

FIGURAL AFTER-EFFECTS, PERSONALITY, AND  
INTER-SENSORY COMPARISONS

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The writer has postulated a positive relation between extraversion and size of figural after-effects (Eysenck, 1955), and other writers have also formulated hypotheses linking these phenomena with individual differences (Klein & Krech, 1952; Wertheimer, 1955). Experimental work on the inhibition-satiation hypothesis (Nichols, 1956; Rechtschaffen, 1958; Eysenck & Holland, 1958; Holland, 1960; McEwen & Rodger, 1960; Norcross, Lipman & Spitz, 1961) in relation to Eysenck's theory has been distinctly ambiguous, results being often suggestive but seldom significant. The recent efforts of McEwen and Rodger (1960) and of Spitz and Lipman (1960) to find intercorrelations between after-effects in two different sensory modalities (visual and kinesthetic: VAE and KAE) appear to cast doubt on any theory relating personality variables to figural after-effects by showing that different measures of figural after-effect do not in fact correlate with each other. As Spitz and Lipman point out: "The failure to find significant intercorrelations between individual scores on the KAE and VAE raises serious questions about the general factor theories of brain processes advanced by Eysenck (1955), Klein and Krech (1952) and Wertheimer (1955)."

The writer has argued (Eysenck, 1960a) that failure to discover the predicted relationships is due to the fact that we are dealing with two antagonistic processes in the measurement of FAE. In the first place, there is *satiation*, which according to theory proceeds more quickly and strongly in extraverts; however, there is also *inhibition* of sensory input during the inspection period, which affects the actual strength of the perceptual stimulation received. In other words, it is proposed that during the relatively lengthy inspection period reactive inhibition acts so as to reduce the sum-total of sensory input, somewhat after the manner indicated in the case of pain by Eysenck and Lynn (1961). Marks (1949) has drawn attention to the many phenomena attendant on long fixation which bear out this interpretation; his list is derived from visual inspection, but we have found phenomena analogous to most of those mentioned by him in the kinesthetic sphere also. Since satiation is in part a function of the total sum of sensory input received in the region affected, and since inhibition cuts down this sum to a degree which according to our theory is dependent upon *S*'s position on the extraversion-introversion continuum, it follows that inhibition and satiation work against each other; extraverts have less total sensory input under identical objective conditions than do introverts, due to inhibition, but for equal sensory input they generate more satiation. It follows that with short inspection periods extraverts should be expected to show greater satiation, with long inspection periods introverts should be expected to show greater satiation, while with intermediate inspection periods there should be no differences. As Eysenck (1960a) has argued, the facts seem to support such an interpretation.

Experiments with drugs also are in good agreement. The effects of stimulant and depressant drugs should imitate the effects of introversion and extraversion, respectively (Eysenck, 1960a), but with rather lengthy inspection periods Eysenck and Easterbrook (1960a, 1960b) failed to obtain very decisive support for this prediction with VAE

and KAE. Using very short inspection periods of 125 msec., Holland and Gomez (1962) obtained significant data in line with prediction. It may be suggested, therefore, that failure to obtain correlations between VAE and KAE, or between different types of after-effects within any one modality, may be due to uncontrolled effects of different inspection period durations. The position is complicated by the fact that even the choice of identical inspection periods for VAE and KAE tasks does not guarantee a similar balance between inhibition and satiation, as the assumption of similar rates of growth of either factor in the visual and kinesthetic sectors has no direct experimental support, and is unlikely to be true. Much further research is required to answer the question of inter-sensory comparison, and of the relation between after-effects and personality.

*Summary.*—It is argued that the measurement of figural after-effects involves two antagonistic processes, and that failures to obtain correlations between VAE and KAE, as well as failure to obtain correlations of either with personality, may be due to disregard of the importance of controlling length of inspection periods properly.

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*Accepted September 3, 1962.*