arbitrarily given. Below this code there were 16 rows of letters with a space beneath to fill in the corresponding number in the code. The total amount of practice, 20 minutes, was under the massed conditions approximately continuous, but under the spaced conditions was distributed over 3 days, separated by intervals of 48 hours. Under the massed conditions both methods were approximately equal. Under the spaced condition the whole method was consistently superior to the part methods, and, moreover, more efficient than any mode of learning had been under the massed condition. A. WOHLGEMUTH.

Some Effects of Heterogeneity on the Theory of Factors. (*Amer. Journ. Psychol., October*, 1930.) *Cureton, E. E., and Dunlap, J. W.*

The Relative Immediacy of Sensory, Perceptual and Affective Characteristics. (*Amer. Journ. Psychol., October*, 1930.) *Oberlin, K. W.*

There are great individual differences in the observers as to what they can experience in colour stimuli without predetermination in the form of instructions. The difference in the attributes of hue, saturation and brilliance, or at least the finding of these differences, depends upon the familiarity of the observer with these attributes before coming to the experiment. From the results obtained the author concludes that there is no non-temporal difference between sensation and perception so far as immediacy is concerned. The affective judgment is more mediate than the other judgments. A. WOHLGEMUTH.

Movements in Optic Images and the Optic Imagination of Movements. (*Journ. of Nerv. and Ment. Dis., November*, 1930.) *Kanner, L., and Schilder, P.*

The authors studied the problem of movement in optic images. The subjects were all physicians trained in self-observation. They were asked to close their eyes, and to imagine certain objects either in a condition of rest or performing certain movements. In all the subjects examined, the optic images thus produced showed the following characteristics: Fading of the picture, breaking of a line into a number of fragments, diffusion of the light of the image, movements of the image chiefly of a waving and curling nature, scintillation of the image, tendency to multiplication of the image or its essential parts, difference in the type and direction of movements corresponding to the shape of the imagined object, occasional participation of the background in the changes, movements and scintillations, changes in the size of the object, increase of the movements with the duration of the imagination, marked individual differences in the single subjects, though many trends are common to all persons examined, occurrence of the changes independent of and uncontrolled by volition, and usually noticeably

correlated with the particular meaning or trend of the imagined object.

The authors from these findings, which they claim to be new, draw the following conclusions:

1. The act of imagining may effect transformations and transpositions within the entire visual field.

2. The processes of fading and irradiation apparently bear a close relation to similar occurrences in actual perception. It does not seem possible to draw a sharp line between perception and representation.

3. Since movements are almost regularly present in optic imagery, the authors assume that movement is one of the inherent qualities of the process of representation.

4. The phenomena observed show close relation to those occurring in optic perception.

5. The phenomena observed were not caused by after-images.

6. The alterations which take place in the optic representations of geometrical figures may be divided into two kinds—the more elementary primitive tendencies to motility, and others which seem to be determined by the particular shape of the figures.

The authors point out the similarity between the results of their observations and the findings in mescal intoxication. There was hardly a single phenomenon of mescal intoxication that did not occur in the authors' experiments. Jaensch has pointed out that mescal increases the eidetic phenomena. The multiplications, macropsias, micropsias and metamorphopsias seen in the experiments play an important part in hallucinations, especially those occurring in toxic psychoses. Schilder has pointed out that the experiences obtained with eidetic images are closely related to those observed in optic agnosias. Other authors have shown that irritation of the vestibular nerve produces a feeling of movement in the patient's body and the impression of motion in the visual field. Tonus and motility produce changes in the optic imagery as well as in actual perception. Kanner and Schilder think that there may be some relation between the vestibular impression of movement and the optic impression of movement. There is a close resemblance between the optic images and their movements on the one hand and the changes of optic images and perception under the influence of vestibular irritation on the other.

G. W. T. H. Fleming.

A Quantitative Study of Behaviour Problems in Relation to Family Constellation. (*Amer. Journ. Psychiat., January*, 1931.) *Levy, J.*

The distribution of these problems in Chicago children appears to be independent of size of family. In a small rich community, single-child families produce problem children more frequently than larger family groups; but this is only true for boys. In a large city, boys come under notice more than twice as often as girls. The first-born is a problem child more frequently than any of the other children. The sex of the sibling nearest in age to the problem