

ΤΕΣΣΑΡΑΚΟΝΤΑΕΤΗΡΙΣ

ΘΕΟΦΙΛΟΥ ΒΟΡΕΑ

ΤΟΜΟΣ ΠΡΩΤΟΣ

ΕΝ ΑΘΗΝΑΙΣ

ΤΥΠΟΙΣ: "ΠΥΡΣΟΥ", Α. Ε.

1940

Ε.Υ.Δ της Κ.τ.Π
ΙΩΑΝΝΙΝΑ 2006

PSYCHOLOGY DOWN THE AGES

by

C. SPEARMAN

F. R. S., University of London

I. Present Situation.

The present phase of psychology is characterized by a disquieting antithesis. On the one hand, we find almost universal claims to extraordinary success; but on the other, ubiquitous disagreement and contradiction. Authors and lecturers pour forth an ever swelling stream of psychological discourse, whilst educators, psychiatrists, industrialists, sociologists, novelists and countless others sit hopefully absorbing what they can. But unfortunately the different teachings strangely fail to harmonize with one another. There is not a single psychology in the field, but a great many of them. A «structural» school is fighting against a «functional» one. A band of «introspectionists» is at issue with one of «behaviorists». A «configurationist» chorus tries to out-voice reactionists, dynamists and intentionists. Not to mention the «hormists», the «factorists», the «analysts», and the several «Russian» schools.

In spite of all this diversity, however, grave doubts have been raised as to the amount even of originality. Indeed one prominent critic has gone so far as to declare that:

«There is not, in fact, a principle of the human mind in our most approved modern treatises on its nature and faculties, which may not be found among the speculations of the Grecian philosophers».

Let us examine how far this grave indictment is founded on fact.

II. Science of Mind.

Among all the controversies paralyzing mental science none, strangely enough, has been taken up more violently, or answered

red more diversely, than the dispute as to what it is really all about. Where lie its boundaries from philosophy? Where, from physiology? Should it, or should it not, concern itself with the «soul»? Ought it to limit itself to consciousness? Or instead ought just this to be excluded from it?

Multifarious, however, as have been the theoretical replies to such questions, there has been a very tolerable agreement in actual practice. Almost universally the topic of psychology has been divided into two parts. The one embraces all the operations of knowing; in particular, those of sensory perception and of thought. The other takes in all such processes as those of desiring and feeling. But all this, in general outline at any rate, coincides remarkably well with the topic of psychology as originally prescribed by Aristotle. The chief alterations attempted throughout the subsequent ages have been only negative. They have consisted in little more than arbitrary exclusions; as for instance, the wilful attempt to make psychology deal with structure, but not function; or reversely. In one and only one point does the scope originally laid down for it by Aristotle appear to have ever been fundamentally extended and surpassed; this has been in including the sphere of the unconscious.

III. Mental Powers.

As the next great problem in the study of the mind, we may take that of determining its fundamental powers or faculties.

Here, the old philosophers forthwith singled out above all things the power of abstract thought, or the «intellect». In particular, this was taken to be the essential privilege of Man as opposed to the lower animals.

To this original and comparatively clear Greek concept of the intellectual power, what has ever been added since? The answer to this question can hardly be flattering. There has been introduced the concept of «intelligence». But this word, originally denoting nothing more than the exercise of the intellect, lapsed into being regarded as some additional power, whose nature was left wildly indeterminate. Rarest, perhaps, was its retention in its original significance of abstract thinking. Not infrequently, it was allowed to degenerate so far as

to include what had been its polar opposite, namely sensation. This was explicitly done, for instance, by Binet. The present climax of confusion is indicated in the following passage from Freeman; for him «intelligence» included :

«Sensory capacity; capacity for perceptual recognition; quickness, range of flexibility of association; facility in imagination; span or steadiness of attention; quickness or alertness in response; mental balance; the judicious management of the processes of learning or reflection; mental control; mental adjustment; the direction of the attention toward the significant aspects of experience; a due degree of non-suggestibility; the adoption of intellectual purposes and the adaptation of means to their satisfaction; sensitiveness to significant combinations between experiences which illuminate one another or which are effective in building up systems of thought; balance and sane reaction to the entire world of things, ideas and persons».

Not unlike has been the downward career of the concept of «attention». Originally, this too signified nothing more than the exercise of the intellect. But in time the meanings attributed to it became inconceivably diversified. Eventually, such a pass was reached that Ebbinghaus was reduced to dismissing the topic of attention with the curt remark that it is

«a downright embarrassment for psychology».

Still later, Vaschide and Meunier can only say that

«the psychology of attention is still to make».

Continuing our account of the study of the fundamental powers, we find that the old Greeks naturally added to the intellect its indispensable supplement of sense. But afterwards, hand in hand with the above described degeneration of the former concept, there inevitably occurred some corresponding indeterminateness of the latter one also. The word «sensation» has become so equivocal that careful writers are shy of using it at all.

From the two preceding cognitive powers, intellect and sense, let us pass on to those which are non-cognitive. In this field the principal achievement of the old Greek philosophers was to set up a general power ill translated as «desire». This

was then bisected; on the one hand was put the will; on the other, the impulses. And in subsequent history up to very recent times, we find little more than alternations between denying this duality and re-affirming it. Equally vacillating have been the opinions as to the status of feeling. Is this a faculty additional to that of desire, or only a subordinate aspect of this?

Altogether, the ancient Greek philosophers—with some subsequent assistance from the scholastics—seem to have evolved a remarkably clear and comprehensive scheme of all the powers of the mind, as follows:



As for subsequent ages, we have observed in this field, not so much progress and evolution, as rather vacillation and stagnation.

IV. Mental Constitution.

One reason for this general failure of later generations to make substantial progress in the study of the mental powers has undoubtedly been a lessened interest in the whole problem. From the very beginning, all such powers clearly showed themselves to involve highly complex mental operations. Accordingly the next obvious step was to submit these operations to analysis. After this fashion the study of the faculties of the mind gradually passed over into that of its constitution.

Beginning naturally enough with the faculty of sense, the first step was to classify its basal attributes. And this treatment of them, greatly facilitated by their manifest connections with the sensory organs, at once issued in the familiar five-fold array still approximately current: sight, sound, taste, smell, and touch.

Of very unlike order was Aristotle's further division of the sensory attributes into two classes; one included those which

are specific to a single sense, as colour is to vision, pitch to sound and so forth; in the other came the attributes shared by different senses, as are movement, rest, figure and magnitude. In these «common» attributes, as they were called, we have neither more nor less than what later on, under the name of the «primary» qualities of matter, supplied the whole essential content of all physical science.

To these original analyses of sensation into its constituent qualities, the subsequent ages (and especially the present one) have made immense additions in respect of their connections with the sensory organs and tracts. But in themselves, their study has had much less progress to report. Most notable, perhaps, is the reduction of all sensory attributes to those of quality, intensity, position in space, and position in time.

Far more subtle, however, than all such enumeration of the sensory attributes has been the distinction of the attributes themselves from the relations between these. To perceive the attributes themselves is one performance; to perceive their inter-relations is another.

Even as regards this latter performance, however, some very remarkable anticipations were made already by Aristotle.

«Eyesight judges of the white and black, taste of what is sweet and bitter, and so on. But furthermore, we discriminate between what is white and what is sweet and between each of the objects of sense in comparison with each other».

But for a plainer psychological statement, we have to wait for Locke.

«When the mind so considers one thing that it does as it were bring it to and set it by another, and carries its view from one to the other, this is, as the words import, *relation* and *respect*».

And after his time the whole matter—save for copious determinations of sensory thresholds—seems to have lapsed again into general theoretical neglect.

But even at this point—that is to say, after having taken into account all the basal attributes and all the relations between these—we are still far from having brought the consti-

tution of sense - perception to its close. For a further advance we may once more begin with Aristotle, who made the curt but pregnant observation that

«a certain white object is perceived as the son of Diares».

In so saying, he would seem to be analyzing the perception into two parts. First comes the vision of «a certain white object»; under this designation may be included all the aforesaid cognition of the sensory attributes and of their inter-relations. But then, superposed as it were upon this white object, ensues its interpretation as «the son of Diares». Here Aristotle may fairly be taken to have indicated that the analysis of the act of perception must include the process of interpretation. As for the development of this theme in subsequent ages, it has been neglected by many authorities, and has produced inconclusive controversies with many others. For definite progress, we have to wait for very recent times indeed, when the matter has been submitted to the potent method of experimental research.

From all this account of the analysis of the faculty of sense - perception, let us proceed to that of the faculty of intellect, or abstract thought. Here, the central difficulty has always lain in ascertaining what parts are played by «images» and by language respectively. As regards the former, Aristotle contributed the much debated theorem that the images do not actually constitute thought but do supply an indispensable medium for it. As for the other constituent, namely language, this hardly became even a problem before the middle ages. And in both cases alike there has been little consolidated advance until the very modern advent of experimental research.

After the constitution of perception and thought, there has to be considered that of the third great Aristotelian faculty, or «desire». Here, the chief ancient achievements have been Aristotle's struggle with the concept of «orexis» and the Stoic efforts about that of a «horme» (from ὀρμάω, I rouse or excite).

In general, we find once more that the analysis hardly reaches the stage of cogent evidence until assisted by the modern device of experiment.

So far, however, our examination of the study of mental constitution has been limited to what has occurred by way of

analysis. Accordingly there still remains to see what has been revealed about this constitution by the supplementary way of synthesis. Here, too, already the old Greek philosophers made occasional remarks of no little profundity. An instance was the declaration of Plato that no thought was constituted by a mere sequence of ideas; there was need that these should «mix» with each other. So, too, Aristotle wrote as follows:

«With regard then to the exercise of reason, the thinking of isolated single terms falls within a sphere in which there is no falsity; when, on the other hand, we find both falsity and truth, there we reach a certain combination of ideas as constituting one conception».

But in modern times there has been little further advance. The whole topic of psychological synthesis seems to have been given over to various more or less alien studies; as logic, grammar, and sociology.

V. Mental Laws.

From the constitution of the mind, however, let us pass on to another and very different mental problem. It is that of ascertaining whether and how these constituents are subject to laws. On this score many critics have been utterly pessimistic. No less an authority than that of James has declared that psychology possesses

«Not a single law in the sense in which physics shows us laws, not a single proposition from which consequences can causally be deduced. We don't even know the terms between which the elementary laws would obtain if we had them. This is no science, it is only the hope of a science».

But on further examination we find that really at least one law has obtained considerable acceptance as such. It is that of associative reproduction. This runs to the effect that any idea tends to reproduce any other one which has been contiguous to it. And this reproduction, if in ancient times not yet definitely formulated as a law, had at any rate already been well described, notably by Plato.

«Lovers when they see a lyre, or a garment, or anything else which their darling is accustomed to use, are affected as follows; they both recognise the lyre and they apprehend intellectually the idea of the person to whom the lyre belonged... When we perceived something... there was no difficulty in receiving from this a conception of some other thing... which had been forgotten and which was associated with this».

But with this, the ancient contributions to the study of mental laws do seem to be nearly at an end. And in no better case would appear to be most attempts of more modern date. Accordingly the scathing judgment of James has only too much foundation.

Quite recently, however, an endeavour has been set on foot to make good this fatal scientific deficiency. The attempt has been made to enunciate, not only mental laws, but such as fulfil all the requirements of empirical science; in particular, that of affording foresight into the future. They have even been built up into a complete set, capable of accounting for the entire course of mental sequence.

Setting these forth in detail, we find that the law or laws of reproduction have received their indispensable supplement in three laws of production.

Two of these have been extensions and generalizations of what we have already encountered in considering mental analysis. One is that a person tends to become aware of items of his own experience; for instance, the sensory qualities, intensities, and (apparent) positions. Again he tends to cognize relations between these or any other items presented to mind; as, for instance, when he sees that one line stands perpendicular to another.

But besides these two laws of production which have been developments out of original observations made very much earlier, there is a third one which can show no such antecedents; it has come, so to speak, as a bolt from the blue. It consists in the theorem, that a person tends to pass from any presented item together with any appropriate presented relation to the presentation of the correlative item. For instance,

when he is shown one line and is bidden to conceive another perpendicular thereto.

To all these laws of mental sequence must be added three more. They are complementary to the aforesaid. For whilst the latter tell us what mental processes tend to occur, the former prescribe the strengths of the respective tendencies. These complementary laws are known as those of Constant Output, of Volitional Control, and of Fatigue. And so the system of laws is complete. For a more detailed exposition of them, reference must be made elsewhere ⁽¹⁾.

VI. Individuality.

So far as concerns general psychology, our tale is now told. But we have still to review the psychology, and especially the differences of individuals. And here, as in the case of mental laws, the ancient philosophers seem to have contributed very little. Almost the only systematic studies have been the *Characters* of Theophrastus and the *Temperaments* of Galen with many others.

But in modern times these have been interestingly developed into «types»; mostly, of a bi-polar kind. Outstanding are the «Subjective» and the «Objective», the «Deep-Narrow» and the «Shallow-Broad», the «Introverts» and the «Extroverts», the «Schizothymes» and the «Cyclothymes», the «Tetanoids» and the «Basedoids».

Still more recently, however, a very great change has come over the scene. All the preceding traits—not only the time-honoured characters and temperaments, but no less the comparatively modern types—have been discovered to rest upon a precarious assumption. They had uncritically been taken to constitute so many functional unities. But now this assumption has been submitted to verification by the statistical technique of correlation coefficients; and in general, it has proved to be grossly fallacious. For instance, Jung himself, after setting up the type of «introvert» as a general trait of a person, eventu-

⁽¹⁾ They have been set forth by the present author in his *Psychology down the Ages*, 1937.

ally discovered and admitted that anyone may easily be introvert in some mental operations but extrovert in others; thus generalization of the trait becomes quite invalid.

Further study of these correlational coefficients, moreover, has led to the portrayal of mental individuality in terms of «factors». First and foremost, every cognitive ability has been found expressible as a function of two factors of which one is perfectly general, whereas the other is narrowly specific. The former or «G» may provisionally be conceived as a general supply of energy, whilst the latter or «S» is any one of a multitudinous set of engines among which the energy can be distributed.

Something similar, though much less definite, has been observed in the sphere of character. This further general factor would appear to be of the nature of will-control, and so has been indicated by the letter «W» (*).

VII. Upshot.

Our tale is told. On the whole, we encountered not a little support for the saying of Ebbinghaus, that already the ancient Greeks had raised psychology to an astonishing height. So much so, that ever since their successors have been mostly occupied in repeating, forgetting and re-discovering.

And indeed, as regards the first problem of psychology, that of delimiting its scope, we must frankly admit that Aristotle at once sketched its boundaries with an easy and sure hand, which compares only too favorably with the confusions and omissions of later times.

As regards the second great psychological problem, moreover, that of enumerating the basal powers of the mind, here we find a still greater contrast between the original ancient clarity and subsequent amazing degenerations.

Even in respect of the third problem, that of mental constitution, the ancients made some surprising divinations, which put to shame most of the subsequent study up to quite a

(*) For further details about all these factors, see reference given on page 181.

recent date. But then at last the old work does appear to have been caught up, and indeed sometimes much surpassed, by the aid of the potent modern method of experiment.

Only when we arrive at the fourth and fifth fundamental problems of psychology, however, those of mental laws and of individual differences, have the tables been completely turned. On these topics the ancient philosophers seem to have had but scant success; indeed, they were not much interested. But even here, their successors for nearly two thousand years appear to have fared little better. Only in the last score or so of years, has the scientific harvest been finally reaped. But then in overflowing measure.
