

PROCEEDINGS  
OF THE  
INTERNATIONAL CONGRESS  
OF EDUCATION  
OF THE  
WORLD'S COLUMBIAN EXPOSITION

CHICAGO, JULY 25-28, 1893

UNDER THE CHARGE OF THE  
NATIONAL EDUCATIONAL ASSOCIATION  
OF THE UNITED STATES

PUBLISHED BY THE ASSOCIATION

NEW YORK  
1894

YTDGIVM: HATS  
AND TO  
YDASU!

N. E. A.

JULY 25-28.

NOT THINGS, BUT MEN.

THE WORLD'S CONGRESS AUXILIARY  
OF THE  
WORLD'S COLUMBIAN EXPOSITION OF 1893.

---

NOT MATTER, BUT MIND.

PRESIDENT, CHARLES C. BONNEY.  
VICE-PRESIDENT, THOMAS B. BRYAN.  
TREASURER, LYMAN J. GAGE.  
SECRETARIES, { BENJ. BUTTERWORTH.  
                  { CLARENCE E. YOUNG.

---

THE WOMAN'S BRANCH OF THE AUXILIARY,  
PRESIDENT, MRS. POTTER PALMER.  
VICE-PRESIDENT, MRS. CHAS. HENROTIN.

*CAN PSYCHOLOGY BE FOUNDED UPON THE STUDY OF  
CONSCIOUSNESS ALONE, OR IS PHYSIOLOGY NEEDED  
FOR THE PURPOSE?*

BY PROFESSOR JOSIAH ROYCE, OF HARVARD UNIVERSITY,  
CAMBRIDGE, MASS.

I.

THE importance for psychology of the study of the physical aspect of man's nature is, I insist, no longer a matter of doubtful question. We can, indeed, very usefully ask ourselves the reflective, the philosophical question, *Why* has the study of psychology come to involve a study of the physical aspect of man's nature? Reflective inquiry into the meaning of known facts is never out of place. But it would be vain to doubt, in view of these known facts, that the further advances of psychology will largely depend upon the advances of a number of allied scientific undertakings, amongst which the study of the functions of the nervous system, in the widest sense of the term *function*, will necessarily hold a very important place. A division of scientific labor is indeed indispensable.

The psychologist proper will never be, in his undertakings, either merely a psychologist, or, on the other hand, a worker at home in all parts of the physiologist's realm. The physiologist will far transcend the student of psychology in one direction, since the former will be interested in the whole range of the physiological functions; the student of psychology will far transcend the physiologist in another direction, since, as psychologist, he will take interest in the functions of the nervous system only in so far as they run parallel to the mental processes, whilst the physiologist, as such, will have only a subordinate interest in the latter. Thus the two doctrines will indeed never coalesce. Nor will either science ever become part of the other.

Auguste Comte was certainly wrong in declaring that mental science would properly be definable as identical with cerebral physiology. But the whole matter is not a question of identity or of subordination, but of community and of coöperation. Certain regions of nervous physiology will always be common territory for both sciences—will always be as important to the psychologist as to the physiologist. The latter student will view the facts in question, in these regions of biology, as a sub-class of the facts of the biological processes in general. The former (the psychologist) will study the same facts as embodying a highly significant expression of the processes and the laws of mental life. What is sure is that the psychologist, as his doctrine grows, will never get on without the study of these types of physical facts. This, I insist, is already decisively indicated to us by the whole course of recent investigation.

Our main question, in so far as it is a question of real doubt, relates to

the philosophical definition of the reason, and consequently of the limits of this dependence of the psychologist upon the study of the physical aspect of man's nature. I shall venture, then, to discuss that aspect of the problem assigned to me—that aspect, I repeat, which alone seems to me to be, in the present state of knowledge, a matter of serious philosophical doubt—by first slightly altering the statement of the issue as announced to me in the wording of the assigned topic. “Why and to what extent is psychology forced to study the physical life of man in addition to a study of consciousness in itself?” For, after all, a mere repetition of the known commonplaces of recent inquiry could not, in the presence of this Congress, prove enlightening. That an answer to the question as I now word it involves a sufficient answer, for our present purposes, to the question as stated in the programme of the Congress, will appear, as I hope, in the sequel.

## II.

Human knowledge, as it tries to get itself organized into the form of science, takes two different and, on the whole, pretty strongly contrasted shapes, whose relations, indeed, are of the most intimate, but whose distinction, when once it is defined, is none the less obvious. Our knowledge, namely, as it develops, shows itself either as what may be called reflective knowledge, or as what, in a very wide sense of the word, may be called descriptive knowledge. Of an attempt at organized reflective knowledge, general philosophy is the typical example. Of highly developed descriptive knowledge, analytical mechanics may be instanced as a classical representative. The goal of reflective knowledge is a completed metaphysic and ethic. The goal of descriptive knowledge is a completed natural science. Neither goal can be completely attained in finite time by beings situated as we men are; both goals must be regarded as in some measure approachable, by every rational inquirer.

We actually can take no step in thought, under human conditions, without reflection; we can as little do our mental work without an effort to describe what we call the nature of external reality. Philosophy is an effort toward a consistent and thorough-going reflection upon the presuppositions of life and of thought. But every man is unconsciously a philosopher from the moment he begins, as every rational being does, to reflect. Natural science is organized knowledge about the external world. But every man, whether he is conscious of the fact or not, actually begins the study of natural science from the moment he begins to observe. And so the inevitable presupposition of our conscious life is that both sorts of knowledge are possible, and, in us men, are progressively perfectible. As a fact, as I have just said, both sorts of knowledge go together, and are never, except by abstraction, to be divorced from one another, although the abstraction which notes their actual contrast, and which organizes

them into seemingly separate systems of knowledge, is indeed useful and inevitable.

In studying philosophy one reflects, but still reflects concerning what the world of facts, which is the object of descriptive science, has suggested to one's mind. So the philosopher, like the student of natural truth, must have his descriptive science of facts in mind. Only he describes in order that he may thereby the more wisely reflect—*i. e.*, he studies facts to find out, if possible, their significance. On the other hand, in studying natural science, one describes—that is, one notes, classifies, and brings into orderly relation masses of facts. But as one does this one must, indeed, continually reflect as one goes upon the meaning of one's own thoughts; for without such inner considerateness outer observation would come to nothing. Yet here, while reflective and descriptive knowledge are once more combined, it is now the reflection which serves as a handmaid to the descriptive process. One is considerate, in order that one may get the facts in hand. Both natural science and philosophy, therefore, unite reflective with descriptive knowledge, but in sharply contrasting ways. Natural science reflects only in order that it may describe the facts of the world. Philosophy describes the outer world only as a means toward the end of reflecting upon the meaning of truth. And so, once more, despite the actually inseparable connection of reflective and descriptive knowledge, we have a right to say, as we just said, that philosophy is the embodiment of reflective, natural science, as such, of descriptive knowledge.

To come still a little nearer to our present distinction. I reflect when I ask myself the question, *What do I mean* by this my thought, my belief, my intent, my plan, my passion, my life, my insight, my world? Whatever is for my consciousness may as such be made the topic of reflective insight; and, conversely, in so far as I reflect, I regard the truth in so far as it is just truth for consciousness, and, in fact, in so far as it is a truth for *my* consciousness, and not in so far as it is truth beyond my consciousness. The world of self-consciousness, as such, is the world of reflection; and, conversely, I can reflect only upon what belongs to the world of self-consciousness as such.

Logic is an excellent example of a department of reflective knowledge. Become fully conscious of what you mean when you think that *all men are mortal*, and you reflectively see that you can otherwise embody the same meaning by saying that *no immortals are men*. For reflection, then, self-consciousness is the necessary and sufficient condition. And each of us reflects only at home—within what he regards as his own hidden and solitary finite selfhood. Reflection, as such, can be conveyed in finished form to nobody else. Nobody can observe from without a reflective truth.

On the other hand, descriptive truth, as such, is definable as the truth which can be verified by many observers, either successively or together.

Description is the setting forth of the nature of facts in so far forth as all observers, apart from their individual reflections, give the same account of these facts. The world of reflection is the world for me. The world of description is the world for us. When I describe facts I lay aside for the time, as far as possible, the interfering constructive tendencies of my individual reflection. I care not how things are for *me*, unless they are also so for *you*. The external world is definable as the truth that finite beings explicitly share in common, and that they know only so far as they *do* share it in common. Destroy all finite beings save one, or cut off all communication among finite beings, and you do not touch, for the insight of the survivor or of the isolated beings, whatever reflective truth happens to be known, nor do you exclude the possibility of further reflective progress. But what you then do destroy is the basis for any further real definition of a knowledge of external truth, of physical fact, as such. For, I repeat, description of facts is essentially a social process. The external world of fact is definable as the world that the people tell about, and as the world that, in the end, they tend, all of them, to describe in the same way.

Complete reflective knowledge I should then get if I could grow up to full self-consciousness. Complete descriptive knowledge I should get if I could learn what would be common to the experiences of all possible observers of the truths that are themselves common objects for all finite selves. *Think for yourself* is the maxim of reflective knowledge. *Compare observations, describe, and verify*—this is the maxim of descriptive knowledge. The multitude of observers forms the presupposition of descriptive science, and the external truth is what, in the end, proves to be the ideally common object for them all. The single self-consciousness is the presupposition of reflective knowledge, and the truth is, in the end, what this self-consciousness becomes aware of for itself.

Such is the bare outline of the contrast between two forms of knowledge which, from a higher point of view than the human, may, and in my opinion *must*, once more coalesce, but which, from our human point of view, remain stubbornly distinct. Logic, ethics, metaphysics are primarily concerned with reflective truth, which for each of us must be worked out in self-consciousness. Physical science is concerned with a truth which can be reached only by a ceaselessly continued comparison of the accounts which endlessly numerous observers give of what has come to their conscious notice. That which in the long run they tend to describe in the same way, is here the humanly accessible truth.

### III.

And now for psychology. Psychology is the natural science, or the attempted natural science, which endeavors, as it were, to describe the

life of the thinking being; in other words, to describe the life of the being who is himself the subject for whom the world of inner or reflective truth exists. Plainly such a science is, amongst sciences, in an anomalous position. Its topic is the life of a conscious—that is, of a reflective—being. Its method is that of trying, not like metaphysics or logic to reflect upon the meaning of his inner life, but, like physics, to describe him as he is known or knowable in a relatively external way. If he, the thinking subject, studies psychology, he is invited, without losing hold on his own existence as a conscious self, to see his life “as others see it,” to regard himself not only as the self-knowing, reflective being of the inner life, but also as the object of the social consciousness, of the common observation of his fellows.

How is this possible?

Only, so I answer, only in so far as there actually exists in the world of truth an intimate correlation between what self-consciousness reflectively discovers in the inner life of the individual, and what the common consciousness of mankind detects somewhere in the describable processes of the physical world. Were there no such correlation discoverable, there would be no psychology possible, but only metaphysical, logical, ethical reflection. There is no “science of the laws of mental life” possible for the subject himself alone, in his reflective isolation. For when he reflects alone he discovers truth indeed, but logical truth, ethical truth, metaphysical truth—never truth about the natural history of his own being. He must “see himself as others see him” before his inner life can become a topic for a natural science at all. Now he knows himself indeed, but not as an object for general observation, only as the subject of the inner life. And this inner life, again, has infinite meaning indeed, but, so far as the individual subject reflectively knows it, it conforms to no observable natural laws, because it is so far not observable from without, and is no object of the common human experience at all. On the other hand his fellows know, not the subject of his inner life at all, but a complex phenomenon called his bodily functions, which are a proper topic for physiological knowledge. How then, I once more ask, is a psychology, a science of the subject in so far as he can be treated as if he were also an object for the common observation of his fellows—how is such a science conceivable? How can there be a descriptive knowledge of the life of the very subject of reflective knowledge? And I answer once more: Only by virtue of a correlation, which experience indeed shows to be real, but without which no psychological science would be *a priori* possible—only by a correlation which actually ties the whole inner life of the reflective being to the changing states of a describable physical process, only thus is a psychology conceivable. Apart from an embodiment, a manifestation of the inner life in a psychophysical process, there would be no psychology thinkable. For only thus, in a two-fold process, could we have in the

world of truth a life that, seen from within, is the life of a self, and that at the same time can, in one of its aspects, be seen from without.

This necessity for a correlation such as shall unite the world of reflective insight with the world of descriptive knowledge, such as shall make the man who knows himself (but not from the point of view of natural science) also, in another aspect, a being who can be an object for others—this necessity is, I insist, a condition prior for any psychology. That the correlation in question is given us in case of the nervous system is a matter of experience. As a fact, furthermore, it is by the pathological study of defective nervous functions in case of disease, by the comparative study of the nervous functions in man and the animals, and by the experimental study of complex nervous functions in the healthy man, that we have of late come for the first time to have a developed notion of what the future science of psychophysics is to be. And I have merely insisted, in the foregoing paper, upon the thought that if there is ever to be any knowledge of the inner life except such as reflective philosophy has attempted, that knowledge must necessarily take the form of psychophysics. And that such a science may come to pass, every student and lover of human nature in its natural—*i. e.*, in its socially accessible—aspects must needs devoutly hope.

---

### DISCUSSION.

**PROFESSOR ORMOND** : I wish to express my high appreciation of Professor Royce's paper. It is characteristically able and clear. It seems to me, however, that he makes the distinction between the spheres of description and reflection too absolute. We are in danger of having our universe cleft into two incommunicable parts. Besides, the distinction tends to isolate the individual consciousness so far as it is an organ of reflection. My own preference is to regard the distinction as merely relative. Consciousness is the organ of both, and it develops its descriptive and reflective categories in a process which is continuous. I do not think that we can regard our categories of reflection as being any less objective or universal than our categories of description. It is one world that presents itself to our consciousness, but in the order of knowledge the material and descriptive is *first*, and then the spiritual. The basis of this duality of categories must, I think, be sought in the constitution of the soul itself.

**DR. BOARDMAN** complimented the paper highly, but dissented from the belief that psychology needs physiology as a basis. He remarked: "Have Plato and Aristotle done nothing in psychology? We all greatly value the contributions of modern physiology to psychology. All the sciences constitute one sisterhood. Each contributes to the advantage of all. Especially has neurology brought a most acceptable offering. But it is possible greatly to exaggerate the value of the additions to our knowledge of the soul thence derived. Ancient philosophy, exploring chiefly consciousness, made vast acquisitions and searched many of the deepest foundations of knowledge."

**DR. SHOREY** held that the new psychology has not yet shown results that render it worthy of usurping the place of the old.

**DR. McCOSH** believed in pure mental science and pure physical science; that each can throw light upon the other, but that, so far, investigation had not shown a close connection between them.