

The Principles of Psychology
Psychology (Briefer Course)
The Will to Believe and Other Essays
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Talks to Teachers on Psychology and to Students
on Some of Life's Ideals
The Varieties of Religious Experience
Pragmatism
A Pluralistic Universe
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THE COMPLETE WORKS OF WILLIAM JAMES

The Varieties of Religious Experience. The Principles of Psychology. Pragmatism Illustrated

THE PRINCIPLES OF PSYCHOLOGY

Chapter 1. The Scope of Psychology

PSYCHOLOGY IS THE Science of Mental Life, both of its phenomena and of their conditions. The phenomena are such things as we call feelings, desires, cognitions, reasonings, decisions, and the like; and, superficially considered, their variety and complexity is such as to leave a chaotic impression on the observer. The most natural and consequently the earliest way of unifying the material was, first, to classify it as well as might be, and, secondly, to affiliate the diverse mental modes thus found, upon a simple entity, the personal Soul, of which they are taken to be so many facultative manifestations. Now, for instance, the Soul manifests its faculty of Memory, now of Reasoning, now of Volition, or again its Imagination or its Appetite. This

is the orthodox 'spiritualistic' theory of scholasticism and of common-sense. Another and a less obvious way of unifying the chaos is to seek common elements *in* the divers mental facts rather than a common agent behind them, and to explain them constructively by the various forms of arrangement of these elements, as one explains houses by stones and bricks. The 'associationist' schools of Herbart in Germany, and of Hume, the Mills and Bain in Britain, have thus constructed a *psychology without a soul* by taking discrete 'ideas,' faint or vivid, and showing how, by their cohesions, repulsions, and forms of succession, such things as reminiscences, perceptions, emotions, volitions, passions, theories, and all the other furnishings of an individual's mind may be engendered. The very Self or *ego* of the individual comes in this way to be viewed no longer as the pre-existing source of the representations, but rather as their last and most complicated fruit.

Now, if we strive rigorously to simplify the phenomena in either of these ways, we soon become aware of inadequacies in our method. Any particular cognition, for example, or recollection, is accounted for on the soul-theory by being referred to the spiritual faculties of Cognition or of Memory. These faculties themselves are thought of as absolute properties of the soul; that is, to take the case of memory, no reason is given why we should remember a fact as it happened,

except that so to remember it constitutes the essence of our Recollective Power. We may, as spiritualists, try to explain our memory's failures and blunders by secondary causes. But its *successes* can invoke no factors save the existence of certain objective things to be remembered on the one hand, and of our faculty of memory on the other. When, for instance, I recall my graduation-day, and drag all its incidents and emotions up from death's dateless night, no mechanical cause can explain this process, nor can any analysis reduce it to lower terms or make its nature seem other than an ultimate *datum*, which, whether we rebel or not at its mysteriousness, must simply be taken for granted if we are to psychologize at all. However the associationist may represent the present ideas as thronging and arranging themselves, still, the spiritualist insists, he has in the end to admit that *something*, be it brain, be it 'ideas,' be it 'association,' *knows* past time *as* past, and fills it out with this or that event. And when the spiritualist calls memory an 'irreducible faculty,' he says no more than this admission of the associationist already grants.

And yet the admission is far from being a satisfactory simplification of the concrete facts. For why should this absolute god-given Faculty retain so much better the events of yesterday than those of last year, and, best of all, those of an hour ago? Why, again, in old age should its grasp of childhood's events seem

firmest? Why should illness and exhaustion enfeeble it? Why should repeating an experience strengthen our recollection of it? Why should drugs, fevers, asphyxia, and excitement resuscitate things long since forgotten? If we content ourselves with merely affirming that the faculty of memory is so peculiarly constituted by nature as to exhibit just these oddities, we seem little the better for having invoked it, for our explanation becomes as complicated as that of the crude facts with which we started. Moreover there is something grotesque and irrational in the supposition that the soul is equipped with elementary powers of such an ingeniously intricate sort. Why *should* our memory cling more easily to the near than the remote? Why should it lose its grasp of proper sooner than of abstract names? Such peculiarities seem quite fantastic; and might, for aught we can see *a priori*, be the precise opposites of what they are. Evidently, then, *the faculty does not exist absolutely, but works under conditions; and the quest of the conditions* becomes the psychologist's most interesting task.

However firmly he may hold to the soul and her remembering faculty, he must acknowledge that she never exerts the latter without a *cue*, and that something must always precede and *remind* us of whatever we are to recollect. "An *idea!*" says the associationist, "an idea associated with the remembered thing; and this explains also why things repeatedly met

with are more easily recollected, for their associates on the various occasions furnish so many distinct avenues of recall." But this does not explain the effects of fever, exhaustion, hypnotism, old age, and the like. And in general, the pure associationist's account of our mental life is almost as bewildering as that of the pure spiritualist. This multitude of ideas, existing absolutely, yet clinging together, and weaving an endless carpet of themselves, like dominoes in ceaseless change, or the bits of glass in a kaleidoscope, -whence do they get their fantastic laws of clinging, and why do they cling in just the shapes they do?

For this the associationist must introduce the order of experience in the outer world. The dance of the ideas is a copy, somewhat mutilated and altered, of the order of phenomena. But the slightest reflection shows that phenomena have absolutely no power to influence our ideas until they have first impressed our senses and our brain. The bare existence of a past fact is no ground for our remembering it. Unless we have seen it, or somehow *undergone* it, we shall never know of its having been. The experiences of the body are thus one of the conditions of the faculty of memory being what it is. And a very small amount of reflection on facts shows that one part of the body, namely, the brain, is the part whose experiences are directly concerned. If the nervous communication be cut off between the brain and other parts, the experiences of those other

parts are non-existent for the mind. The eye is blind, the ear deaf, the hand insensible and motionless. And conversely, if the brain be injured, consciousness is abolished or altered, even although every other organ in the body be ready to play its normal part. A blow on the head, a sudden subtraction of blood, the pressure of an apoplectic hemorrhage, may have the first effect; whilst a very few ounces of alcohol or grains of opium or hasheesh, or a whiff of chloroform or nitrous oxide gas, are sure to have the second. The delirium of fever, the altered self of insanity, are all due to foreign matters circulating through the brain, or to pathological changes in that organ's substance. The fact that the brain is the one immediate bodily condition of the mental operations is indeed so universally admitted nowadays that I need spend no more time in illustrating it, but will simply postulate it and pass on. The whole remainder of the book will be more or less of a proof that the postulate was correct.

Bodily experiences, therefore, and more particularly brain-experiences, must take a place amongst those conditions of the mental life of which Psychology need take account. *The spiritualist and the associationist must both be 'cerebralists,'* to the extent at least of admitting that certain peculiarities in the way of working of their own favorite principles are explicable only by the fact that the brain laws are a codeterminant of the result.

Our first conclusion, then, is that a certain amount of brain-physiology must be presupposed or included in Psychology¹.

In still another way the psychologist is forced to be something of a nerve-physiologist. Mental phenomena are not only conditioned *a parte ante* by bodily processes; but they lead to them *a parte post*. That they lead to *acts* is of course the most familiar of truths, but I do not merely mean acts in the sense of voluntary and deliberate muscular performances. Mental states occasion also changes in the calibre of blood-vessels, or alteration in the heartbeats, or processes more subtle still, in glands and viscera. If these are taken into account, as well as acts which follow at some *remote period* because the mental state was once there, it will be safe to lay down the general law that *no mental modification ever occurs which is not accompanied or followed by a bodily change*. The ideas and feelings, e.g., which these present printed characters excite in the reader's mind not only occasion movements of his eyes and nascent movements of articulation in him, but will some day make him speak, or take sides in a discussion, or give advice, or choose a book to read, differently from what would have been the case had they never impressed his retina. Our psychology must therefore take account not only of the conditions antecedent to mental states, but of their resultant consequences as well.

But actions originally prompted by conscious intelligence may grow so automatic by dint of habit as to be apparently unconsciously performed. Standing, walking, buttoning and unbuttoning, piano-playing, talking, even saying one's prayers, may be done when the mind is absorbed in other things. The performances of animal *instinct* seem semi-automatic, and the *reflex acts* of self-preservation certainly are so. Yet they resemble intelligent acts in bringing about the *same ends* at which the animals' consciousness, on other occasions, deliberately aims. Shall the study of such machine-like yet purposive acts as these be included in Psychology?

The boundary-line of the mental is certainly vague. It is better not to be pedantic, but to let the science be as vague as its subject, and include such phenomena as these if by so doing we can throw any light on the main business in hand. It will ere long be seen, I trust, that we can; and that we gain much more by a broad than by a narrow conception of our subject. At a certain stage in the development of every science a degree of vagueness is what best consists with fertility. On the whole, few recent formulas have done more real service of a rough sort in psychology than the Spencerian one that the essence of mental life and of bodily life are one, namely, 'the adjustment of inner to outer relations.' Such a formula is vagueness incarnate; but because it takes into account the fact that minds

inhabit environments which act on them and on which they in turn react; because, in short, it takes mind in the midst of all its concrete relations, it is immensely more fertile than the old-fashioned 'rational psychology,' which treated the soul as a detached existent, sufficient unto itself, and assumed to consider only its nature and properties. I shall therefore feel free to make any sallies into zoology or into pure nerve-physiology which may seem instructive for our purposes, but otherwise shall leave those sciences to the physiologists.

Can we state more distinctly still the manner in which the mental life seems to intervene between impressions made from without upon the body, and reactions of the body upon the outer world again? Let us look at a few facts.

If some iron filings be sprinkled on a table and a magnet brought near them, they will fly through the air for a certain distance and stick to its surface. A savage seeing the phenomenon explains it as the result of an attraction or love between the magnet and the filings. But let a card cover the poles of the magnet, and the filings will press forever against its surface without its ever occurring to them to pass around its sides and thus come into more direct contact with the object of their love. Blow bubbles through a tube into the bottom of a pail of water, they will rise to the surface and mingle with the air. Their action may again be poetically interpreted as due to a longing to recombine with the