

THE PSYCHOLOGICAL REVIEW.

THE PRESENT STATE OF PSYCHOLOGY AND ITS RELATIONS TO THE NEIGHBORING SCIENCES.¹

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I.

To-day we have arrived at the conviction, that though the great and complex totality, which we call reality, cannot be understood without more or less artificial isolation of elements and without an analytical investigation of the mutual relations of such elements, yet the elements, which our science so distinguishes, are not to be considered as the constituent elements of the reality itself. In other words: the conditions of knowledge and of existence are not the same. Our ways of understanding are not necessarily the ways nature follows in her production. This is the old fundamental thought of critical philosophy, which has slowly made its way, especially during the later years, not only among philosophers, but also among naturalists who have discussed the first principles of their science. Then the possibility appears of an irrational relation between thought and reality, — the possibility, that the analysis of thought cannot do justice to the great synthesis of reality. The validity of science does not suffer by this, because the analyses and distinctions, which we undertake in order to arrive at a scientific understanding, ought to be founded, point by point, in observations of the living and concrete reality.

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In no domain of experience does this point stand out so clearly as in psychology. In the material world, the elements which we distinguish have their position in space, one outside another, though an interaction is supposed to exist between them. But such an external relation cannot be valid in the domain of mental life. Here, the single element is so woven into the whole that its very character is determined by it, and the whole is here not to be considered as a mere product of the elements. In psychology, analysis and distinction have a more artificial character than in physical science. We have less right still to consider mental elements as absolute realities, than to look at material atoms in this way. However, there is no other way to scientific understanding of mental life than analysis on the basis of observation and experiment. And at its first beginnings, as at its limits, mental life has a sporadic character, presents itself, at least apparently, as isolated sensations, so showing a great contrast to the character of totality and synthesis, which it has where it appears in full development and maturity. We have here an antinomy which is of great importance to all psychological research. We cannot explain mental life as a mere product of the elements distinguished by the analysis, neither as a product of the sporadic flashes, to which it seems to be reduced at its limits; and yet the elements, to which the analysis and the observation of limits conduct us, cannot but bear an inward relation to the concrete consciousness and its synthetic totality.

This antinomy has had a great influence on the development of psychology. It manifests itself especially in the struggle between the two great schools, the one founded by Hartley and Hume and continued in the association-psychology and the Herbartian school, the other founded by Leibniz and Kant and continued in the idealistical school of Germany. The first school leads to a mental atomism, while the other maintains the synthetic character of mental life. I am not going to follow up the history of this struggle in its particulars. There is no psychologist, whose general standpoint and special views are not determined by his position as regards the relation between atomism and synthesis in the domain of mental life. There is a

temptation to dogmatize on both sides. They may each consider its particular point of view as an absolute and all embracing one.

There is a psychological atomism which looks at the elements of psychological analysis as absolute and real parts, mechanical composition of which produces the mental life. It forgets that the whole psychological problem begins anew in every mental atom. For as in physical science the atoms, which seemed to be absolute, turned out to be worlds apart, in the interior of which movements take place and currents go on, so we are led to acknowledge that our simplest sensations are synthetic phenomena, concrete totalities, corresponding to more or less complex physiological processes.

On the other hand, there is a dogmatism, which looks at mental life as an undivisible unity, perhaps a substantial unity, which defies all analysis. It forgets that mental life, as indeed all life, exists under a perpetual struggle against internal and external oppositions, and that even practical introspection discovers important points of difference; for instance, at every choosing between possibilities. Different dispositions and tendencies manifest themselves in consciousness. The points of difference, then, are not called forth by scientific observation and analysis, but they belong to life itself. As scientific analysis by its one-sidedness always forces us to return to the great synthesis of life, so on the other hand, we are forced by the internal tension of life to acknowledge the reality of differences and oppositions and so far to verify the results of scientific analysis. Only what life has connected, can be analyzed by us; but this connection does not exclude differences between the elements of life.

In American literature the relation between analysis and synthesis in psychology has been energetically investigated by such eminent thinkers as William James and Hugo Münsterberg. I believe that the last-mentioned thinker has been led to put up a stronger contrast between psychology and life than it is possible to maintain. It is always life which gives to psychology its materials, and introspection does not begin in scientific analysis, but is a practical necessity which presupposes the existence of points of real difference within the totality of life.

The contrast between analysis and synthesis in the domain of psychology has to a certain point an affinity with the contrast between intellectualism and voluntarism. In the domain of sensations and ideas the distinction between elements can be made with the least difficulty. It is the most articulated side of mental life, and at the same time the side which is most open to observation and experiment. The life of emotion and will shows a greater concentration, and the synthetical character here shows itself more clearly. The over-valueing of the results of the analytical method very naturally lead one to undervalue the importance of emotional and volitional life, and even perhaps to look at emotions and will as mere resultants of sensations and ideas. But it is impossible to deduce the mental concentration from the interaction of absolute elements, and the whole direction of the development of sensations and ideas is determined by the interests, values and aims, which have their foundation and find their expression in emotional and volitional life. The voluntarism, which was founded by Fichte and Schopenhauer and has important support in the biological theory of the struggle for life, is more and more considered as the main point of view in psychology.

II.

Both the incommensurability between analysis and synthesis, and the superiority of voluntarism compared with intellectualism ought to diminish the propensity to close once for all the conception of personality, as theology and speculative philosophy have often tried to do. Positivism and empirical philosophy are often accused of abnegating the conception of personality, and in our time the historical view and the theory of liberty are often contrasted with empirical psychology. But even the empirical, experimental and analytical school of psychology presupposes an energetic and earnest recognition of the reality of personal life. This school is founded on the conviction, that the value of mental life is not to be diminished by being bound to certain conditions and subjected to certain laws. It studies then, with confidence, mental life in all ways which are open to science.

The difference between the psychological schools depends on where the problem is found, and how the burden of proof is distributed. Is the riddle of psychology how unity and continuity in mind are possible, or does the riddle arise, when consciousness appears in a sporadic manner, in isolated flashes? That is the main question. But it branches out into many particular questions. The task of the synthetic school is to find the special forms of unity and continuity, which cannot be deduced *a priori*, and then to explain, how it is possible, that mental life in certain cases can have a sporadic character. The task of the other school is to describe the particular forms and degrees of isolation, and then to explain, how there can be unity and continuity in mental life. Every school of psychology ought to admit, that so long as mental life persists, a perpetual struggle is going on between the synthetic and the sporadic tendencies. When the character of unity prevails, the problem is, whether this unity is a mechanical aggregate, or whether it has a deeper foundation.

Pathological psychology seems to me decidedly to prove the truth of the synthetic conception. Without continual mental labor the 'psychological tension' (to use the expression of M. Pierre Janet) cannot be sustained; and in mental disease this tension, without which consciousness cannot unite within itself a varied content of different elements, can only be maintained with great and painful effort; very strong influences are then necessary, if division or slackness are not to be the results. Isolated and sporadic phenomena are always setting mental energy a task.

The conception of mental energy can, as all conceptions of energy, only be defined by the labor which is performed, the resistance which is conquered. There is so much more mental labor to be performed, the more elements or tendencies there are that have to be united in the same mental state; the more different these elements or tendencies are, the stronger each of them is, the more intimately they are to be united, and the more remote in time they are from one another and from the present moment. It is true, that in the individual cases it will be a matter of no little difficulty to apply that concept of psy-

chical energy, whose possibility here appears. The true factors of psychical energy can only be determined by careful observation and all-sided knowledge of the special historical and individual conditions in each single case. The number of elements or tendencies, the degree of their difference, the intensity of each one of them, the intimacy of their connection, the degrees of their distance in time, all this it is difficult to point out with certainty, and all five vary from case to case. To all this is yet to be added the velocity with which the mental function of synthesis is to be performed. We do not here have such simple factors as mass and velocity, by which physical energy is determined.

An inexhaustible wealth of possibilities is conditioned by the very different ways and degrees in which these five separate circumstances may appear. There is here a great field for observation, experiment and comparison. The comparative psychology of individuality is as yet in an elementary state. Only in the domain of psychology of religion, especially here in America, a movement has begun in this direction. But no theory can ever give an exhaustive description of the manner in which the different elements or tendencies work together in any single state of a single individual. Here, as everywhere, the perfect individualization is to be attained by art, not by science. Art only can give a synthesis, which in some measure can do justice to the great synthesis of life.

III.

New problems arise when we try to characterize the relation of psychology to the neighbouring sciences. Psychology has a special relation, on one side to physical, and on the other side to historical and ethical science. And the relation can be briefly said to be, that in comparison with physical science psychology has a decidedly synthetic character, but in comparison with historical and ethical science a decidedly analytical character. By these contrasts the problems which arise at the limits of the different sciences are determined.

I have already mentioned that the simplest mental elements which we can distinguish correspond to very complex physio-

logical processes. What psychologically appears quite simple is a physiological multiplicity. In a simple mental element must be combined what physiologically covers several moments and a whole region of the brain. But there is also another thing which is of importance here. Mental elements are qualitatively different one from another, while we have reason to believe that the correspondent processes in the brain are only different as regards intensity, direction and combination. What psychologically appears as differences of quality is from the point of view of physical science to be regarded as differences of quantity. Continuity, then, is more easily demonstrated from the physical than from the psychological point of view. The old maxim that nature does not move in bounds cannot be carried out in psychology as entirely as in physical science.

From these circumstances some thinkers have concluded that a science treating of mental life is only possible, if for the relation between mental states we can substitute the relation between the corresponding states of the brain. In order to be a science, psychology must be transformed into physiology. If not, it should, according to these philosophers, be impossible to approach the ideal of scientific understanding, *i. e.*, the pointing out of continuity and equivalence between phenomena. But we always begin by discovering causal relations between qualitatively different phenomena, and not till later on can we take up the task of substituting for this elementary causality a more perfect causal relation with continuity and equivalence between the phenomena. Though in the domain of psychology we are scarcely able to go further than to the elementary causality, because we have no mental units and so no thorough quantitative methods, yet this fact does not exclude the right to admit a causal relation between mental states. And this is not only a right, but also a necessity. If there exists a causal relation between the correspondent processes of the brain, there must also be at least an indirect causal relation between the mental states. Moreover, we have only quite schematical constructions of the corresponding processes of the brain, constructions which are based on analogy with the directly observed and analyzed mental states. From these states we draw our conclusions as to the

logical processes in the brain. This conclusion can not be true, if psychological observations and analysis are not correct. The independence of psychology is thus presupposed.

Perhaps the simplicity and the qualitative character of the mental elements are to be regarded as the results of a hidden synthesis, so that if we could penetrate more deeply into the sphere of mental differentials, for instance, to differentials of the second or the third order, the whole problem would stand in a clearer light to us. But we should always here meet at last the great problem of the relation of mind and matter. Here, also, the contrast between analysis and synthesis becomes important. The difference which can be established between mind and matter is due to analysis, to a distinction of elements, which in reality exist in connection with one another. We break the real totality, and afterwards we are astonished, because it is difficult to unite the parts into which we have divided it. This point has been very well cleared up by Wilhelm Wundt and Roberto Ardigo. The reality is always the great fundamental synthesis, within which we move with all our abstractions and analyses. It is a full unbroken melody, compared with our laborious spelling. But there is no other way to knowledge than the one which begins with analyzing. Our attention proceeds from point to point, and only later on tries to unite its single results. And as little as we ought to ascribe absolute validity to our distinctions, so little ought we to regard it as fortuitous, that our seeking after knowledge necessitates just these special distinctions. It is one of the characteristics of reality, that it can only be comprehended by careful analysis of its contents.

I am not here going to discuss the hypotheses of the relation of mind and brain. I shall only say that as the physiology of the processes of the brain do not depend on other methods or points of view than those of physical science in general, the duty of proving is incumbent upon him who maintains an encroachment of the mind on the physiological processes. Such a supposition would do away with the independence of physiology. But there is no reason to deviate from the principle which physical science has followed for centuries, and to which all its tri-

umphs are due, namely, that material phenomena are to be explained by material causes. Even to-day the dictum of Spinoza is valid: 'When men say that this or that action of the body springs from the mind, they do not know what they say, and they do nothing but confess that they know nothing about the cause of the action.' The only working hypothesis which makes possible a coöperation between physiology and psychology without any encroachment from either side, regards the relation of mind and matter as a functional relation, in the mathematical sense of the word, and tries to find as much continuity within both series of phenomena as possible. A final metaphysical interpretation is still an open question, but psychology as such has nothing to do with it. The parallelism, or, as I prefer to call it, the hypothesis of identity, has mostly been assailed as a metaphysical hypothesis. But it is first of all a working hypothesis, and the only one which can be followed up in all its consequences in the present state of science. And as I have said of our analyses and of our distinctions, so I now say of our working hypotheses: we have no right to regard it as a mere accident, that the world can only be exactly known if we apply just these working hypotheses. A system of metaphysics which would construct a view of the world without any regard to the working hypotheses which have been necessary, would be of no philosophical value.

IV.

As psychology is synthetical as compared with physical science, so it is analytical as compared with historical and ethical science. Historical science treats of human works, ethical science of human ideals, but psychology treats of the elements and of the general laws of mental life. The relation of psychology to historical and ethical science is dependent on the relation between elements and works and ideals. There are here three lines of thought which may develop side by side. They all draw from the same deep source: from the immediate and spontaneous mental life, the real and concrete life, which no analysis can exhaust, and which can never be expressed completely in any work or any ideal, as little as in any sum of elements. All research has here as its subject the infinitely con-

crete totality, and tries from different points to describe its nature and to express its fullness in definite forms. But the tones of life are so manifold and lie so close together, that no scientific notation can express them completely. This is as true with regard to historical and ethical science as with regard to mental science. But within this identical position there is an interaction between mental, historical and ethical science. If we want to find out the elements and laws of mental life it is not enough to study the single individual in its special states. A study is also required of human works and ideals, in which the nature of mental life is revealed throughout the ages. There exists no mental life in general. It appears in different forms at different times and places, and it strives to develop itself as fully as possible in every one of these forms, though the totality of its elements has a different timbre in every special case. Here psychology has a large amount of material for its analysis. The sociological method in psychology works side by side with the introspective, the experimental and the physiological methods. Mental science has a more abstract character than historical and ethical science, because elements are more abstract than works and ideals. Psychology here ought to apply the inversely deductive method, as it has been already applied by Comte and described by Stuart Mill.

The first step is to point out the process which has led to the rise of a work or of an ideal; the second is to deduce and explain this process from general laws of the interaction of mental elements. By pure deduction no results can here be arrived at. Reduction, not deduction, is what we can use. This is not only the relation of psychology to the historical and ethical sciences, but also to art—to the art of education, to the fine arts, and to the great art of ethical life. We cannot deduce pedagogics, æsthetics and practical ethics from psychology. But we can observe the spontaneous development of the art of education, of æsthetic production and of ethical life, and the ideals and points of view which are revealed in this development may be understood by the help of general psychological laws. And this is after all also the relation of psychology to the theory of knowledge and to the philosophy of religion. It has to show the

psychological possibility of the forms of thought which are presupposed in scientific knowledge. And it has to analyze the mental experiences of religious life. As to this last point I have expressed myself in the following manner in my *Philosophy of Religion*: "In Religion men have made some of their deepest and most intensive mental experiences. If religion is genuine and original, all the elements of mental life are at work in it with an energy and interplay not to be found in any other domain. The study of religious life is therefore of great importance to general psychology." Lastly, a reciprocal relation will more strongly establish itself here, so that the understanding of mental elements and of the laws of their activity will be able to guide and clear up the work in the special domains. Indeed, the history of these domains shows that directly or indirectly such an influence has always manifested itself. If psychology is to have a future, this influence will be still more important than it has hitherto been. Psychology stands in a great debt to its neighboring sciences, and to the different kinds of art. Let us hope, that it may be able to pay a part of the debt, though this debt ought always to be contracted again, if psychology, as well as the other sciences, is to make progress !