

*Wundt's Doctrine of Psychical Analysis and the Psychical Elements, and Some Recent Criticism.* I. *The Criteria of the Elements and Attributes*; II. *Feeling and Feeling Analysis.* EDMUND H. HOLLANDS. Am. Journ. of Psych., XVI., 499-518; XVII., 206-226.

The general motive for these papers is to be found in certain criticisms of Wundt's doctrine of feeling expressed in two recent articles by Dr. Washburn. These, according to H., are as follows: (1) It is not clear whether Wundt's criterion of analysis, independent *variability*, includes independent *existence*. If it does, feelings are not elements; if it does not, what would justify his refusal to make attributes themselves elements? (2) His criterion for the attributes, independence of the mental context, is insufficient to rule out clearness as an attribute. (3) His distinction between feelings as subjective and sensations as objective is epistemological and extra-psychological. (4) His reference of the unity of feeling to that of apperception, and his consequent definition of the simple feeling, make it impossible to distinguish between simple and complex feelings, save by reference to their sensational substrate. H. proposes "by an examination of the various passages bearing directly upon the subject in all of Wundt's published writings, to determine his present theory of analysis and the psychical elements, and the various changes through which it has passed; . . . in the second place, and by aid of the clearer light which may thus be thrown upon the matter, . . . attempt to decide whether, and how far, Dr. Washburn's criticisms are justified."

In tracing the evolution of these problems, H. succeeds in defining four periods: I. Characterized by the fact that feeling is not yet treated as an element (1862-83). II. Characterized as studies of method (1883-89). III. Characterized by the treatment of feeling as an independent element, but with two directions only: pleasantness—unpleasantness (1889-96). IV. Characterized by the culmination of Wundt's doctrine of feeling in the feeling manifold (1896-1902).

Considering Dr. Washburn's points of criticism in the light of H.'s exegesis, we find that (1) is met even in the writings of the first period which treat the element as being marked off by its *separability*. As to independent existence, the second edition of the *Logik*, which falls in the third period, makes it a criterion for sensation but not for feeling. Feelings, it is true, are not independent in the same way that sensations are, but it is a dogmatic prejudice which declares that all subjectively unanalysable constituents of consciousness must be possible isolated objects of attention. As to the distinction between elements and attri-

butes, the element, while no breach can be made in it, can be experienced in different mental contexts. Attributes cannot be so separated and experienced.

(2) The attributes have four criteria, instead of one merely, as mentioned by Dr. Washburn. These, too, appear in writings of the first period, and are as follows: (a) The element is structurally distinguished by the attributes quality and intensity. (b) Every sensation has these, and they are inseparable from it and from each other. (c) These attributes attach to the element itself, and do not depend upon its relation to the context of which it forms a part. (d) As distinguished from each other, however, they are independently variable and can therefore be attended to separately. Clearness as an attribute, it will be noted, is ruled out by criteria (b) and (c).

(3) In the *Beiträge zur Theorie der Sinneswahrnehmung* (1862) and in the *Vorlesungen über die Menschen- und Thierseele* (1863), pure sensation is considered to be the original element, while a distinction, partly epistemological, is made between feeling and sensation in the stricter sense. The perceptual process is conceived as a series of unconscious judgments or inferences, as a result of which subjective and objective moments in the pure sensation are distinguished as feelings and sensations respectively. This epistemological distinction is expressly given up in the first edition of the *Grundzüge* (1874), also in the first period. The distinction of subjective and objective as two phases of conscious experience is, however, retained throughout Wundt's writings, although it is not until the fourth period that we find a strictly psychological meaning for it. This we do in the first edition of the *Grundriss der Psychologie* (1896). Here sensations and feelings are differentiated in accordance with three specific criteria: (a) The qualities of sensation move between maximal differences, whereas those of feeling move between maximal opposites. (b) Simple feelings are declared to be much more numerous and various than simple sensations, and are considered as subjective complements, not only of sensations, but also of ideas and ideational complexes. (c) Sensations fall into disparate systems, while feelings form one connected manifold. Here in (c) the origin of the subjective nature of feelings is explained psychologically as consisting in this unity, this connectedness in a single continuum.

(4) In writings of the third period, first in the *Logik*, second edition (1895), we note that, although the criteria of separability and non-decomposability are maintained as fundamental for determining an element, still the method of analysis for feelings differs from that

employed in analyzing sensations. Feelings may be analyzed by considering the sensational substrate as the feeling stimulus, and varying it experimentally to test the relative simplicity or complexity of the feeling thereto attached. However, we learn from writings of the four periods, in particular the successive editions of the *Grundriss*, that mere reference to the sensational substrate is not sufficient to determine the character of the feeling. It may happen that independent variation in the components of a sensation, as, for instance, brightness, saturation, color tone, might alter the feeling and thus make it appear complex.

The author has carried out his investigation in a painstaking and, it would appear, accurate manner. It does seem, however, that in a work of this character, a clearer and more comprehensive tabulation of results might have been formulated for the purpose not only of lightening the reader's efforts, but also of making the work more readily accessible in matters of reference.

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*Abhängigkeit der Atem- und Pulsveränderung vom Reiz und vom Gefühl.* M. KELCHNER. Arch. f. ges. Psychol., V., 1-124.

This is one of the most interesting of the recent articles on organic reactions. Its especial value is in the careful study of the breathing changes. Curves were recorded from both chest and abdomen. As in nearly all investigations of the kind, the method of determining the heart rate is not sufficiently accurate.

The writer gives a thorough criticism of Lehmann's work and passes to the experiments on agreeable and disagreeable states caused by taste, visual, and auditory stimuli. Agreeable tastes were accompanied by a quickened pulse, agreeable tones and colors by a slowed pulse. The quickening of the pulse with taste stimuli varied inversely with the agreeableness of the experience, so that longer pulse seemed to be here the natural expression of agreeableness. The pulse increased in rate generally with disagreeable states.

The breathing changes in both agreeable and disagreeable showed great individual differences. Pulse and breathing are, to a certain extent, independent variables, and there is a great difference in the significance of the two as expressions of the feelings. The individual differences are found in depth and rate changes as well as in the relative part of the chest and abdominal factors, so that it is always necessary to consider both breathing curves.