested in this paper is as follows: that phase of experience within which we are immediately conscious of conflicting impulses which rob the object of its character as object-stimulus, leaving us in so far in an attitude of subjectivity; but during which a new object-stimulus appears due to the reconstructive activity which is identified with the subject "I" as distinct from the object "me."

There are two illegitimate transfers in modern psychology upon which we have commented. In the first place, the psychologist who is interested in so-called psychical elements has abstracted the *qualia* of sensation from the object of reflection by a process of simple analysis, and has assumed that he may transfer them in this form to the domain of the psychical (p. 27). In the second place, the voluntaristic psychologist has recognized the feelings of stress and strain that belong to the psychical phase of consciousness, and has transferred them to unanalyzed experience and its movements,

where they are assumed to be the sensations of these movements (p. 28). It would be a mistake, however, to leave these treatments without some indication of their proper function, especially when an attempt is being made to relate psychical consciousness to other phases of the process of reflection.

The position of the "elements" is indicated at once by their origin. They are part of the data which define the conditions under which the immediate problem is to be solved. What distinguishes them from the data of the other sciences is their relation to the individual through physiological psychology. This science enables us to state all the data of the physical sciences in terms of the individual—the "corporeal individual." Their logical function must then be the same as that of the data of the other sciences, that of stating the conditions of the solution—the function of the subject of the judgment when the problem is as yet only stated. Now the hypothesis which is to arise must make its appearance in the individual *qua* individual. The general statement of conditions which are valid for all is not adequate for this situation. There must be a statement which will translate these into the conditions of this individual. The difficulty with the customary psychological statement is that they are not treated as conditions, but as contents which existed in advance of the appearance of the problem. It is, then, not remarkable that these so-called elements which have in reality been simply abstracted from scientifically determined objects do not appear in psychical consciousness at all, as introspection abundantly shows. What appear are the emerging objects, indistinct and still subject to the disintegration of conflicting impulses. But the conditions of the problem stand there as the form, so to speak, to which the hypothesis must conform itself. The attempt to give these conditions content apart from the immediate psychical experience inevitably drives the psychologist to borrow a filling from the abstractions of the outer scientific world—the "elements." Apart from the particular problem of constructing a sounding, colored, felt world, there is a certain legitimacy in referring to these conditions of individual reconstruction as sensations of color, sound, etc. But to assume that this content is determinable independently of the problem is utterly false. The only thing that is determinable in advance is the *function* of seeing, of hearing, and of feeling. What the content of this function is going to be is dependent upon the character of the process.

The legitimate result of this type of "elemental" psychology is found, not in the psychical correspondents of the physical originals, but in the physical statement itself. All the value of the study of so-called *qualia* of sensation is to be obtained eventually in the statement of the nervous mechanism. And this mechanism is only a series of paths. It is impossible to isolate anything in the nervous system except processes unless one arbitrarily assumes physical elements to answer to arbitrarily assumed psychical elements. To repeat the statement made above, the logical function of physiological psychology is to give a statement of the world of the physical sciences in terms of the individual so that the conditions of the hypotheses that can arise only

in psychical consciousness may be so stated that they will hold for that consciousness. In my judgment, however, we must recognize not only a corporeal individual, but a social and even logical individual, each of whom would answer to the translation of the results of the social and logical sciences into terms of psychical consciousness. That is, if we find it convenient to set up a social environment or an epistemological environment in which we abstract from the physical statement, we must state the laws of these environments in terms of the individual, to put them at his disposal. In any case, such a statement is the subject-function of the judgment.

If we seek a psychological expression for the actual use of these conditions in experience we will find it in the term "image." However unfortunate the historical implications of the term may be, there is no other expression that answers to such an organization of a subjective state that it may become objective. The unfortunate implication of the term is still maintained in much of the psychological doctrine of the memory. The implication is that the memory image depends for its organization upon past experience, that the selection and ordering of its content looks back and not forward. There can be, however, no question that the activities with which psychology deals find their expression in the formation of the image, and that these activities are essentially forward-looking. The fallacy of referring these activities backward as the sensations of unanalyzed movements we have already commented upon at length (p. 28). As the statement in terms of elements stands only for the conditions of reconstruction, so these activities presented in the image stand only for the direction of the reconstruction. A psychology which assumes that these images are registrations of past experiences which exist ready to hand in some storehouse of the mind is as illegitimate as a psychology of "elements," even if it bring in attention or apperception as a force from the outside to order the material. For it has a material which is only made up out of logical abstractions. The ordering of this material by laws of the association of ideas or by attentive processes is unreal as long as these forces operate upon material which is quite separate from the immediate problem of consciousness. The image whose meaning alone makes association conceivable, and which can only arise through its successful reconstruction of the object, can no more be separated from the psychical state as a content than can the conditions discussed above. The image stands for the predicate as the *quales* stand for the subject.

The image is the suggested object-stimulus, adapting itself to the conditions involved in the problem. It interprets the conditions as the predicate interprets the subject. But neither the subject nor the predicate is there in fixed form, but are present in process of formation. The value and content of the conditions is continually changing as the meaning of the problem develops, and this meaning grows as it recognizes and accepts the conditions that face it. It is evident that in this state of reflection it is impossible to present the elements out of which the new world is to be built up in advance, for disintegration and analysis of the old is as dependent upon the problem that arises as is the reconstruction. It is equally impossible to state the

form which the world will take in advance. Neither elements nor image can be given in advance of the actual problem or, what is the same thing for psychology, in advance of the psychical state. For this psychical state they are reciprocal functions which have now this expression and now that. What this expression is depends upon the selective activity of attention or apperception — an activity that is practically co-terminous with the psychical state as such.

The logical correspondent of this psychical state can be no other than the copula phase of the judgment; that in which subject and predicate determine each other in their mutual interaction. The subject and predicate — the conditions or elements and the images — may be reduced as contents to zero in the equation and be present only as felt functions. In this case we have the limit of subjectivity. Or we may have definite conditions and a working hypothesis, and then the state approaches objectivity. Here the elements of sensuous experience fit into the structure of the world perfectly under the interpretation of the image.

One word of recognition is due the types of psychology which have been criticised. If we wish to make a symbolical statement of the conditions of organizing or co-ordinating experience, it may be legitimate to take colors, sounds, feels, and odors by logical abstraction from the objects around us, and if we wish to present the image symbolically it may be legitimate to use logical abstractions from our thought-objects — the ideas — as contents for this function. In actual psychical experience the material in which these functions express themselves are the disintegrating and reforming objects of the changing universe. The only justification, however, for these symbolical presentations must be found in their interpretation of actual psychical processes, and they can be properly used only as this function is kept in mind, and when the assumption is avoided that they offer a real account of what transpires in subjective consciousness.[49]

[49] It would be impossible for me to indicate in detail my obligations to Professor Dewey in the development of the thought of this paper, but the reference of the psychical phase of consciousness to the copula stage of the judgment, and its elaboration in the last three pages, should be credited directly to him.

LOGICAL CONDITIONS OF A SCIENTIFIC TREATMENT OF MORALITY

LOGICAL CONDITIONS OF A SCIENTIFIC TREATMENT OF MORALITY

JOHN DEWEY

§1. THE USE OF THE TERM "SCIENTIFIC"

THE familiar notion that science is a body of systematized knowledge will serve to introduce consideration of the term "scientific" as it is employed in this article. The phrase "body of systematized knowledge" may be taken in different senses. It may designate a property which resides inherently in arranged facts, apart from the ways in which the facts have been settled upon to be facts, and apart from the way in which their arrangement has been secured. Or, it may mean the intellectual activities of observing, describing, comparing, inferring, experimenting, and testing, which are necessary in obtaining facts and in putting them into coherent form. The term should include both of these meanings. But since the static property of arrangement is dependent upon antecedent dynamic processes, it is necessary to make explicit such dependence. We need to throw the emphasis in using the term "scientific" first upon methods, and then upon results through reference to methods. As used in this article, "scientific" means regular methods of controlling the formation of judgments regarding some subject-matter.

The transition from an ordinary to a scientific attitude of mind coincides with ceasing to take certain things for granted and assuming a critical or inquiring and testing attitude. This transformation means that some belief and its accompanying statement are no longer taken as self-sufficing and complete in themselves, but are regarded as *conclusions*. To regard a statement as a conclusion, means (1) that its basis and ground lie outside of itself. This reference beyond itself sets us upon the search for prior assertions which are needed in order to make this one, *i. e.*, upon inquiry. (2) Such prior statements are considered with reference to their bearings or import in the determination of some further statement, *i. e.*, a consequent. The meaning or significance of a given statement lies, logically, in other statements to which we are committed in making the one in question. Thus we are set upon reasoning, the development of the assertions to which a particular assertion or view commits and entitles us. Our attitude becomes scientific in the degree in which we look in both directions with respect to every judgment passed; first, checking or testing its validity by reference to possibility of making other and more certain judgments with which this one is bound up; secondly, fixing its meaning (or significance) by reference to its use in making other statements. The determination of *validity* by reference to possibility of making other judgments upon which the one in question depends, and the determination of *meaning* by reference to the necessity of making other statements to which the one in question entitles us, are the two marks of scientific procedure.

So far as we engage in this procedure, we look at our respective acts of judging not as independent and detached, but as an interrelated system, within which every assertion entitles us to other assertions (which must be carefully deduced since they constitute its meaning) and to which we are entitled only through other assertions (so that they must be carefully searched for). "Scientific" as used in this article thus means the possibility of establishing an order of judgments such that each one when made is of use in determining other judgments, thereby securing control of their formation.

Such a conception of "scientific," throwing the emphasis upon the inherent logic of an inquiry rather than upon the particular form which the results of the inquiry assume, may serve to obviate some of the objections which at once suggest themselves when there is mention of a science of conduct. Unless this conception is emphasized, the term "science" is likely to suggest those bodies of knowledge which are most familiar to us in physical matters; and thus to give the impression that what is sought is reduction of matters of conduct to similarly physical or even quasi-mathematical form. It is, however, analogy with the method of inquiry, not with the final product, which is intended. Yet, while this explanation may preclude certain objections, it is far, in the present state of discussion, from removing all objections and thus securing a free and open field. The point of view expressly disclaims any effort to reduce the statement of matters of conduct to forms comparable with those of physical science. But it also expressly proclaims an identity of logical procedure in the two cases. This assertion will meet with sharp and flat denial. Hence, before developing the logic of moral science, it is necessary to discuss the objections which affirm such an inherent disparity between moral judgments and physical judgments that there is no ground in the control of the judging activity in one case for inferring the possibility of like control in the other.

§ 2. THE POSSIBILITY OF LOGICAL CONTROL OF MORAL JUDGMENTS

In considering this possibility, we are met, as just indicated, by an assertion that there is something in the very nature of conduct which prevents the use of logical methods in the way they are employed in already recognized spheres of scientific inquiry. The objection implies that *moral* judgment is of such character that nothing can be systematically extracted from any one which is of use in facilitating and guaranteeing the formation of others. It denies, from the logical side, the continuity of moral experience. If there were such continuity, any one judgment could be dealt with in such a way as to make of it a conscious tool for forming other judgments. The ground of denial of continuity in moral experience rests upon the belief that the basis and justifying principle of the ethical judgment is found in transcendental conceptions, viz., considerations that do not flow from the course of experience as that is judged in terms of itself, but which have a significance independent of the course of experience as such.

The assertion of such logical disparity assumes a variety of forms, all coming back to pretty much the same presupposition. One way of putting the matter is that ethical judgments are immediate and intuitive. If this be true, an ethical judgment cannot be considered a conclusion; and hence there can be no question of putting it into orderly intellectual (or logical) relations with other like judgments. A merely immediate judgment is, by the nature of the case, incapable of either intellectual rectification or of intellectual application. This view finds expression in popular consciousness in the notion that scientific judgments depend upon reason, while moral valuations proceed from a separate faculty, conscience, having its own criteria and methods not amenable to intellectual supervision.

Another way of affirming radical disparity is that scientific judgments depend upon the principle of causation, which of necessity carries with it the dependence of one phenomenon upon another, and thus the possibility of stating every fact in connection with the statement of some other fact; while moral judgments involve the principle of final cause, of end and ideal. Hence to endeavor to control the construction and affirmation of any content of moral judgment by reference to antecedent propositions is to destroy its peculiar moral quality. Or, as it is popularly expressed, ethical judgment is ethical just because it is not scientific; because it deals with norms, values, ideals, not with given facts; with what *ought* to be, estimated through pure spiritual aspiration, not with what *is*, decided after investigation.

Pretty much the same point of view is expressed when it is said that scientific judgments, as such, state facts in terms of sequences in time and of co-existences in space. Wherever we are dealing with relations of this sort, it is apparent that a knowledge of one term or member serves as a guide and check in the assertion of the existence and character of the other term or member. But moral judgments, it is said, deal with actions which are still to be performed. Consequently in this case characteristic meaning is found only in the qualities which exist *after* and by means of the judgment. For this reason, moral judgment is thought essentially to transcend anything found in past experience; and so, once more, to try to control a moral judgment through the medium of other judgments is to eliminate its distinctive ethical quality. This notion finds its popular equivalent in the conviction that moral judgments relate to realities where freedom is implicated in such a way that no intellectual control is possible. The judgment is considered to be based, not upon objective facts, but upon arbitrary choice or volition expressed in a certain sort of approval or disapproval.

I have no intention of discussing these points in their full bearing. I shall reduce them to a single logical formulation, and then discuss the latter in its most general significance. The justification of the single statement as a formulation of the objections just set forth (and of other like ones) will not be attempted, for further discussion does not turn upon that point. When generalized, the various statements of the logical gulf between the moral judgment and the scientific reduces itself to an assertion of two antinomies: one, the separation between the universal and the

individual; the other, between the intellectual and the practical. And these two antinomies finally reduce themselves to one: Scientific statements refer to *generic conditions* and relations, which are therefore capable of complete and objective statement; ethical judgments refer to an *individual act* which by its very nature transcends objective statement. The ground of separation is that scientific judgment is universal, hence only hypothetical, and hence incapable of relating to acts, while moral judgment is categorical, and thus individualized, and hence refers to acts. The scientific judgment states that where some condition or set of conditions is found, there also is found a specified other condition or set of conditions. The moral judgment states that a certain end has categorical value, and is thus to be realized without any reference whatsoever to antecedent conditions or facts. The scientific judgment states a connection of conditions; the moral judgment states the unconditioned claim of an idea to be made real.

This formulation of the logic of the problem under consideration fixes attention upon the two points which are in need of discussion. First: Is it true that scientific judgment deals with contents which have, in and of themselves, a universal nature —that its whole significance is exhausted in setting forth a certain connection of conditions? Secondly: Is it true that the attempt to regulate, by means of an intellectual technique, moral judgments—which, of course, are thoroughly individualized —destroys or in any way lessens distinctively ethical value?

In discussing the two questions just propounded, I shall endeavor to show: First, that scientific judgments have all the logical characteristics of ethical judgments; since they refer (1) to individual cases, and (2) to acts. I shall endeavor to show that the scientific judgment, the formulation of a connection of condition, has its origin, and is developed and employed for the specific and sole purpose of freeing and reinforcing acts of judgment that apply to unique and individual cases. In other words, I shall try to show that there is no question of eliminating the distinctive quality of ethical judgments by assimilating them to a different logical type, found in so-called scientific judgments; precisely because the logical type found in recognized scientific judgments is one which already takes due account of individualization and activity. I shall, then, secondly, endeavor to show that individualized ethical judgments require for their control generic propositions, which state a connection of relevant conditions in universal (or objective) form; and that it is possible to direct inquiry so as to arrive at such universals. And finally, I shall briefly set forth the three typical lines along which the construction of such generic scientific propositions must proceed, if there is to be a scientific treatment of ethics.

§3. NATURE OF SCIENTIFIC JUDGMENTS

The proposition that scientific judgments are hypothetic because they are universal is almost commonplace in recent logical theory. There is no doubt that there is a sense in which this proposition states an unquestioned truth. The aim of science is law. A law is adequate in the degree in which it takes the form, if not of an equation,

at least of formulation of constancy, of relationship, or order. It is clear that any law, whether stated as formulation of order or as an equation, conveys, in and of itself, not an individualized reality, but a certain connection of conditions. Up to this point there is no dispute. When, however, it is argued that this direct and obvious concern of science with generic statements exhausts the logical significance of scientific method, certain fundamental presuppositions and certain fundamental bearings are ignored; and the logical question at issue is begged. The real question is not whether science aims at statements which take the form of universals, or formulæ of connection of conditions, but *how* it comes to do so, and *what it does with* the universal statements after they have been secured.

In other words, we have, first, to ask for the logical import of generic judgments. Accordingly, not questioning the importance of general formulæ as the objective content of the sciences, this section will endeavor to show that such importance lies in the development of "sciences" or bodies of generic formulæ as instrumentalities and methods of controlling individualized judgments.

1. The boast and pride of modern science is its distinctly empirical and experimental character. The term "empirical" refers to origin and development of scientific statements out of concrete experiences; the term "experimental" refers to the testing and checking of the so-called laws and universals by reference to their application in further concrete experience. If this notion of science be correct, it shows, without further argument, that generic propositions occupy a purely intermediate position. They are neither initial nor final. They are the bridges by which we pass over from one particular experience to another; they are individual experiences put into such shape as to be available in regulating other experiences. Otherwise scientific laws would be only intellectual abstractions tested on the basis of their own reciprocal consistencies; and the trait which is supposed to demarcate science from mediæval speculation would at once fade away.

Moreover, if the generic character of propositions of physical and biological sciences were ultimate, such propositions would be entirely useless from a practical point of view; they would be quite incapable of practical application because they would be isolated from intellectual continuity with the particular cases to which application is sought. No amount of purely deductive manipulation of abstractions brings a resulting conclusion any nearer a concrete fact than were the original premises. Deduction introduces in regular sequence new ideas, and thus complicates the universal content. But to suppose that by complicating the content of a universal we get nearer the individual of experience is the fallacy at once of mediæval realism and of the ontological argument for the existence of God. No range of synthesis of universal propositions in chemistry, physics, and biology would (if such propositions were logically self-sufficing) assist us in building a bridge or in locating the source of an epidemic of typhoid fever. If, however, universal propositions and their deductive synthesis are to be interpreted in the sense of the manufacturing and employing of intellectual tools

for the express purpose of facilitating our individual experiences, the outcome is quite other.

The empirical origin, the experimental test, and the practical use of the statements of science are enough of themselves to indicate the impossibility of holding to any fixed logical division of judgments into universal as scientific, and individual as practical. It suggests that what we term science is just the forging and arranging of instrumentalities for dealing with individual cases of experience — cases which, if individual, are just as unique and irreplaceable as are those of moral life. We might even say that the very fact which leads us upon a superficial view into believing in the logical separation of the generic judgment from the individual, viz., the existence of a large and self-contained body of universal propositions, is proof that as to some individual experiences we have already worked out methods of regulating our reflective transactions with them, while for another phase of experience this work remains to be done; *i. e.*, is the problem of current ethical science.

The consideration of the technique by which the desired end of control is accomplished does not belong here. It suffices to note that the hypothetic judgment is a most potent instrumentality. If we inhibit the tendency to say, "This, A, is B," and can (1) find ground for saying, "Wherever there is mn there is B," and can (2) show that wherever there is op there is mn, and (3) have a technique for discovering the presence of op in A, we shall have warrant for identifying This, A, as B, even if all the outward and customary traits are lacking, and even if This, A, presents certain traits which, without the mediation of a generic proposition, would have inevitably led us to identify it as C. Identification, in other words, is secure only when it can be made through (1) breaking up the analyzed This of naïve judgment into determinate traits, (2) breaking up the predicate into a similar combination of elements, and (3) establishing uniform connection between some of the elements in the subject and some in the predicate. All judgments of everyday life, and indeed all judgments in such sciences as geology, geography, history, zoölogy, and botany (all sciences that have to do with historic narration or with description of space coexistences), come back ultimately to questions of identification. Even judgments in physics and chemistry, in their ultimate and concrete form, are concerned with individual cases. Of all the sciences, mathematics alone[1] is concerned with pure general propositions — hence the indispensable significance of mathematics as a *tool* for all judgments of technology and of the other sciences. It also is true in all the arts, whether commercial, professional, or artistic, that judgments reduce themselves to matters of correct identification. Observation, diagnosis, interpretation, and expert skill all display themselves in transactions with individual cases as such.

2. Thus far we have seen that the importance of generic statements in science is no ground for assuming a disparity in their logic from that of a scientific treatment

[1] If it were necessary for the purpose of this argument, it could of course be shown that reference to individual cases is involved in all mathematics. Within mathematical science, symbols (and diagrams are symbols) are individual objects of just the same logical nature as are metals and acids in chemistry and as are rocks and fossils in geology.

of conduct. Indeed, since we have found that generic propositions originate, develop, and find their test in control of individual cases, the presumption is of similarity rather than of dissimilarity. Can we extend the parallelism farther? Does it apply equally well to the other characteristic trait of ethical judgment, viz., its reference to an act?

Just as modern logic has seized upon the hypothetic and universal character of scientific statements, relegating their bearing upon individual judgments into the background (but in truth so relegating them only because that bearing is always taken for granted), so modern logic has emphasized the aspect of content in judgment at the expense of the act of judging. I shall now try to show, however, that this emphasis also occurs because reference to act is so thoroughly taken for granted that it is possible to ignore it—that is, fail to give it explicit statement. I shall try to show that every judgment must be regarded as an act; that, indeed, the individual character of judgment proper, which has just been brought out, means, in final analysis, that the judgment is a unique act for which there is no substitute.

Our fundamental point is the control of the content or meaning which is asserted in any given judgment. How can such control be obtained? So far we have spoken as if the content of one judgment might be elaborated simply by reference to the content of another—particularly as if the content of an individual judgment, a judgment of identification, might be secured by reference to the content of a universal or hypothetic proposition. In truth, there is no such thing as control of one content by mere reference to another content as such. To recognize this impossibility is to recognize that the control of the formation of the judgment is always through the medium of an act by which the respective contents of both the individual judgment and of the universal proposition are selected and brought into relationship to each other. There is no road open from any generic formula to an individual judgment. The road leads through the habits and mental attitudes of the one concerned in judging. The universal gets logical force, as well as psychical reality, only in the acts by which it is invented and constructed as a tool and then is employed for the purpose for which it was intended.

I shall accordingly try to show that activity shows itself at every critical point in the formation of judgment: (*a*) that it shows itself in the genesis of the generic or universal employed; (*b*) that it shows itself in the selection of the particular subject-matter which is judged; and (*c*) that it shows itself in the way in which the validity of the hypothesis is tested and verified, and the significance of the particular subject-matter determined.

a) So far we have assumed the possibility of building up and selecting for use some generic principle which controls the identification reached in an individual case. We cannot, that is to say, regulate judgments of the type, "This is typhoid," or, "That is Bela's comet," unless we have certain generic concepts, which are defined as connection of particular conditions, and unless we know when and how to select from the stock of such concepts at our disposal the particular one required. The entire science considered as a body of formulæ having coherent relations to one

another is just a system of possible predicates — that is, of possible standpoints or methods to be employed in qualifying some particular experience whose nature or meaning is not clear to us. It furnishes us with a set of tools from which choice has to be made. The choice, of course, depends upon the needs of the particular facts which have to be discriminated and identified in the given case — just as the carpenter decides, on the basis of what he is going to do, whether he will take a hammer, a saw, or a plane from his tool-chest. One might as well suppose that the existence of possible candidates for office, plus the mathematically possible combinations and permutations of them, constitutes an election of one of them to office, as to suppose that a specific judgment follows from even an ideally exhaustive system of general principles. The logical process includes, as an organic part of itself, the selection and reference of that particular one of the system which is relevant to the particular case. This individualized selection and adaptation is an integral portion of the logic of the situation. And such selection and adjustment is clearly in the nature of an act.

Nor must we fail to make clear that we are concerned, not with selecting and adapting a ready-made universal, but with the *origin* of the universal absolutely for the sake of just such adaptation. If individual cases in experience never gave us any difficulty in identification, if they never set any problem, universals would simply not exist, to say nothing of being used. The universal is precisely such a statement of experience as will facilitate and guarantee the valuation of individualized experiences. It has no existence, as it has no check of validity, outside of such a function. In some case where science has already made considerable headway, we may, without error, speak as if universals were already at hand, and as if the only question were which one of them to pick out and employ. But such a way of speaking must not blind us to the fact that it was only because of the need of some more objective way of determining a given case that a universal ever originated and took on form and character. Did not the universal develop as medium of conciliation in just the same sort of situation of conflict as that in which it finds its use, such use would be absolutely arbitrary, and consequently without logical limit. The activity which selects and employs is logical, not extra-logical, just because the tool selected and employed has been invented and developed precisely for the sake of just such future selection and use.[2]

b) The individualized act (or choice) in judgments of identification shows itself not only in selection from a body of possibilities of the specific predicate required, but in the determination of the "This," or subject, as well. Students of logic are

[2] The point of view which is here presented is, of course, distinctly pragmatic. I am not quite sure, however, of the implications of certain forms of pragmatism. They sometimes seem to imply that a rational or logical statement is all right up to a certain point, but has fixed external limits, so that at critical points recourse must be had to considerations which are distinctly of an irrational or extra-logical order, and this recourse is identified with choice and "activity." The practical and the logical are thus opposed to each other. It is just the opposite which I am endeavoring to sustain, viz., that the logical is an inherent or organic expression of the practical, and hence is fulfilling its own logical basis and aim when it functions practically. I have no desire to show that what we term "science" is arbitrarily limited by *outside* ethical considerations; and that consequently science cannot intrude itself into the ethical sphere; but precisely the contrary, viz., that just because science is a mode of controlling our active relations with the world of experienced things, ethical experience is supremely in need of such regulation. And by "practical" I mean only regulated change in experienced values.

familiar with the distinction between the fact of particularity and the qualifications or distinguishing traits of a particular — a distinction which has been variously termed one between the "That" and the "What," or between "This" and "Thisness."[3] Thisness refers to a quality which, however sensuous it be (such as hot, red, loud), may yet in its own meaning belong equally well to a large number of particulars. It is something a presentation *has*, rather than what it just *is*. Such a variety of applications is involved in the very notion of quality. It makes all qualities capable of consideration as degrees. It is responsible for the ease with which names of qualities transform themselves into abstract terms, blue into blueness, loud into loudness, hot into heat, etc.

The particularity, or better, singularity, of the judgment is constituted by the immediate demonstrative reference of the "This."[4] This demonstrative character means a preferential selection; it is a matter of action. Or, from the psychological side, the sensory quality becomes specific only in motor response. Red, blue, hot, etc., as immediate experiences, always involve motor adjustments which determine them. Change the kind of motor adjustment and the quality of the experience changes; diminish it and the quality relapses more and more into indefinite vagueness. The selection of any particular "This" as the immediate subject of judgment is not arbitrary, however, but is dependent upon the end involved in the interest which is uppermost. Theoretically, any object within the range of perception, or any quality or any element of any one object, may function as the "This," or the subject-matter to be determined in judgment. Purely objectively, there is no reason for choosing any one of the infinite possibilities rather than another. But the aim in view (which, of course, finds its expression in the predicate of the judgment) gives a basis for deciding what object or what element of any object is logically fit. The implication of selective activity is thus an organic part of the logical operation, and not an arbitrary practical addition clapped on after the logical activity as such is complete. The very same interest which leads to the building up and selection of the universal leads to the constructive selection of the immediate data or material with reference to which the universal is to be employed.[5]

c) The experimental character of all scientific identification is a commonplace. It is so commonplace that we are apt to overlook its tremendous import — the unconditional necessity of overt activity to the integrity of the logical process as such. As we have just seen, an act is involved in the determination of both the predicate, or the interpreting meaning, and of the "This," or fact to be identified. Were not both of

[3] This distinction in recent logic has been brought out with great force and clearness by BRADLEY, *Principles of Logic* (London, 1883), pp. 63–7.

[4] It is hardly necessary to point out that the article "the" is a weakened demonstrative, and that the pronouns, including "it," all have demonstrative reference.

[5] Hence in accepting Bradley's distinction between "This" and "Thisness" we cannot accept the peculiar interpretation which he gives it. According to his way of looking at it, no strictly *logical* connection is possible between "This" and "Thisness." "Thisness" alone has logical significance; the "This" is determined by considerations entirely beyond intellectual control; indeed, it marks the fact that a reality lying outside of the act of judging has broken in upon, or forced itself into, a region of logical ideas or meanings, this peculiar and coercive irruption being an essential attendant of the *finite* extremely limited character of our experience.

these acts correlatives in a larger scheme of change of value in experience, they would both be arbitrary; and their ultimate appropriateness or adaptation to each other would be a sheer miracle. If one arbitrary act of choice reached forth to lay hold of some predicate from out the whole system of possible qualifications, while another act of choice, entirely independent in origin, reached out to seize a given area from the whole possible region of sense-perceptions, it would be the sheerest accident if the two selections thus made should fit into each other, should play into each other's hands.

But if one and the same end or interest operates in regulating both selections, the case stands quite otherwise. In such case, the experimental activity of verification is the carrying on of precisely the same purpose which found expression in the choice of subject and predicate respectively. It is in no sense a third process, but is the entire activity which we have already considered in two partial but typical aspects. The choice of meaning or predicate is always made with reference to the individual case to be interpreted; and the constitution of the particular objective case is always colored throughout by the point of view or idea with reference to which it is to be utilized. This reciprocal reference is the check or test continuously employed; and any particular more obvious experimental activity of verification means simply that conditions are such that the checking process is rendered overt.

I have now endeavored to show that if we take scientific judgment in its only ultimate form, viz., that which identifies or discriminates an individualized portion of experience, judgment appears as an act of judging; the act showing itself both in the selection and determination of the subject and the predicate, and in the determination of their values with reference or in respect to each other, and hence in deciding as to truth and validity.

Since in the discussion I have used a terminology which is hardly self-explanatory, and have introduced a variety of statements which to many will appear, in the present state or condition of logical discussion, to need rather than to afford support, I may point out that the force of the argument resides in matters capable of complete empirical confirmation. The truth or falsity of the conclusion reached depends upon these two notions:

First, every judgment is in its concrete reality an act of attention, and, like all attention, involves the functioning of an interest or end and the deploying of habits and impulsive tendencies (which ultimately involve motor adjustments) in the service of that interest. Hence it involves selection as regards both the object of attention and the standpoint and mode of "apperceiving" or interpreting. Change the interest or end, and the selected material (the subject of the judgment) changes, and the point of view from which it is regarded (and consequently the kind of predication) changes also.

Second, the abstract generalizing propositions of science have developed out of the needs of such individualized judgments or acts of attention; they have assumed their present form—that is, developed their characteristic structures or contents—as instrumentalities for enabling an individual judgment to do its work most effectively;

that is to say, to accomplish most surely and economically the end for which it is undertaken. Consequently the value or validity of such concepts is constantly checked through a use which, by its success and failure, passes upon the competency of general principles, etc., to serve the regulative function for which they are instituted.[6]

So far as the scientific judgment is identified as an act, all *a priori* reason disappears for drawing a line between the logic of the material of the recognized sciences and that of conduct. We are thus free to proceed, if we can find any positive basis. The recognition that the activity of judging does not exist in general, but is of such a nature as to require reference to an initial point of departure and to a terminal fulfilment, supplies exactly this positive ground. The act of judging is not merely an active experience at large, but one which requires specific motivation. There must be some stimulus which moves to performing this particular sort of act rather than some other. Why engage in that particular kind of activity that we call judging? Conceivably some other activity might be going on — the sawing of wood, the painting of a picture, the cornering of the wheat market, the administering of reproof. There must be something outside the most complete and correct collection of intellectual propositions which induces to engage in the occupation of judging rather than in some other active pursuit. Science furnishes conditions which are to be used in the most effective execution of the judging activity, *if* one means to judge at all. But it presupposes the If. No theoretical system can settle that the individual shall at a given moment judge rather than do something else. Only the whole scheme of conduct as focusing in the interests of an individual can afford that determining stimulus.

Not only must a practical motive be found for the use of the organized scientific system, but a similar motive must be found for its correct and adequate use. The logical value of any intellectual proposition, its distinctively logical significance as distinct from existence as mere *ens rationis*, depends upon practical, and ultimately upon moral, considerations. The interest must be of a kind not only to move the individual to judge, but to induce him to judge critically, bringing into use all necessary precautions and all available resources which may insure the maximum probability of truth in the conclusion. The system of science (employing the term "science" to mean an organized intellectual content) is absolutely dependent for logical worth upon a moral interest: the sincere aim to judge truly. Remove such an interest, and the scientific system becomes a purely æsthetic object, which may awaken emotional response in virtue of its internal harmony and symmetry, but which has no logical import. If we suppose, once more, that it is a case of identification of typhoid fever, it is the professional, social, and scientific interests of the physician which lead him to take the trouble and pains to get all the data that bear upon the

[6] It might check the prevalent tendency to draw sharp lines between philosophy as merely normative and the sciences as merely descriptive to realize that all generic scientific propositions, all statements of laws, all equations and formulæ, are strictly normative in character, having as their sole excuse for being, and their sole test of worth, their capacity to regulate descriptions of individual cases. And the view that they are shorthand registers, or abstract descriptions, confirms instead of refuting this view. Why make a shorthand and unreal statement if it does not operate instrumentally in first-hand dealings with reality?

forming of judgment, and to consider with sufficient deliberateness as to bring to bear the necessary instrumentalities of interpretation. The intellectual contents get a logical function only through a specific motive which is outside of them barely as contents, but which is absolutely bound up with them in logical function.

If the use made of scientific resources, of technique of observation and experiment, of systems of classification, etc., in directing the act of judging (and thereby fixing the content of the judgment) depends upon the interest and disposition of the judger, we have only to make such dependence explicit, and the so-called scientific judgment appears definitely as a moral judgment. If the physician is careless and arbitrary because of overanxiety to get his work done, or if he lets his pecuniary needs influence his manner of judgment, we may say that he has failed both logically and morally. Scientifically he has not employed the methods at command for directing his act of judging so as to give it maximum correctness. But the ground for such logical failure lies in his own motive or disposition. The generic propositions or universals of science can take effect, in a word, only through the medium of the habits and impulsive tendencies of the one who judges. They have no *modus operandi* of their own.[7]

The possibility of a distinctively moral quality attaching to an intellectual activity is due to the fact that there is no particular point at which one habit begins and others leave off. If a given habit could become entirely isolated and detached, we might have an act of judging dependent upon a purely intellectual technique, upon a habit of using specialized skill in dealing with certain matters, irrespective of any ethical qualifications. But the principle of the continuum is absolute. Not only through habit does a given psychical attitude expand into a particular case, but every habit in its own operation may directly or indirectly call up any other habit. The term "character" denotes this complex continuum of interactions in its office of influencing final judgment.

§ 4. THE LOGICAL CHARACTER OF ETHICAL JUDGMENT

We now recur to our original proposition: Scientific treatment of any subject means command of an apparatus which may be used to control the formation of judgments in all matters appertaining to that subject. We have done away with the *a priori* objection that the subject-matter to which recognized scientific judgments apply is so unlike that with which moral judgments are concerned that there is no common denominator. We are now free to revert to the original question: What are the differentiating logical conditions of a scientific treatment of conduct? Every sort of judgment has its own end to reach; and the instrumentalities (the categories and

[7] So far as I know, MR. CHARLES S. PIERCE was the first to call attention to this principle, and to insist upon its fundamental logical import (see *Monist*, Vol. II, pp. 534-6, 549-56). Mr. Pierce states it as the principle of continuity: A past idea can operate only so far as it is psychically continuous with that upon which it operates. A general idea is simply a living and expanding feeling, and habit is a statement of the specific mode of operation of a given psychical continuum. I have reached the above conclusion along such diverse lines that, without in any way minimizing the priority of Mr. Pierce's statement, or its more generalized logical character, I feel that my own statement has something of the value of an independent confirmation.

methods used) must vary as the end varies. If in general we conceive the logical nature of scientific technique, of formulæ, universals, etc., to reside in their adaptation to guaranteeing the act of judging in accomplishing a purpose, we are thereby committed to the further proposition that the logical apparatus needed varies as the ends to be reached are diverse. If, then, there is anything typically distinctive in the end which the act of ethical judging has to subserve, there must be equally distinctive features in the logic of its scientific treatment.

The question thus recurs to the characteristic differential features of the ethical judgment as such. These features readily present themselves if we return to those cases of scientific identification in which ethical considerations become explicit. There are cases, we saw, in which the nature of the identification — and its consequent truth or falsity — is *consciously* dependent upon the attitude or disposition of the judger. The term "consciously" differentiates a peculiar type of judgment. In all cases of individual judgment there is an act; and in all cases the act is an expression of motive, and thus of habit, and finally of the whole body of habit or character. But in many cases this implication of character remains a presupposition. It is not necessary to take notice of it. It is part of the practical conditions of making a judgment; but is no part of the logical conditions, and hence is not called upon to enter into a content — a conscious objectification in the judgment. To regard it as a practical instead of a logical condition means that while it is necessary to *any* judgment, the one act of judgment in question requires it no more than any other. It affects all *alike;* and this very impartiality of reference is equivalent to no reference at all as regards the truth or falsity of the particular judgment. Judging in such cases is controlled by reference to conditions of another quality than those of character; its presented data are judged in terms of objects of the same order or quality as themselves. Not only is there no conscious inclusion of motive and disposition within the content judged, but there is express holding off, inhibition, of all elements proceeding from the judger. From the standpoint of judgments of this type, such elements are regarded as logically merely subjective, and hence as disturbing factors with respect to the attainment of truth. It is no paradox to say that the activity of the agent in the act of judging expresses itself in effort to prevent its activity from having any influence upon the material judged. Accordingly through such judgments "external" objects are determined, the activity of the judger being kept absolutely neutral or indifferent as to its reference. The same idea is expressed by saying that the operation of motive and character may be presupposed, and hence left out of account, when they are so uniform in their exercise that they make no difference with respect to the *particular* object or content judged.

But whenever the implication of character, the operation of habit and motive, is recognized as a factor affecting the quality of the specific object judged, the logical aim makes it necessary to take notice of this fact by making the relationship an explicit element of content in the subject-matter undergoing judgment. When character is

not an indifferent or neutral factor, when it qualitatively colors the meaning of the situation which the judger presents to himself, a characteristic feature is introduced into the very object judged: one which is not a mere refinement, homogeneous in kind with facts already given, but one which transforms their significance, because introducing into the very content judged the standard of valuation. In other words, character as a practical condition becomes *logical* when its influence is preferential in effect—when instead of being a uniform and impartial condition of any judgment it is, if left to itself (or unstated), a determinant of *this* content-value of judgment rather than that. Put from the other side, in the "intellectual" judgment, it makes no *difference* to character *what* object is judged, so be it the one judged is judged accurately; while in the moral judgment the nub of the matter is the difference which the determination of the content as this or that effects in character as a necessary condition of judging *qua* judging.

The conscious reference to disposition makes the object an active object, viz., a process defined by certain limits—given facts on one side and the same facts as transformed by agency of a given type on the other. The object judged is active, not "external," because it requires an act of judging, not merely as antecedent, but as a necessary element in its own structure. In judgments of the distinctively intellectual type, the assumption is that such activity as is necessary to effect certain combinations and distinctions will keep itself outside the material judged, retiring as soon as it has done its work in bringing together the elements that belong together and removing those that have no business. But in the ethical judgment the assumption is in the contrary sense; viz., that the situation is made what it is through the attitude which finds expression in the very act of judging. From the strictly logical standpoint (without reference, that is, to overtly moral considerations) the ethical judgment thus has a distinctive aim of its own: it is engaged with judging a subject-matter, a definitive element in whose determination is the attitude or disposition which leads to the act of judging.

It follows immediately that the aim of the ethical judgment may be stated as follows: Its purpose is to construct the act of judgment as itself a complex objective content. It goes back of the judging act as that is employed in distinctively intellectual processes, and makes its quality and nature (as distinct from its form—a question for psychology) an object of consideration. Just because character or disposition is involved in the material passed in review and organized in judgment, character is determined by the judgment. This is a fact of tremendous ethical significance; but here its import is not ethical, but logical. It shows that we are dealing, from the strictly logical point of view, with a characteristic type of judgment—that in which the conditions of judging activity are themselves to be objectively determined. The judger is engaged in judging himself; and thereby in so far is fixing the conditions of all further judgments of any type whatsoever. Put in more psychological terms, we may say the judgment realizes, through conscious deliberation and choice, a certain motive hitherto more or less vague and impulsive; or it expresses a habit in such a way as not merely to strengthen it practically, but as to bring to consciousness both

its emotional worth and its significance in terms of certain kinds of consequences. But from the logical standpoint we say that the judger is consciously engaged in constructing as an object (and thereby giving objective form and reality to) the controlling condition of every exercise of judgment.

§5. THE CATEGORIES OF A SCIENCE OF ETHICS

The ethical judgment is one which effects an absolutely reciprocal determination of the situation judged, and of the character or disposition which is expressed in the act of judging. Any particular moral judgment must necessarily reflect within itself all the characteristics which are essential to moral judgment *überhaupt*. No matter how striking or how unique the material of any particular ethical experience, it is at least an ethical experience; and as such its consideration or interpretation must conform to the conditions involved in the very act of judging. A judgment which institutes the reciprocal determination just described has its own characteristic structure or organization. The work that it has to do gives it certain limiting or defining elements and properties. These constitute the ultimate Terms or Categories of all ethical science. Moreover, since these terms are reflected in every moral experience that is in course of judgment, they do not remain formal or barren, but are instruments of analysis of any concrete situation that is subjected to scientific scrutiny.

The distinctively intellectual judgment, that of construing one object in terms of other similar objects, has necessarily its own inherent structure which supplies the ultimate categories of all physical science. Units of space, time, mass, energy, etc., define to us the limiting conditions under which judgments of this type do their work. Now, a type of judgment which determines a situation in terms of character, which is concerned with constructing what may be termed indifferently an active situation or a consciously active agency, has a like logical title to the standpoints and methods; the tools, which are necessary to its task. Ethical discussion is full of such terms: the natural and the spiritual, the sensuous and the ideal, the standard and the right, obligation and duty, freedom and responsibility, are samples. The discussion and use of these terms suffer, however, from a fundamental difficulty. The terms are generally taken as somehow given ready-made and hence as independent and isolated things. Then theory concerns itself, first, with debating as to whether the categories have validity or not; and, secondly, as to what their specific significance is. The discussion is arbitrary precisely because the categories are not taken as limiting terms; as constituent elements in a logical operation which, having its own task to perform, must have the means or tools necessary for its successful accomplishing. Consequently the primary condition of a scientific treatment of ethics is that the fundamental terms, the intellectual standpoints and instrumentalities, used, be discussed with reference to the position they occupy and the part they play in a judgment of a peculiar type, viz., one which brings about the reciprocal objective determination of an active situation and a psychical disposition.

When the categories receive the fate which is meted out to them in current discussion, when they are taken up in accidental because isolated ways, there is no method of controlling formation of judgment regarding them. Consequently other judgments which depend upon their use are in an increasing measure uncontrolled. The very tools which are necessary in order that more specific judgments may work economically and effectively are only vaguely known as to their own structure and modes of operation. Naturally they are bungled in employ. Because categories are discussed as if they had some ready-made independent meaning, each of its own, there is no check upon the meaning which is assigned to any one of them, and no recognized standard for judging the validity of any. Only reference to a situation within which the categories emerge and function can furnish the basis for estimation of their value and import. Otherwise the definition of ultimate ethical terms is left to argumentation based upon opinion, an opinion which snatches at some of the more obvious features of the situation (and thereby may always possess some measure of truth), and which, failing to grasp the situation as a whole, fails to grasp the exact significance of its characteristic terms. Discussion, for instance, about what constitutes the ethical standard—whether conduciveness to happiness, or approximation to perfection of being—must be relatively futile, until there is some method of determining by reference to the logical necessity of the case what *anything* must be and mean in order to be a standard at all. We lack a definition of standard in terms of the essential conditions of the ethical judgment and situation. Such a definition of standard would not indeed give us an off-hand view of the make-up of moral value such as might be utilized for forming moral precepts, but it will set before us certain conditions which any candidate for the office of moral standard must be capable of fulfilling; and will thereby serve as an instrument in criticising the various claimants for the position of standard, whether these offer themselves in generic theory or in the affairs of concrete conduct. Similarly, theorists have been attempting to tell what the ideal of man is, what is *summum bonum*, what is man's duty, what are his responsibilities, to prove that he is possessed or not possessed of freedom, without any regulated way of defining the content of the terms "ideal," "good," "duty," etc. If these terms have any verifiable proper meaning of their own, it is as limiting traits of that type of judgment which institutes the reciprocal identification of psychical attitude in judging and subject-matter judged. An analysis of the make-up of judgment of this type must reveal all the distinctions which have claim to the title of fundamental ethical categories. Whatever element of meaning reveals itself as a constituent part of such a judgment has all the claim to validity which moral experience itself possesses; a term which is not exhibited within such an analysis has no title to validity. The differential meaning of any one of the terms is dependent upon the particular part it plays in the development and termination of judgments of this sort.

§ 6. PSYCHOLOGICAL ANALYSIS AS A CONDITION OF CONTROLLING ETHICAL JUDGMENTS

If it be true that a moral judgment is one in which the content finally affirmed is affected at every point by the disposition of the judger (since he interprets the situation that confronts him in terms of his own attitude), it follows at once that one portion of the generic theory necessary for adequate control of individual moral judgments will consist in an objective analysis of disposition as affecting action through the medium of judgment. Everyone knows, as simple matter of fact, that a large part of existing treatises on morals are filled with discussions concerning desirable and undesirable traits of character—virtues and vices; with conscience as a function of character; with discussions of intention, motive, choice, as expressions of, and as ways of forming, character. Moreover, a concrete discussion of freedom, responsibility, etc., is carried on as a problem of the relationship of character to the media of action. The reciprocal determination, already set forth, of character and the content judged shows that such discussions are not mere practical desiderata, nor yet a mere clearing up of incidental points, but integral portions of any adequate ethical theory.

If character or disposition reflects itself at every point in the constitution of the content finally set forth in judgment, it is clear that control of such judgment depends upon ability to state, in universalized form, the related elements constituting character an objective fact.[8] Our particular judgments regarding physical things are controlled only in so far as we have, independent of and prior to any particular emergency in experience, a knowledge of certain conditions to be observed in judging every physical object as physical. It is through reference to such laws, or statements of connected conditions, that we get the impartiality or objectivity which enables us to judge in a particular crisis unswerved by purely immediate considerations. We get away from the coercive immediacy of the experience, and into a position to look at it clearly and thoroughly. Since character is a fact entering into any moral judgment passed, ability of control depends upon our power to state character in terms of generic relation of conditions, which conditions are detachable from the pressure of circumstance in the particular case. Psychological analysis is the instrument by which character is transformed from its absorption in the values of immediate experience into an objective, scientific, fact. It is indeed, a statement of experience in terms of its modes of control of its own evolving.

Even popular consciousness is aware of many ways in which psychical dispositions modify judgment in a moral sense; and is accustomed to take advantage of its knowledge to regulate moral judgments. A score of proverbs could be collected expressing ways in which psychological attitudes affect moral valuation. The ideas in

[8] Of course, the terms "object" and "objective" are used in a logical sense, not as equivalent to "physical," which denotes simply one form which the logical object may take. DR. STUART'S article on "Valuation as a Logical Process" in *Studies in Logical Theory* (The University of Chicago Press, 1903) may be referred to for a discussion of the study of the logical significance of the term "object" and its bearing upon the objectivity of economic and ethical judgments.

such statements as the following are commonplaces to the plain man: Habit, wont, and use dull the power of observation; passion blinds and confuses the power of reflection; self-interest makes the judger alert to certain aspects of the situation judged; impulse hurries the mind on uncritically to a conclusion; ends, ideals, arouse, when contemplated, emotions that tend to fill consciousness, and which, as they swell, first restrict and then eliminate power of judgment. Such statements, which might be indefinitely increased, are not only popularly known, but are commonly used in formation of a kind of hygiene of moral action.

Psychology proper differs from the aggregate of such statements through setting forth *how* various dispositions operate in bringing about the effects attributed to them. Just what are the various distinguishable psychical attitudes and tendencies? How do they hang together? How does one call forth or preclude another? We need an inventory of the different characteristic dispositions; and an account of how each is connected, both in the way of stimulation and inhibition, with every other. Psychological analysis answers this need. While it can answer this need only through development of scientific constructs which present themselves in experience only as results of the psychological examination, yet it is true that the typical attitudes and dispositions are familiar as functions of every-day experience. It is equally true that even the most atomic psychology employs generalized statements about the ways in which certain "states of consciousness" or elements (the constructs referred to) regularly introduce certain other "states." The theory of association is, indeed, just a generalization concerning an objective sequence of elements which reflects to the psychologist the sequence of attitudes or dispositions which are found in the immediate course of experience. In particular the sensationalists not only admit but claim that the association of other states of consciousness with states of pleasure and pain have uniform tendencies which may be reduced to universal propositions; and which may be employed to formulate principles exhibited in all conduct. If such is the case with psychological atomism, every step toward recognition of a more organized, or inherently complex, mental structure multiplies the number and range of possible propositions relating to connection of conditions among psychic states—statements which, if true at all, have exactly the same logical validity that is possessed by any "physical law." And in so far as these "states" are symbols of the attitudes and habits which operate in our immediate experience, every such proposition is at once translatable into one regarding the way in which character is constituted—just the type of generic statement required by a scientific ethics.

Psychology of course does not aim at reinstating the immediate experience of the individual; nor does it aim at describing that experience in its immediate values, whether aesthetic, social, or ethical. It reduces the immediate experience to a series of dispositions, attitudes, or states which are taken as either conditions or signatures of life-experience. It is not the full experience-of-seeing-a-tree it is concerned with, but the experience reduced by abstraction to an attitude or state of perception; it is not the concrete getting angry, with all its personal and social implications, but anger

as one species of a generic psychic disposition known as emotion. It is not concerned with a concrete judgment as such—to say nothing of moral judgment. But psychological analysis finds in experience the typical attitudes it deals with, and only abstracts them so that they may be objectively stated.

Every statement of moral theory which purports to relate to our moral consciousness sets forth relations whose truth must ultimately be tested through psychological analysis—just as every judgment regarding a specific physical phenomenon must finally satisfy certain generic conditions of physical reality set forth in physical analysis.

Psychological analysis does not, for example, set before us an end or ideal actually experienced, whether moral or otherwise. It does not purport to tell us *what* the end or ideal is. But psychological analysis shows us just what forming and entertaining an end means. Psychological analysis abstracts from the concrete make-up of an end, as that is found as matter of direct experience, and because of (not in spite of) that abstraction sets before us having-an-end in terms of its conditions and its effects, that is, in terms of taking other characteristic attitudes which are present in other experiences.

Hence purely psychologic propositions are indispensable to any concrete moral theory. The logical analysis of the process of moral judgment, setting forth its inherent organization or structure with reference to the peculiar logical function it has to accomplish, furnishes the categories or limiting terms of ethical science, and supplies their formal meaning, their definition. But the logical category, say, of end or ideal becomes concrete only as some individual has actually experience of and with ends—and this involves the act or attitude of forming and entertaining them. So the category of standard becomes more than a possible intellectual tool only as some individual actually engages in an experience concerned with right and wrong, and which, when viewed objectively, is regarded as a judgment. The entertaining of ends, the adjudging of values—such acts are character-phenomena. Considered in abstraction from their immediate matter in experience, viz., just as acts, states, or dispositions, they are character-phenomena as these present themselves to psychological analysis. Even to consider any experience, or any phase of an experience, an ideal is to reflect upon that experience; it is to abstract and to classify. It involves passing judgment *upon* an experience; something beyond the concrete experiencing. It is, as far as it goes, psychological analysis—that is, it is a process of exactly the same order and implying just the same distinctions and terms as are found in psychological science. But the latter, in making abstraction and classification conscious processes, enables us to control them, instead of merely indulging in them.

Hence it is futile to insist that psychology cannot "give" the moral ideal, and that consequently there must be recourse to transcendental considerations—to metaphysics. Metaphysics, in the sense of a logical analysis of that type of judgment which determines the agent and the content of judgment in complete reciprocity to each other, may

"give" the ideal—that is, it may show how the form or category of ideal is a constitutive element in this type of judgment, and hence has whatever of validity attaches to this mode of judging. But such a logical analysis is far from transcendental metaphysics; and in any case we thus obtain only the category of ideal as a standpoint or terminus of a *possible* moral judgment. There is no question here of ideal as immediately experienced. Only living, not metaphysics any more than psychology, can "give" an ideal in this sense. But when ethical theory makes statements regarding the importance of ideals for character and conduct, when it lays stress upon the significance of this, rather than that, kind of ideal, it is engaged in setting forth universal relations of conditions; and there is absolutely no way of testing the validity of such statements with respect to their claim of generality or objectivity save by an analysis of psychic dispositions which shows what is meant by having-an-ideal in terms of its antecedents and consequences. If any general statement whatsoever can be made about ideals, it is because the psychic attitude corresponding to conceiving an ideal can be abstracted, and placed in a certain connection with attitudes which represent abstracts of other experiences. To have an ideal, to form and entertain one, must be a fact, or else ideals are absolute non-existence and non-sense. To discuss what it is to have an ideal is to engage in psychological analysis. If the having-an-ideal can be stated in terms of sequence with other similar attitudes, then we have a psychological generic statement (or law) which can be employed as a tool of analysis in reflecting upon concrete moral experiences, just as the "law" of falling bodies is of use in controlling our judgment of pile-drivers, the trajectory of shells, etc. The possibility of *generalized propositions* regarding any character-phenomenon stands and falls with the possibility of psychological analysis revealing regular association or co-ordination of certain tendencies, habits, or dispositions with one another. Hence the continued reiteration that psychology as a natural science deals only with facts, while ethics is concerned with values, norms, ideals which *ought* to be whether they exist or no, is either aside from the point, or else proves the impossibility of making any general statements, metaphysical as well as practical and scientific, about such matters.

§7. SOCIOLOGICAL ANALYSIS AS A CONDITION OF CONTROLLING ETHICAL JUDGMENTS

We revert once more to our fundamental consideration: the reciprocal determination in moral judgment of the act of judging and the content judged. As we have just seen, adequate control of an act as determining a content involves the possibility of making character an object of scientific analysis—of stating it as a system of related conditions or an object complete in itself—a universal. We have now to recognize the converse, viz., that we can control the judgment of the act, hence of character as expressed in act, only as we have a method of analyzing the *content* in itself—that is, in abstraction from its bearings upon action.

The ethical problem needs to be approached from the point of view of the act as modifying the content, and of the content as modifying the act; so that, on one hand, we require, prior to a particular moral crisis, a statement in universal terms of the mechanism of the attitudes and dispositions which determine judgment about action; while, on the other hand, we need a similar prior analysis and classification of the situations which call forth such judgment. Which portion of the scientific apparatus we bring most prominently into play in any given case depends upon the circumstances of that case as influencing the probable source of error. If the situation or scene of action (by which we mean the conditions which provoke or stimulate the act of moral judging) is fairly familiar, we may assume that the source of error in judgment lies in the disposition which is back of the experience — that if we can only secure the right motive on the part of the judger, the judgment itself will be correct. In other cases circumstances are reversed. We can fairly presuppose or take for granted a right attitude on the part of the judger; the problematic factor has to do with the interpretation of the situation. In this case what is needed for right judgment is a satisfactory knowledge of the "facts of the case." Given that, the existing motive will take care of the rest. It is this latter aspect of the matter that we now have to discuss.

The only way in which the agent can judge himself as an agent, and thereby control his act — that is, conceive of himself as the one who is to do a certain thing — is by finding out the situation which puts upon him the necessity of judging it in order that he may decide upon a certain course of action. As soon as a conclusion is reached as to the nature of the scene of action, a conclusion is also reached as to what the agent is to do, and this decides in turn what sort of an agent he is to be. The merely intellectual judgment may be marked off as one in which a content or object is fixed in terms of some other object or content, homogeneous in worth, and where accordingly it is a necessary part of the procedure to suppress participation in judging of traits which proceed from, or refer to, the disposition of the judger. But judgments which are ethical (not merely intellectual) make no such abstraction. They expressly and positively include the participation of the judger in the content judged, and of the object judged in the determination of the judger. In other words, the object judged or situation constructed in moral judgment is not an external object, cold, remote, and indifferent, but is most uniquely, intimately, and completely the agent's own object, or is the agent *as object*.

Such being the case, what is required in order to form such a judgment of the scene or conditions of action as will facilitate the most adequate possible construing of the agent? I reply: A social science which will analyze a content as a combination of elements in the same way that psychological analysis determines an act as a set of attitudes. It is assumed that the situation which calls forth distinctively moral judgment is a social situation, which accordingly can be adequately described only through methods of sociological analysis. I am aware that (even admitting the neces-

sity of some sort of scientific interpretation of the scene of action) it is something of a jump to say that such science must be sociological in character. The logical gap could be covered only by carrying the discussion of the categories of moral judgment to the point where their social value would explicitly show itself. Such analysis is apart from my present purpose. Here I need only recur to the proposition of the reciprocal determination, in the ethical judgment, of the judger and the content judged, and suggest that this idea requires in its logical development the conclusion that, since the judger is personal, the content judged must ultimately be personal too —so that the moral judgment really institutes a relationship between persons, relationship between persons being what we mean by "social."

But in any case, some way of getting an objective statement of the situation, a statement in terms of connection of conditions, is necessary. Certain descriptive sciences are necessary and in many cases no one would deny that elements of associated life enter into the facts to be described. But even if it be admitted that the scene is social, this characterization does not exhaust the description. Any scene of action which is social is *also* cosmic or physical. It is also biological. Hence the absolute impossibility of ruling out the physical and biological sciences from bearing upon ethical science. If ethical theory require, as one of its necessary conditions, ability to describe in terms of itself the situation which demands moral judgment, any proposition, whether of mechanics, chemistry, geography, physiology, or history, which facilitates and guarantees the adequacy and truth of the description, becomes in virtue of that fact an important auxiliary of ethical science.

In other words, the postulate of moral science is the continuity of scientific judgment. This proposition is denied by both the materialistic and transcendental schools of metaphysics. The transcendental school draws such a fixed line between the region of moral and of cosmic values that by no possibility can propositions which refer to the latter become auxiliary or instrumental with respect to the former. The fact that advance of physical and biological science so profoundly modifies moral problems, and hence moral judgments, and hence once more moral values, may serve as an argument against transcendental ethics—since, according to the latter, such obvious facts would be impossibilities. Materialism denies equally the principle of continuity of judgment. It confuses continuity of method, the possibility of using a general statement regarding one object as a tool in the determination of some other, with immediate identity of subject-matter. Instead of recognizing the *continuity* of ethical with other forms of experience, it wipes out ethical experience by assimilating it not simply with reference to logical method, but in its own ontological structure, to another form of objects defined in judgment—that is, the physical form. If it is once recognized that *all* scientific judgments, physical as well as ethical, are ultimately concerned with getting experience stated in objective (that is, universal) terms for the sake of the direction of further experience, there will, on the one hand, be no hesitation in using any sort of statement that can be of use in the formation of other judg-

ments, whatever be their topic or reference; and, on the other hand, there will be no thought of trying to explain away the *distinctive* traits of any type of experience. Since conscious life is continuous, the possibility of using any one mode of experience to assist in the formation of any other is the ultimate postulate of *all* science — non-ethical and ethical alike. And this possibility of use, of application, of instrumental service, makes it possible and necessary to employ materialistic science in the construction of ethical theory, and also protects in this application ethical values from deterioration and dissolution.

In conclusion, it may avoid misapprehension if I say that the considerations set forth in this paper do not involve any pedantic assumption regarding the necessity of using science, or logical control, in any particular instance of moral experience. The larger part, infinitely the larger part, of our concrete contact with physical nature takes place without conscious reference to the methods, or even the results, of physical science. Yet no one questions the fundamental importance of physical science. This importance discovers itself in two ways:

First, when we come to peculiarly difficult problems (whether of interpretation or of inventive construction), physical science puts us in possession of tools of conscious analysis and of synthesis. It enables us to economize our time and effort, and to proceed with the maximum probability of success to solution of the problem which confronts us. This use is conscious and deliberate. It involves the critical application of the technique and already established conclusions of science to cases of such complexity and perplexity that they would remain unsolved and undealt with, were it not for scientific resources.

In the second place, physical science has a wide sphere of application which involves no conscious reference whatsoever. Previous scientific methods and investigations have taken effect in our own mental habits and in the material dealt with. Our unconscious ways of apprehending, of interpreting, of deliberating, are saturated with products of prior conscious critical science. We thus get the benefit, in our intellectual commerce with particular situations, of scientific operations which we have forgotten, and even of those which we individually have never performed. Science has become incarnate in our immediate attitude toward the world about us, and is embodied in that world itself. Every time that we solve a difficulty by sending a telegram, crossing a bridge, lighting the gas, boarding a railroad train, consulting a thermometer, we are controlling the formation of a judgment by use of so much precipitated and condensed science. Science has pre-formed, in many of its features, the situation with reference to which we have to judge; and it is this objective delimitation and structural reinforcement which, answering at every point to the conformation of habit, most assists intelligence in the details of its behavior.

There is every reason to suppose that the analogy holds with reference to a science of conduct. Such a science can be built up only through reference to cases which at the outset need conscious critical direction in judgment. We need to know what the

social situation is in which we find ourselves required to act, so that we may know what it is right to do. We need to know what is the effect of some psychical disposition upon our way of looking at life and thereby upon our conduct. Through clearing up the social situation, through making objective to ourselves our own motives and their consequences, we build up generic propositions: statements of experience as a connection of conditions, that is, in the form of objects. Such statements are used and applied in dealing with further problems. Gradually their use becomes more and more habitual. The "theory" becomes a part of our psychical apparatus. The social situation takes on a certain form or organization. It is pre-classified as of a certain sort, as of a certain genus and even species of this sort; the only question which remains is discrimination of the particular variety. Again, we get into the habit of taking into account certain sources of error in our own disposition as these affect our judgments of behavior, and thereby bring them sufficiently under control so that the need of conscious reference to their intellectual formulation diminishes. As physical science has brought about an organization of the physical world along with an organization of practical habits of dealing with that world, so ethical science will effect an organization of the social world and a corresponding organization of the psychical habits through which the individual relates himself to it. With this clearing up of the field and organs of moral action, conscious recourse to theory will, as in physical cases, limit itself to problems of unusual perplexity and to constructions of a large degree of novelty.

SUMMARY

1. By "scientific" is meant methods of control of formation of judgments.

2. Such control is obtained only by ability to abstract certain elements in the experience judged, and to state them as connections of conditions, *i. e.*, as "objects," or universals.

3. Such statements constitute the bulk of the recognized sciences. They are generic propositions, or laws, put, as a rule, in the hypothetic form if *M*, then *N*. But such generic propositions are the instruments of science, not science itself. Science has its life in judgments of identification, and it is for their sake that generic propositions (or universals, or laws) are constructed and tested or verified.

4. Such judgments of concrete identification are individualized, and are also acts. The presence of action as a logical element appears indirectly in (*a*) the selection of the subject, (*b*) the determination of the predicate, and (*c*) most directly in the copula—the entire process of the reciprocal forming and testing of tentative subjects and predicates.

5. Judgments are "intellectual" in logical type so far as this reference to activity may be presupposed, and thereby not require to be consciously set forth or exposed. This happens whenever the action involved is impartial in its influence upon the quality of the content judged. Judgments are "moral" in logical type so far as the presence of activity in affecting the content of judgment is seen consciously to affect

itself—or whenever the reciprocal determination of activity and content becomes itself an object of judgment whose determination is a prerequisite for further successful judgments.

6. Control of moral judgment requires ability to constitute the reciprocal determination of activity and content into an object. This has three phases: First, a statement of the limiting forms of that type of judgment which is concerned with construing an activity and a content in terms of each other. The limiting terms of such a type of judgment constitute the characteristic features, or categories, of the object of ethical science, just as the limiting terms of the judgment which construes one object in terms of another object constitute the categories of physical science. A discussion of moral judgment from this point of view may be termed "The Logic of Conduct." Second, an abstraction of the activity, which views it as a system of attitudes or dispositions involved in having experiences, and states it (since a system) as an object constituted by definite connections of diverse attitudes with the attitude of judging—viz., the science of psychology. Third, a similar abstraction of the "content," which views it as a system of social elements which form the scene or situation in which action is to occur, and with reference to which, therefore, the actor is to be formed—viz., sociological science.

7. The whole discussion implies that the determination of objects as objects, even when involving no conscious reference whatever to conduct, is, after all, for the sake of the development of further experience. This further development is change, transformation of existing experience, and thus is *active*. So far as this development is intentionally directed through the construction of objects as objects, there is not only active experience, but *regulated activity*, *i. e.*, conduct, behavior, practice. Therefore, all determination of objects as objects (including the sciences which construct physical objects) has reference to change of experience, or experience as activity; and, when this reference passes from abstraction to application (from negative to positive), has reference to conscious control of the nature of the change (*i. e.*, conscious change), and thereby gets ethical significance. This principle may be termed *the postulate of continuity of experience*. This principle on the one hand protects the integrity of the moral judgment, revealing its supremacy and the corresponding instrumental or auxiliary character of the intellectual judgment (whether physical, psychological, or social); and, upon the other, protects the moral judgment from isolation (*i. e.*, from transcendentalism), bringing it into working relations of reciprocal assistance with all judgments about the subject-matter of experience, even those of the most markedly mechanical and physiological sort.

SCIENTIFIC METHOD IN EDUCATION

SCIENTIFIC METHOD IN EDUCATION

ELLA FLAGG YOUNG

SCIENCE cannot complain of neglect by modern society. Her methods, her discoveries, her inventions, are greeted with appreciative applause. Even her terminology, technical and complicated as it may be, is rapidly absorbed into the popular phraseology of the day. In truth, scientific terms often supply for many a speaker, befogged in his own rhetoric, a happy explanation of the complex and problematical, and a short cut to the conclusion of a controversy. This ready use of the language of science is not, however, all gain, for the very ease with which scientific terms are made to do service helps obscure those implications which are vital to the subject.

So rapidly do new terms crystallize into symbols for that which is explicit only, that the implicit elements soon cease to be included in the meaning of the symbols. In this tendency toward a limitation of the meaning of a comprehensive term, a remarkable retroaction sets in; for that which is ignored because not expressed, there is substituted a phase of traditional belief which the new, rightly understood, negates. This substitution is well illustrated in the application of the theory of evolution. That great theory of life implies more than mere continuity or succession—something like growth or definite change from form to form under the action of immutable laws[1]—"laws of nature." The ideas involved in the term the "laws of nature" have not received the attention and thought which would give to the popular mind a comprehension of their full significance; but the change which may be effected in opposition to conditions which would obtain if the species were immutable is accepted as possible and supposed to include the natural forces acting in inducing modifications. Having ejected immutable from the conception of species, the ready recipient of new scientific terms rushes on to the conclusion that nothing in the being is immutable, hence the immutability is in an external force. The result is a re-establishment of the conception of external causation, and a change induced by an external force.

It would be a delicate task to attempt a comparison of the retarding influence of opposition to the acceptance of a great theory of life, and the reactionary tendency in a ready acceptance based on a misconception of those conditions which are implied. Tradition is an effective factor in making human society stable. It is active in both attitudes toward the new, but with this difference: in that of opposition, it is a recognized authority; in that of ready acceptance, it is an unseen power supposed to be deposed when in reality it is merely in a new dress.

Few minds are competent to weigh the meaning of that which has been handed down with the meaning of that which is animated by the new spirit. The incompetency

[1] WALLACE, "Evolution," *The Progress of the Century*, p. 4.

lies not so much in the inability to note the facts involved as in the lack of scientific method in interpreting the underlying principles. The failure to search for and find an hypothesis that makes the life-process basic results in long-continued efforts to include the traditional in the new theory, for tradition deals with facts, not with principles. Pressed for an explanation of the significance of evolution, the advocate who accepts facts without searching for the underlying law falls back upon Darwin's *Descent of Man*, gathering it up in three words: monkey, evolution, man. There is the poor monkey, then the law of evolution seizing him and molding him whether he will or no, and at last man, the outcome of that mighty force working on monkey. It is this reduction of the history of man to that of a unit of a given type, acted upon by an external force and transformed into a new type that gives rise to the question, Why do not monkeys continue to become men? The effective force is to the popular mind very like the jackknife in the transformation of a goose-quill into a pen.

Juggling with theories which have been so long accepted as to take on the authority of established truth is not peculiar to the popular mind. Philosophers and scientists have through like confusion retarded the advance of new ideas. It is not, therefore, strange that teachers and writers on education have halted on the same plane with them, and defined the new in scientific terms freshly coined but with the old significations embodied therein.

It is needless to state that the misconception of evolution which established external causation in full control of the monkey has been equally active in the generally accepted theories of the education of the human being. Naturally, it was agreed that the force which was effective in the evolution of the species must be effective in the development of the individual. That is sound doctrine, but when its advocates proceed to interpret without investigating, to rehabilitate old notions which the investigation would show hostile to the new, the soundness counts for little in the outcome. Although "development" is a word to conjure with in educational circles, the men and women who use it substitute, as a rule, external causation for the law of nature; and change induced by action of the external power, for growth through the activity of nature working in accord with its unchanging law.

The great advance of science which has brought the modern world to her feet, has been due to a habit of mind that subjects all facts to an impartial, sympathetic investigation called scientific. The attitude of the scientist is that of the intelligent seeker after truth. This attitude cannot be taken by one whose premises are false, or whose conclusions are biased by individual likes and dislikes. Scientific method is the method, the attitude of mind, that makes a search for the principle under which facts observed may be explained in their relations and made significant. The principle or "natural law" sought is a statement or formulation worked out by the scientific imagination in getting at the relations and meanings of conditions and sequences observed. It is a law controlling the procedure of the investigator and the practitioner. "We should hold fast to it until either the results to which it leads

involve us in contradictions, or until some other truth becomes plain to us, from which we are able to understand how a proposition, now seen to be false, came to present the appearance of a self-evident truth."[2] When the workers in every branch of modern society began to advocate method in their particular field, it was to be expected that method would be applied to the problems of education, and it was. Educational method has, however, disclaimed the name of science, and rightly too. It started with the expressed aim of setting conditions that would be conducive to the development of the child according to the law of its being. Its terms have been those of evolution and development, but its meanings have been the meanings of pre-Darwinian times. With the magnification of the teacher as the external force, whose chief office was to prepare the nutritious food in layers so that it should be taken in accord with the determined laws of nature, there has been a steady growth of non-scientific methods in the schools. To plan and conduct a recitation so that the learner shall neither hesitate nor stumble have become the alpha and omega of so-called educational method.

Incredible as it may seem, on the one hand, the intellectual world exalts the simplicity and learning, the appreciation and acumen that characterize scientific method; on the other hand, it accepts the complexity and pedantry, the depreciation and slowness of perception that characterize educational methods, and decries method in education instead of condemning that educational method which is not scientific. It is but a few years since the president of Columbia University referred to "the machine methods and dull, uninspiring class exercises of our average academy."[3]

What are the ideas which are fundamental in the present-day conception of the development of the human being? What are the conditions and sequences observed, and what the relations and meanings given them by the scientific imagination of the student of the theory and art of education? The first condition posited by the veriest tyro in thinking on development is the same that is stated by the educational philosopher to be "the great central fact to be kept in view in the study of mind—self-activity."[4] The second condition is an environment that furnishes opportunities for the use of potential powers. "Only a self can be educated . . . . a being which is through itself, and not one that is made by surrounding conditions."[5] Theorists in education and teachers not only accept the conditions set by Dr. Harris as fundamental, but very generally express themselves in the same terms that he uses.

It is difficult in a few lines to enter into a discussion of the sequences resulting from the interconnection of the activity, called the human being, and the environment, natural and social. Necessarily they appear in two sets: first, the subjective sequences —sensations, images, and ideas which the activity develops out of the stimuli in the environment; second, the objective sequences—bodily and facial expressions, gestural

[2] LOTZE, *Logic* (translated by BOSANQUET), Vol. II, p. 309.

[3] BUTLER, "Is there a New Education?" *The Meaning of Education*, pp. 76, 77.

[4] HARRIS, *Psychologic Foundations of Education*, p. 23.

[5] *Ibid.*, p. 153.

and verbal language, art and utilitarian productions, through which the self-active being makes itself known to the world. It is by observation of the second, the objective, sequences that the desired information about the subjective sequences of another being is obtained. The scientific imagination can get at the relations and meanings of the subjective data, in so far as it interprets and unifies the objective in a coherent whole.

To this position, as indicative of a demand for a knowledge of psychology on the part of every teacher, some psychologists would seem to take exception; but a careful reading of all they have written on the question shows them fearful that the machines of the experimental-psychological laboratory may become a part of the equipment of the schoolroom, and the theories of the speculating psychologist be incorporated in the educational theory of the teacher of boys and girls.[6] I know of no psychologist of recognized standing who dissents from the opinion that there are some psychological conceptions which should be a part of the mental equipment of the teacher.[7] In all walks and stations in social life we meet persons not supposed to have either a well-developed scientific imagination or an interest in the conceptions of psychology, and yet who evidence the possession in a high degree of the power of observation of the objective signs, and of interpretation of the subjective data from which their significance is derived; and also a scientific imagination which evaluates and unifies the activities of the person observed. The expressions in which they sum up their failure to construct a satisfying, coherent being behind the mental phenomena are familiar—"I can't understand him; his ways are too much for me;" "I can explain to my satisfaction everything she has done thus far, but I have no idea as to what she will do next." These homely remarks are repeated, to remind the reader of the almost general possession of the gift to read the meanings of the acts of others and to project their future acts.

It must be conceded, however, that in observation of the development of mind there is not so general power. It is possible that the doctrine of original sin has made it more difficult to grasp the idea of development as a growth of inherent tendencies in the case of man than in the case of animals and plants. Many approach the study of a developing mind with the accepted formula that it is by inhibition of its natural tendencies and the substitution of other modes of activity that mind grows. No one would attempt to repress the action of the law of its nature in a kitten or a hyacinth bulb and expect a normal cat or plant. As one's conception of the native equipment of the human being, and the development of the impulses[8] and instinctive tendencies becomes clear and definite, there is a comprehension of the idea of the order of growth in power within the subjective sequences.

In educational method there is a common mistake which originates in the perception that the fact or perceptual phase of an object or action is more apparent to a child

[6] MÜNSTERBERG, *Psychology and Education, Psychology and Life.*

[7] JAMES, *Talks to Teachers*, I.

[8] DEWEY, *The Study of Ethics*, chap. iii, secs. ix-xii.

than is the truth or conceptual phase. The resulting mistake lies in the teaching of children in the kindergarten and the primary grades as if the percept were developed in advance of the concept. If the method were psychologic in its premises a conception of the development of the percept and concept together would be active instead of the perception only. Reflection on Baldwin's second element in attention[9] shows easily the beginnings of conceptual activity in the earliest movements of mind.

Educational method has ever recognized attention as the cardinal virtue in the school. It has not, however, defined it as "a function of organization, a function which grows with the growth of knowledge, reflects the state of knowledge, holds in its own integrity the system of data already organized in experience."[10] It has defined attention as concentration only, and that as concentration *upon* a presentation rather than concentration *of* the selected data of the presentation and the data of experience. It has been so oblivious to the unifying activity of attention as to suggest among "exercises for the culture of attention: spelling, by having each child in succession name one letter of the word; pronouncing sentences or lists of unrelated words, and having children reproduce them orally and in writing."[11] The narrow idea of attention embodied in the "suggestions" brings forward the cause of more than half the dulness and inability in children to understand the subject of the recitation; it is the nonrecognition of the difference in the dominant types of imagery in children who are of a different type from that provided for by the author of the method, or that of the teacher. This, however, is not the place for an exposition of the specific lines in which educational methods have failed because of their narrow range and unscientific attitude.

Educational method to be of worth should be scientific method applied to the art of teaching. The method of the teacher is simply an attitude of mind like that of the scientist. There are two elements involved, the learning mind and the subject-matter or environment. To have an intimate acquaintance with each, to appreciate the expectant longing of mind, to interpret its responses to stimuli, to form valid conceptions of the activity and assimilating power of each child in the environment made by the subject, is to have a method in teaching which covers the entire range of that great art. It is to have the method of science applied to education. This means that the teacher should have *a* method applicable to every subject, in every division of the school beginning with the kindergarten and extending through the graduate school. A distinct method for every subject is not necessary any more than a special scientific method for each branch of science would be necessary. Whatever be the subject one is teaching the aim is identical with that of all other subjects taught: to determine how mind is working with the material in its environment, what nourishment it is selecting and assimilating.

The two elements involved cannot be passed by with so slight attention as is given by specifying them as children and subject-matter. To teach children necessitates

[9] BALDWIN, *Mental Development in the Child and the Race*, chap. xi, sec. 2.

[10] IDEM, *Development and Evolution*, p. 252.

[11] *Systematic Methodology*, p. 95.

a knowledge of the method of mind, the laws of mental activity which are invariable in normal beings—but there is no word which the modern teacher in the elementary school fears more than law thus applied. This fear rests largely upon the interpretation given the meaning of natural law. With a vivid recollection of the logical method of the schools in the past, a method which imposed upon the child and the student the summing up of the adult's conclusions, it has come about that law of mind refers to this logical order, that is, that the term is used in the juridical sense. Because there has been a misunderstanding about the meaning of the law of the mental life or of mental activity, it does not follow that we must be so restricted as to forego forever the use of the word as well as ignore the idea for which it stands. We might illustrate this in the formation of habit: If children try to form certain habits because of a feeling of obligation which has been reasoned out—possibly on the ground that it is their duty to get from the teacher all they can because their parents are trying to give them an education, or because the teacher is put over them and therefore is superior to them—then attention to the formation of habits is the result of obedience to parental or school law. On the other hand, if the material which they have in mind and their interests cause them to attend to the various stimuli coming from the object, and repeat the responses until they are easy, automatic, then the children are following the law of their being and the attention is given and the habit formed because of obedience to natural law. Only a Rousseau would say that because the principle of habit has been, and still is, generally misunderstood as regards its mode of action, mind should be developed without acquiring habits.

The teacher with the grasp of the subject-matter and a knowledge of the laws that underlie mental activity and growth has, as has been suggested before, this end in view: to keep track of the way in which the different minds in the class act upon the stimuli presented. If images and ideas germane to the subject, but not necessarily involved in the perceptions which mind constructs at the first blush, are not projected by the motor activity of attention into the stream of consciousness, then the teacher knows that the stimuli are not stimulating, or that old presentations did not become a part of the capital of the children. Much has been written on the subject of the value of educational psychology to the teacher of mathematics, reading, history, or languages, both pro and con. Great emphasis has been thrown upon the merits of the born teacher, and very properly too. Speaking from the standpoint of the science of education, the born teacher is one who has an inherent tendency to observe and interpret the activity of mind in the early stages of its growth. This inherent tendency gives command of a large amount of unclassified data, just as the interest of the child in animals or plants gives an absolutely necessary accumulation of material with which to proceed in the study of pure science, the pure science of botany or zoölogy. As one does not become a botanist or zoölogist by beginning with the principles and data of pure science, so one cannot understand the life-process of the soul if there be no original observation of the activity of mind preceding the study of

psychology. As in the other sciences, the purely scientific study must be followed by a return to such material as formed the basis of observation and experience in the first stage, so in psychology the applied science must follow the pure science.

In the study of psychology the teacher must go through three stages: first, the observational and introspective; second, the purely scientific and experimental; third, the applied, which is generally termed educational psychology. He does not go through the third, he enters into it. Unfortunately, many who have passed through the first two stages, although they are teachers, do not advance into the third. The majority try to pass from the first to the third, omitting the second. It is the failure of the first class to pass into the third stage and the omission of the second stage by the second class that lie at the bottom of the mistaken reasoning of both classes concerning the methods of the primary grades. It is not difficult for one with an agreeable personality to command the attention of children between the ages of five and ten years by means of a stimulus emanating from that agreeable personality; this possibility has developed a method which might be termed the kindergarten and primary method. It gives certain uniform results without friction.

It is not uncommon to hear the philosophical psychologist who lacks a thoroughgoing acquaintance with educational psychology say that the primary grades are taught intelligently and successfully, but the grammar grades are not taught satisfactorily. It is not unusual to hear the teacher of young children, the teacher destitute of the knowledge of the pure science of psychology, say that she loves to teach young children, that they learn so much more easily when in the primary grades of work than in the grammar grades.

A supervising teacher of drawing in a system of city schools expressed himself very forcibly one day to the principal of one of the large grammar schools in that city. They had both been in one of the primary rooms of the principal's school. Upon leaving the room the supervisor said: "I cannot understand your tolerating such mediocre work in the lower grades when you have such superior work in the upper grades." The principal replied by asking which the supervisor considered the best grade in that school. The supervisor answered: "The eighth is the best," and added: "As regards merit, the work goes down hill in regular order from the eighth to the first." The principal then said: "Supposing you reverse your statement and begin by mentioning the poorest grade, will you then say the poorest is the first or lowest, and the grades improve in regular order as they ascend from the lowest to the highest?" The supervisor, after glowering for a few moments in thought, said: "Yes, I should be willing to say that, but it indicates a wrong condition; the work should be excellent all along the line." The principal assented, adding, "provided the standard of excellence for each grade is correct." Later on the principal said: "I wish you would think of the four best primary departments in drawing that you supervise." After a few moments the supervisor said: "I have them in mind." The principal then remarked: "I will tell you something about the grammar departments in those four

schools; not one of them ranks among your fifteen best grammar departments." The supervisor was indignant, and accused the principal of having listened to gossip about the work of the drawing department. The principal said: "I do not know which schools you have in mind. I base my statement on an understanding of educational method. If those children we saw in the lower room had been indifferent, unresponsive to the material supplied by the teacher, I should say they were not growing mentally in that environment. If the teacher had dictated the drawing of the lines so that their seeing was largely auditory, or if she had drawn for them so that their seeing was largely through her eyes, even though the results had been excellent reproductions, I should say that the natural law of mental development was unknown to her, and that the children were not doing good work. As it was, each child was intent on seeing for himself the group of objects and producing on paper a sketch of what he saw. The teacher was working on the evidences which each child gave of his seeing power, and of his power to co-ordinate the eye and the hand, the image and its expression. Judged by my standard the work was excellent; the dictation for each child was from within; the criticism was based on the understanding by the teacher of the within activity, as shown by the drawing. Judged by your standard it was a failure; the results should have been strikingly uniform, and more like those of advanced pupils; but the insurmountable difficulty in that kind of work is the exorbitant price paid by the children for their early acquisition, for that which would gratify your and their teacher's vanity. The plasticity of the nervous system, a distinguishing characteristic of the human being, is ignored, and humanity is reduced to the level of the bee and the bird with their equipment of instincts."

In this explanation was an interpretation of the meaning of development in harmony with the idea of law in evolution. The terms were (*a*) children equipped with impulses to act on stimuli in their physical and social environments, (*b*) the inherent impulses and tendencies of each child working on an environment which necessitated refining and defining the tendencies; (*c*) children growing in command of themselves and their environment. The law of nature was understood as originating in the spontaneity of each child, and the activity as resulting in something stronger and better than that which acted at the beginning, and which was an enlargement of experience.

Knowledge of the individual is not based on those data alone which are obtained by study of him at the beginning and end of a given series of acts. There are other data: the images and general notions which work in the process of thought, their clearness, their growth in complexity; the habit of mind, its quality, that is, its rigidity or its flexibility; the attention, the way in which it moves as it searches for and combines facts; the judgment, its dependence or independence. The first element, the children, necessitates a readiness on the part of the teacher in interpreting the contents of mind, clear vision as to their method, and a sympathetic understanding of general conditions which are indicated not only by language expression, but also by

bodily expression. For the parent this may be enough of the psychological element, but for the teacher there must be the scientist's acquaintance with the life-process of the human being. This is necessary for a classification of data in accord with the principle of growth.

The second element involved in teaching is the subject-matter. There should be an acquaintance with this which has been obtained by the psychologic method, that is, through investigation, through observation of sequences, and also by the logical[12] method, that is, through making conscious standards, or norms, of the ends toward which the psychological material points. The two aspects of a subject gained by these two lines of approach put a person in command of what may be called the method of the subject.

It is safe to say that since the publication of Darwin's *Origin of Species*, every subject within the wide domain of knowledge has been reviewed and revised from a new standpoint, and presented anew to the world. Foremost in this new approach to science, art, and literature, is the effort to co-ordinate the development of the science, the theory, or the art with the evolution of the race. The fact that one is not considered a scholar in his chosen subject unless he knows something about the beginnings of the attack of the human mind upon it, and can trace the gradual rise of the race in acquaintance with it and control of it, shows easily how much broader and better fitted is the scholar of today to teach his subject than was the scholar of yesterday. One of the causes of surprise among the unscholarly is the simplicity with which the erudite man talks upon his speciality; it is he that knows only a limited section of his subject who is restricted to the technical vocabulary and the single point of view. The simplicity of the scholar's standpoint indicates the necessity for a broad scholarship on the part of the teacher. Unless the teacher knows the progressive growth of the subject-matter, it is impossible that the material with which he deals in the recitation shall be the images and ideas of the members of the class.

The assertion is made sometimes, that the theory of evolution naturally and rightly throws the emphasis upon method rather than upon fact. Undoubtedly in former times too great stress was laid on fact. To differentiate method and fact so that the emphasis shall be thrown upon either, to the neglect of the other, is to continue the errors of the past. It is highly probable that writers on evolution who assert that the significant question is one of method rather than fact do not mean to separate, to divorce, the two; but, having made the positive assertion, they force themselves to desert the post of the scientist. The same may be said of teachers and writers on education who say the significant question in education is how children learn and not what they learn. If mind learns the new by the functioning of that which it has learned before then it must be most important that the old be not only true, but have a working, a functioning, value also. One who says the aim of the teacher is to discover the method of the growing mind, must make the explanation that the material and its assimilation in the

[12] DEWEY, unpublished lectures on logic.

past are always indicated in the attack at the present moment; this shows the fact side of the lesson to be as important as the method side. On the other hand, that idea of educational method which would make the material of the teacher the percepts, images, concepts, and judgments of the learner would require so intimate an acquaintance with the subject matter as to make unconscious a close following of its development.[13] It is generally dangerous to make use of analogies between the mind and the body, yet it is safe here to parallel the two. No one would be so rash as to claim that it makes no difference what food a child has, that the only question is how does its stomach attack the food. If the digestive apparatus that once functioned well becomes unable to make the food into chyme, chyle, and blood, we know that the food in the past has not contained elements nutritious for that child.

There are other directions in which evolution has contributed toward a higher ideal of education than in the one of method. When the theory was first offered to the reading public many feared it as an attack upon religion; its entrance into the field of education was neither feared nor desired. As was pointed out in the beginning of this paper, the import of the term was generally accepted by teachers as mechanical change, not as change resulting from the law of being. Slowly but surely the appreciation of natural law as the activity of the inherent tendencies has wrought a marked change in the school in the interpretation of the relation between man and nature. They are no longer treated as opposing forces. They are seen as two activities in the dynamic process of the unity called the world. It is but a short step from a conception of man and nature as parts of the same system, to a conception of the relation between mind and body. The generalizations of the evolutionist are proving efficient forces in educational theory. They are more stimulating to teachers when they form the material with which the educational thinker reaches the conclusions which he formulates in his particular subject. The return to old methods of instruction and school management, the repudiation of the theories which have issued from the investigations of biologists and psychologists have sometimes indicated that the theories have been found wanting because of the readiness with which they were constructed from a few facts. A higher degree of sensitiveness to new facts must mark the teacher if educational method is ever to have that flexibility and constant approach to truth that characterize scientific method. The rapidity with which the conceptions of a great mind are crystallized in educational formulæ by those who accept the gospel as presented by the larger mind indicates the failure to be on the alert for facts that cannot be explained under the law as interpreted. Fluidity of mind does not mean a constant change in mental movement; it means a playing about and around everything that is involved in or is germane to the particular subject of thought. With an enlarged perception of the relation of mind and body the idea of the primary activities has undergone a great change. The conception of habit as an established way of doing something that is of use, not because it is established permanently, but because

[13] TOMPKINS, *Philosophy of Teaching*, pp. 5-7

it will be useful in the effort to do new things, necessitates a right-about-face in what is called the training of children.

Helpful as is a conception of the dynamic relations between mind and body in the development of the method of the school, it could never give that upward propulsion which has come through the theories of the sociologist. In the effort to collect and interpret the facts in the social history of man the physical environment is necessarily analyzed, but the stress is laid upon the acts—the life of man. It is in the recognition of the influence of this inheritance that the social surrounding will be elevated and purified because it supplies those stimuli which are destined to develop or warp the life which begins merely with the tendencies to reach out for and react on stimuli. The conception of education which makes the social environment the all-comprehensive factor while prospective in its aim is necessarily retrospective in its search for material. If mankind has made an upward march in the centuries past and in so doing has retained some forms of social life, has changed some and has wholly rejected others, then to feel the movement of intelligence is to project the progressive steps which have been taken in the centuries past.

The history of education brings out in bold relief the tendency of humanity to establish its advances in dogmatic form. This leads us, on the one hand, to a confusion of the experience of the race in the past with the possibilities of experience for the individual in the present; or, on the other hand, to a rejection of the traditions embodied in the rich and varied life of thought and action by means of which mankind has acquired its social heritage, for the ideas of the present only, as embodied in the expressions of the limited range of thought and action of the individual. In educational practice, the outcome of that marvelous revival of learning, that inquiry into the history of man's thoughts and achievements, called the Renaissance, was the setting up for study the verbal expression of the culture of Greece and Rome. The culture of which the Greek and Latin literatures were the embodiment was left for study in later years by the few who attained ripe scholarship. But again, in educational practice, the outcome of reformations founded on the effort to begin the training of mind through activity with subject-matter has been the restriction of the survey to the few phases deemed valuable in the narrow experience of the reformer. The vernacular which is symbolical of the limited experiences of the reformer-teachers and the children rarely develops through their usage in beauty or vigor. They need it to express a small fraction only of the thoughts, emotions, and deeds of the race.

The defects of the conservative or cultural school which in its empiricism neglects the study of mind in its unfolding of power in discrimination and definiteness in the use of the symbols of thought must disappear under the application of the method of science to education. The defects of the radical, or rational, school which in its individualistic trend ignores the movements of human society in the past, undergoing changes in its form and constitution through the action of the immutable laws of its nature,

must also disappear through the application of the method of science to research in the social heritage of the child of today.

Education has always recognized the fact that the past is involved in a cultivated present; the mistake has been that it has considered information about the past rather than activity in the progress of the past as fundamental. The lesson taught by evolution — that life is movement, not rest — has been interpreted as meaning movement in a fixed stage of development, not as movement from simple to complex conditions. With this understanding the theory of the social environment as the true stimulus for consciousness has resulted in the attempt to project the life of the child into a social, ethical, and civil environment which is simply a reduced copy of the life of the present century. This withholds from him those simpler modes of activity which would be the stimuli adapted for the early years of life. For example, it begins the work in manual training with the perfected tools and exact geometrical designs of the skilled mechanic, and so in that development which should be progressive from the early years — as soon as the child has learned to walk and to handle things — constructive activity is deferred until he reaches the higher grammar grades. Nothing can more painfully and perfectly illustrate the failure of this idea of progression in educational theory than the action taken through the suggestions of leaders in education all over the country, action which delays manual and constructive work until children have reached the sixth or seventh grade. Growth from the simple to the complex, and not growth beginning in the complex, is the fundamental in the natural law of life.

Although the theory of the experience of the recapitulation of the race by the individual has been held for centuries, yet it is within very recent years that the element of his activity has been recognized in the word "recapitulates." This is illustrated in the fact that Herbart, who first formulated the "culture epoch" theory as a fundamental in education, refused to apply it to the learning of the sciences. His refusal to permit in education the possibility of the blundering and absurd theorizing of the past shows that in the main he entertained merely a logical presentation of the history of different peoples. Unwillingness to permit the application of the scientific method in the beginning of the study of science — in that term we include nature study, physics, chemistry, and mathematics — shows scientific method to be least regarded in the domain in which it originated.

There is no subject in which there has been less satisfactory advance than in that of science learned in accordance with its own method. It was but yesterday that science gained recognition as a culture element in education. The long debate that was carried on in considering the relative titles of literature and science to rank and standing necessarily delayed the introduction of the study of science by the scientific method, and now that she and her method are established it comes about that she prefers to linger in the halls of the colleges and universities instead of seeking her own in every department of that great organization known as the school. A growing understanding of the method by which mind works and develops shows it to be

the inductive method of the scientist. An acquaintanceship with nature is now being established between the children and the environment, with spontaneous reaching toward her as the beginning, investigation and selection as the advance, and assimilation, nutrition, growth, power—in short, love and knowledge of nature—as the culmination.

The history of the social evolution of the race should be a history of what the race has done, rather than a compilation of its theories; hence the great problem in educational method today is to determine the conditions under which the race has worked in the past and which of those conditions, if reinstated, will develop in consciousness a feeling of upward movement. That conception of evolution as a vital force in education which leaves the child a barbarian at the mercy of the rude and vicious forces in modern civilization has no part in educational method which is scientific. The rudeness of manner, the self-assertion which characterize the American child are a result of his reaction to social stimuli in which social ethics are confused, in which adults are themselves pausing in the early stages of the ethical life and its expression through a mistaken notion that they must pause with the child. When Froebel said, "Let us live with the child," he did not mean the life and experience of the adult should be overwhelmed by the child's life and experience.

There must be thinking in the attitude of the intelligent seeker after truth if there is to be a clear understanding of the problem of the future, and this problem can be faced intelligently only as one has command of the resources and forces which have been evolved out of the past, and knows their natural law. To learn these things one must use the method of science. If the teacher as student can gain an intimate acquaintance with nature and humanity through the attitude of science only, then must the special problem, the development of the individual, be solved only by the use of method called in its specific application educational method.

On every hand is a growing recognition of the possibilities of scientific method in education. Many individual teachers in the schools of this country are in intelligent sympathy with the aims and ways of scientific method as applied to education. They can, however, accomplish little that will be of permanent value to educational theory and practice, while they work in schools in which the method is hostile to the new spirit, or in systems of schools in which the administration is so mechanical as to safeguard them against that fluidity and at the same time definiteness that characterize mind in its development.

The work of investigation carried on in schools that are facing, throughout their organization, the questions of education with the attitude of the scientist is valuable beyond compare. Not facts alone, not laws alone are sought. The facts and the laws of nature that explain the marvelous beauty and power of the life-process of the soul, and also those that belong to the world that affords nutrition to the race and the individual, are the material which the educational laboratory investigates.