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'Viractin'

IT has been claimed that 'Viractin', a complex mixture of substances obtained from the mother liquors of *Streptomyces griseus* fermentation, reduced the incidence of influenza and other respiratory diseases when it was allowed to evaporate from a gauze pad suspended in the sleeping compartment of patients in a mental hospital[1]. Investigators are agreed, however, that it has no demonstrable *in vitro* antiviral activity and evaporation into the air does not protect mice against experimental influenza virus infection[2]. It has been pointed out that a negative result in experimental animals does not mean that the material is negative in man[3]. A further trial has therefore been conducted among members of the staff of the Post Office Branch of the Treasury Medical Service.

The 'Viractin' was an authentic sample used in earlier studies and was used in the manner and at the rate prescribed by Leach *et al.*[1]. Volunteer members of the staff were recruited and agreed to place impregnated pads in their bedrooms. Half of them (randomly selected) in each section of the trial received pads containing active material and the other half containing a dummy material (benzaldehyde in 90 per cent ethanol with colouring). Each volunteer received a diary card, similar to that used by Hope-Simpson[4], on which he recorded the following symptoms: sore throat, cold in the head, headache, feverishness and aches in the back and limbs. For the purpose of assessment of the cards only those symptoms recorded for 2 days consecutively or more were regarded as significant. The volunteers did not know the nature of the substance on the pads and the cards were evaluated twice with closely concordant results by physicians who also did not know what material was being used. The first section of the trial included 39 volunteers who were treated and observed between September 26 and November 20, 1966. In the second half, between January 16 and February 24, 1967, all the subjects treated with 'Viractin' were given control material and vice versa. The results are shown in Table 1.

Table 1

Group	No.	Substance	Period	No. of respiratory infections occurring	No. of persons infected	No. of infections/person/week of observation
A_1	20	'Viractin'	8 weeks	7	6	0·04
B_1	19	Placebo	8 weeks	22	9	0·14
A_2	20	Placebo	6 weeks	5	5	0·04
B_2	19	'Viractin'	6 weeks	15	8	0·13
A_1 and B_2	39	'Viractin'	Both	22	14	0·04
A_2 and B_1	39	Placebo	Both	27	13	0·05
Recording continued for a further period of 8 weeks after the solutions were withdrawn, with the following results:						
A_1	20		8 weeks	3	2	0·02
B_1	19		8 weeks	8	6	0·05

It can be seen that in the first half of the trial those given 'Viractin' fared slightly better than the controls; in the second half the controls fared better. It was concluded that there was no evidence of an effect on virus infections comparable with that reported by Leach *et al.*

It would appear that the original placebo group (B_1), although randomly selected, had an increased susceptibility to upper respiratory infection which they carried with them throughout all phases of the trial.

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P. R. GILBERT

Treasury Medical Service (PO Branch),
Armour House,
St. Martin's le Grand,
London.

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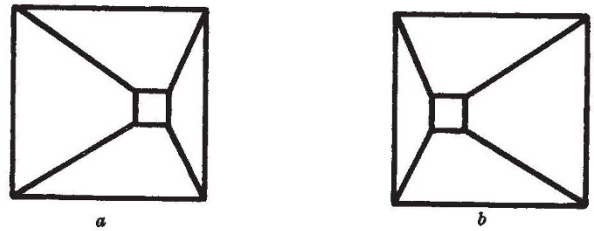
PSYCHOLOGY

Binocular Depth Perception of "Julesz Patterns" viewed as Perfectly Stabilized Retinal Images

THE role of eye movements in the promotion and maintenance of binocular fusion and depth perception is not clear, although experiments[1-3] suggest that judgements of depth in a stereoscopic situation may be made with some accuracy in the absence of eye movements. Langlands found reliable perception of depth in normal vision with short exposures of the order of 10^{-5} sec, but it seems uncertain whether judgements could have been influenced by after-images. It should be possible in principle to solve this problem by "stabilizing" images on the retina after the method of Ditchburn[4] and Riggs[5], and in 1963 one of us (C. R. E.) tried to study binocular vision with a contact lens stabilizing system in each eye, but with inconclusive results. Partial destabilization because of poor contact lens fit was a probable cause of this lack of success, as Barlow pointed out in a general criticism of this method[6]. Experiments with an after-image as a "perfectly stabilized image" have been undertaken here[7], and, because with suitable methods prolonged clear after-images of patterns can be obtained, we decided to try to study complex stereoscopic patterns in these conditions. (Because the after-image is formed as the result of temporary changes in the state of the retinal cells themselves, it can be considered to be a completely "stabilized" image.)



a *b*

Fig. 1. Stereo pair. Truncated pyramid viewed from above.

Early experiments used patterns such as those in Fig. 1; more than 100 casual subjects described the effects when patterns 1*a* and 1*b* were flashed to left and right eyes. Results were ambiguous, approximately 50 per cent reporting that the fused central square was seen "in depth", the remainder stating that the image appeared two-dimensional. The simplest hypothesis to account for the discrepancy seemed to be that the diagrams employed allowed inferences about "depth" to be made from the special nature of the patterns—which could be likened to a corridor or to a truncated pyramid seen from above. Clearly, patterns in which inferences about depth cannot be obtained must be employed. Accordingly, we considered the well known random-brightness patterns designed by Julesz of Bell Telephone Laboratories