better. In interpretation of this double relation to age and kind of material he suggests (1) that for younger children school methods of teaching lay greater stress upon auditory processes, whereas with older children teaching proceeds more by visual methods. The age difference thus reduces itself to a difference in the amount of practice for the two senses. (2) In auditory presentation the sound stimuli enforce themselves upon the attention more readily than do the visual in visual presentation. (3) In auditory presentation it is easier to translate familiar material into visual terms than it is to thus translate unfamiliar material. (4) The visual preception of unfamiliar material is easier than its auditory perception, whereas this difference does not exist for the familiar.

The comparison of the amounts recalled for the other combined methods of presentation does not show a uniform and decisive difference.

The Psychology of Association. FELIX ARNOLD. Archives of Philosophy, Psychology and Scientific Methods, No. 3; April, 1906. Columbia University Contributions to Philosophy and Psychology, Vol. XIII., No. 4. Pp. 80.

The writer gives first a critical consideration of the data in which association is to be found, with special reference to the relation of association and the unity of consciousness. In this he discusses activity, emotion, and cognition, with the general outcome that all consciousness is present consciousness, and all consciousness is consciousness of an object. Thus there is no consciousness of self-activity. In introspection we do not observe a past mental state. In emotion we are conscious of our body in a special way, and as an object. In cognition, in the perception of an object, there is no consciousness of mental activity. The image is equally an object of consciousness, to which a different attitude is taken. Having reached this general result, the writer turns to consider the question how unity of consciousness under these circumstances is possible, and whether atomism is a necessary outcome of any associationist's theory. He finds two kinds of unity: (1) The unity of concomitance, in which a single background — the visual field or the bodily feelings — holds together the discrete elements. (2) Serial unity, represented by the meaning, in the present moment, each succeeding state in a series attains through being given position in the series. Both kinds of unity already imply association, and atomism is thus not the outcome of association, but, on the contrary, would be the result if there were no association. This discus-

sion serves as introduction to a more special consideration of association. He next reviews: (1) The treatment of association by the English writers, especially Locke, Berkeley, Hume, Hobbes, and the Mills; (2) the results obtained by German and American experimentalists, in the main, Wundt and his associates. In general, the former have been in quest of laws of association, while the latter have pointed out that the so-called laws of Aristotle and the English writers are not basic, are not laws, but forms of association, of which the experimental data show a very large variety. With this the question becomes whether it is possible to establish any laws of association. He examines the reduction of association by similarity to association by contiguity, and *vice versa*, and finds that each involves a confusion that results from a mixture of different points of view. The reduction of similarity to contiguity involves a fallacy consisting in a 'mixture of the physiological and logical points of view, in the explanation of a psychological occurrence.' The attempt to reduce contiguity to similarity confuses, he thinks, the physiological and genetic standpoints. In his own interpretation of the simple fact of the succession of two associated mental states he offers the 'law of redintegration' as ultimate. This he states as follows: "Any element tends to reinstate the entire moment of which it previously constituted a part, which moment tends (1) to diffuse itself along some one of the paths which have been already formed; and (2) to leave a trace of itself as a whole for future revival and development."

In the reviewer's judgment nearly the first half of the study is not of such a nature as to come within the limits of a *scientific* treatment, and is thus not covered by the title. On the other hand, a large portion of the results of memory studies that could hardly be neglected in a presentation of the psychology of association is not considered. Both, however, are only defects of title and do not detract from the value of the study otherwise.

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Ueber sogenannte 'frei steigende' Vorstellungen und plötzlich auftretende Aenderungen des Gemütszustandes. Sind die Verbindungsglieder, welche hierbei in Frage kommen, unbewusst oder unbemerkt? F. KIESOW. Arch. f. d. ges. Psychol., 1905, VI., 357-390.

The old question of 'mediate' association is again taken up somewhat at length by Herr Kiesow, who, to aid him in his arduous labor,