

A History of the Association Psychology

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**A HISTORY OF THE
ASSOCIATION PSYCHOLOGY**

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PREFACE

THIS study of the Association Psychology was originally projected in 1903. After the first six chapters were substantially completed the work was laid aside for more urgent matters. The material for the remaining chapters has been gathered from time to time and the whole revised within the past year.

The writer is personally quite sympathetic with the Association Psychology. Its defects have always seemed attributable to the imperfect knowledge of mental data and nervous processes in past generations, rather than to the analytic and empirical methods employed by the school. The present study, while essentially historical in character, aims to bring out the general consistency of the Associationist movement and to trace back certain recent developments of psychology to their source in the writings of this school.

A sympathetic historian is ever in danger of reading into earlier writers the more definite results of later analysis, or of attributing to them his own views. I have endeavored to avoid this by quoting verbatim from the writers examined. This puts the reader in a position to judge whether the interpretations offered by the historian are correct.

It was originally intended to add a chapter on the criticisms preferred against the Associationists by their contemporaries. This plan was abandoned on account of the length of time required to complete the study. For the same reason the French sensation-associationist movement has been less fully dealt with than was originally proposed.

I wish to acknowledge the assistance of my former

colleague J. Mark Baldwin, at whose instance the work was undertaken, and to whom I am greatly indebted for suggestions in outlining the volume.

Thanks are due to my colleague Edmund Y. Robbins, of the Greek department (Princeton), for valuable assistance in interpreting passages from Aristotle, and to my friend John B. Watson (Johns Hopkins) for various suggestions. The courtesy of the Psychological Review Company is acknowledged for permission to use an article which appeared in the *Psychological Review*. This paper is substantially identical with Chapter II. I am also indebted to my office assistants for painstaking aid in preparing manuscript and proof.

HOWARD C. WARREN.

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A HISTORY OF THE
ASSOCIATION PSYCHOLOGY

CHAPTER I

ASSOCIATIONISM

1. *Origin of the Term 'Association of Ideas'*

THE phrase *association of ideas* was first used by John Locke.¹ In the fourth edition (1700) of his 'Essay concerning Human Understanding' he inserted a new chapter, entitled "Of the Association of Ideas,"² in which he discusses the connections between experiences.

"Some of our ideas," he says, "have a natural correspondence and connection with one another: it is the office and excellency of our reason to trace these and hold them together in that union and correspondence which is founded in their peculiar beings. Besides this, there is another connection of ideas wholly owing to chance or custom. Ideas that in themselves are not at all of kin come to be so united in some men's minds that it is very hard to separate them; they always keep in company, and the one no sooner at any time comes into the understanding, but its associate appears with it; and if they are more than two which are thus united, the whole gang, always inseparable, show themselves together. This strong combination of ideas not allied by nature the mind makes in itself either voluntarily or by chance, and hence it comes in different men to be very different, according to their different inclinations, education, interests, etc."³

¹ Marin Cureau de La Chambre in his work, 'Système de l'âme,' published in 1664, speaks of "l'union et la liaison des images" as an integral action in our knowledge (Hamilton, ed. of Reid's 'Works,' Note D**).

² Bk. II, ch. 33.

³ §§ 5, 6. In quoting earlier English writers spelling, italics, capitalization, and punctuation are altered to conform with present-

We are thus indebted to Locke for a term which later gained currency as applied to a doctrine of peculiar prominence in English psychology; of such prominence, indeed, that the system of psychology which these writers worked out came to be known as *Associationism*. Furthermore, the exposition of mental association in various parts of Locke's 'Essay' furnished important data to the theory subsequently developed. But it should be noted at the outset that the epoch-making character of Locke's work in this field consists only in his introduction of the term 'association of ideas.' He neither founded the doctrine of association nor did he fix the historical signification of the name which he coined.

First, the laws of the association of remembered images according to similarity, contrast, and contiguity were originally formulated by Aristotle, who furnished hints of an association of *sensations* as well. These suggestions long escaped notice owing to the lack of interest in such problems. In modern times also, the notion of an associated sequence of thought was worked out in some detail, prior to Locke, by Thomas Hobbes, and his treatment furnished the model for later discussions of the subject. Locke emphasizes the *fact*, but does not work out the *manner* of association. This latter problem, one of the most notable features of the association psychology, rests historically on Aristotle's classification, which has been taken up and modified in various ways by writers of the association school; Hobbes's view of association as the mode of succession of ideational experiences is generally adopted as a starting-point in the analysis.

Again, the term *idea* was used by Locke in a broader day usage. Citations are by chapter and section so far as practicable, rather than by page, in order to make any edition available. Names of authors and titles of works are given in full when first mentioned, and the edition consulted is referred to at the first definite citation. Where foreign writers are quoted the original text is not given unless the terminology or some vital point is open to question.

sense than that fixed by later usage. Thus, when Locke speaks of the association of ideas he has reference to possible connections between *all sorts of mental content*; whereas from the time of David Hume onward the phrase refers to connections between *representative* data only. Locke's term has been retained, but its application is narrowed to a portion of the field to which he assigned it. This permanent fixing of the expression *association of ideas* with an altered meaning given to the term *idea*, has exerted some influence on the development of the doctrine itself. The connection between sensations, as for example in perception, has been ignored by some writers, while others have treated it as another sort of union, distinct from association. Where the union of sensations has been classed under the same general principles as associations between representative elements, the exposition has been weakened by the inappropriateness of the accepted phrase.

Finally, it should be borne in mind that the problem of association as Locke conceived it was an ethical and pedagogical one, not a problem of psychological analysis. He nowhere seeks to determine the different modes of connection between experiences as Hobbes has done. His real aim is to trace the rise of *wrong* associations and suggest practical remedies for the errors of judgment and action to which they lead. In the passage quoted Locke grants that a natural connection between ideas exists as well as chance association; but it is the associations of chance or custom, their origin, and the means of preventing and overcoming them, that constitute the material of his inquiry. The chapter on association was an afterthought, not an essential part of the 'Essay'; and although in harmony with the doctrine formulated in the rest of his book, it appears more in the light of a practical application of his theory that an investigation of the laws of association.

In short, while the 'Essay concerning Human Understanding' furnished the name under which the principle has since become known, and has also afforded considerable material to assist later writers in developing the psychology of association, the two contributions stand apart: Locke's association doctrine is not worked out from the psychological standpoint, and it is not definitely attached to the phrase which he devised. The aim of his 'Essay,' it must be remembered, is essentially epistemological, and the psychological analysis which it undertakes is carried out only so far as necessary to demonstrate the empirical derivation of all knowledge.

2. *Definitions of Association*

The term *association*,¹ as used by the English psychologists of the eighteenth and nineteenth centuries, applies primarily to the *sequences* that occur in trains of memory or imagination or thought: their problem was to formulate the principles involved in such sequences. According to the view generally adopted by these thinkers, one such experience follows another through certain definite relationships. Thus, one idea may serve to recall another which *resembles* it or which was *contiguous* to it in former experience. Here we have the narrowest view of association, conceived as the principle by which trains of ideas are induced. Starting with this fundamental conception, the scope of the principle has been broadened in various directions.

Thus, the role of association in respect to sensation is variously construed. All the writers belonging to the association school admit the rise of ideas following sensations, according to the same laws of association that hold where the antecedent is an idea. Some go further and

¹ Hobbes calls the process "mental discourse," Tucker calls it "translation," and Thomas Brown prefers the term "suggestion." Other writers generally use "association."

regard as a form of association the simultaneous presence of two or more *sensations* in consciousness, such as occurs in the act of perception. Others merely assume a nexus in such experiences without explicitly classing them as instances of association. On the other hand, all agree in denying that one sensation can bring up another sensation by association; it is generally admitted that the rise of sensations depends on something outside of consciousness, or at least on something apart from the individual human experience.

In the case of successive association, then, the general view has been that the antecedent may be either a sensation or an idea (including under the latter term any sort of representation), while the consequent is always an idea.

As regards simultaneous connections opinions differ: some affirm that such complexes of experience are instances of genuine association, while others deny this. Of the former, some writers believe that the associative laws hold equally well for sensations and ideas; others confine these laws to the union of *ideas* with either sensations or ideas, while others limit them still further to the welding together of ideas into a complex idea, whether of memory or imagination.

The manner in which association operates has also been variously stated. Similarity (or resemblance)¹ and contiguity figure most prominently among the laws suggested.

¹ The two words *similarity* and *resemblance* are not distinguished in the discussion. Some writers prefer one or the other; some use the two indiscriminately. Etymologically, similarity appears to be a likeness between coordinate factors, resemblance a likeness of one thing to another. Thus, two strangers may be of *similar* appearance, while a son may *resemble* his father, and the father *be resembled* by the son; two dollar bills are *similar*, but a counterfeit *resembles* the real dollar. If this distinction be brought over into psychology, two ideas should be termed *similar* or *resembling* according as they are coordinate or one depends on the other, but an idea can only *resemble* a sensation. This mode of association, then, would be termed similarity or resemblance according to the form of the doctrine which a given writer holds.

Some writers conceive these as coordinate principles; a sensation or idea, it is held, introduces either another idea that *resembles* it, or one that (either as sensation or idea) has been experienced in the past *in close conjunction* with it temporally or spatially. Others reduce similarity to contiguity, contending that the *similar* parts of the two associated experiences are really *identical*, which leaves only the dissimilar elements in the new experience to be accounted for; the latter are explained through their previous contiguity with the identical elements.

On the other hand, contiguity has been reduced to similarity by an inversion of this same mode of reasoning. One experience, it is contended, introduces another solely by the fact of their similarity, the apparently contiguous elements being really essential parts of the resembling experiences.

Still another view subordinates the two principles to a single law, called *redintegration* or *reinstatement*. Here it is maintained that the fundamental fact involved is the reinstatement of a past experience through association with a present experience, the particular ground of reinstatement (likeness or some other relation) being a subsidiary question.

The association of unlike or contrasted experiences has been recognized by some as an additional principle, following the view of Aristotle, while by others it is regarded as merely a particular phase of the two laws already mentioned.

The factors determining the *strength* of any particular association—that is, the likelihood of its occurring in any given circumstances—have been analyzed in various ways. Prominent among the principles here recognized are the effects of *habit* (or repetition) and *intensity*. The frequent repetition of an *experience*, it is held, increases the probability of its revival by association, and the repetition of an *association* increases its liability to recur. Aside

from the question of repetition, an experience of great intensity has been generally considered more likely to be revived by association than a weaker one. These and other factors which determine the *degree* of strength of association form a problem of analysis distinct from that of the *modes* of association, though many writers treat them under the same head, as Laws of Association.

3. *The Association School and its Rivals*

Despite these many differences in the analysis, classification, and interpretation of association among the writers who contributed to the development of psychology in England during the eighteenth and nineteenth centuries, and despite even greater divergence in other parts of their work, their systems represent a common standpoint. They are clearly and unmistakably differentiated from other psychological systems of the same period. The prominence of the conception of association in their analysis, the care with which they work out its laws even to minutiae, their constant endeavor to apply these laws to the more complex forms of consciousness—all these characteristics justify us in grouping the English psychologists together as a distinct school and applying the term Associationism to the movement.

The British association psychology is distinguished on the one hand from the *a priori* psychology of J. C. von Wolff and a succession of thinkers in Germany, who maintain that the rational faculty is unanalyzable and self-validating, and who account for the growth of knowledge in the individual by the operation of innate factors. It is equally differentiated on the other hand from a group of semi-empirical psychologists in Scotland, who base their system on immediate, intuitive knowledge of objective data. The English school regards knowledge as a complex of experiences welded together empirically through the instrumentality of association. It is closely allied to