difference is that in normal vision the three-dimensional model is built up largely from retinal evidence, whereas in dreams the evidence is wholly, or nearly wholly, provided by the mind of the dreamer.

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[1] NATURE, 143, 1026 (1939).
[2] NATURE, 142, 77 (1938).

THE explanation sought by Prof. T. S. Patterson[1] of the apparent reduction in size of the 'squint' stereo-image may be this. The apparent position of the 'squint' image is at the intersection of the crossed optic axes about half the distance of the stereo-card. Meanwhile, the angle subtended by the picture at either eye remains roughly what it was for the 'parallel' image. The inevitable instinctive comparison results in the apparently nearer presenting itself as proportionately smaller.

The reversal of the stereo-photo, left-right, right-left, prescribed by Father O'Leary, does not seem to be necessary. The solid image can be obtained, with or without reversal, as in the stereoscope, so also by direct vision, squint or parallel.

After some not too fruitful experimenting with Prof. Patterson's 'thumb' method, I found it easier to switch from the 'parallel' image by deliberate squint. Then, with a little practice, one can alternate almost at will between the two positions. The accompanying contraction and expansion of the image is most striking. The trick of collimating the optic axes to obtain the 'parallel' image, I am convinced (after years of experimentation upon colleagues and pupils), can be acquired by almost anyone (Old Testament scholars, for some reason, are invariably recalcitrant subjects). The squint habit, I imagine, will prove much more difficult to induce.

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[1] Patterson, T. S., NATURE, 143, 1026 (1939).

An Increase in the Rate of Growth of Paramecium Subjected to the Blastogenic Hydrocarbon 3 : 4-Benzpyrene

IN order to demonstrate a growth-rate larger than the normal, it is necessary to have optimum conditions for growth. If some factor other than the experimental is controlling growth, then of course growth-rate above the normal cannot occur.

Superabundant food was supplied by Peters's medium containing 1,500 million of *Staphylococcus aureus* per c.c. Staphylococcus was chosen because it does not grow in Peters's solution at room temperature, and therefore cannot be stimulated by benzpyrene. Abundant oxygen was provided by growing the cultures, 0·2 c.c. in volume, in shallow well slides. The well slides were kept in petri-dishes containing blotting-paper moistened with tap water. Warm room temperature was used.

The cultures were seeded with about 100 organisms taken from a rapidly growing culture: a rapidly growing culture must be used in order to avoid an initial lag in growth, which occurs when organisms from old cultures are used for seed. Counts were made 24–48 hours after seeding. It is unsafe to count cultures more than 48 hours old because growth rate then begins to fall off owing to exhaustion of food. During 48 hours growth is exponential, and the time from one division to another is about five hours.

The 3 : 4-benzpyrene was applied as a colloidal emulsion in glass-distilled water: to produce, for example, a concentration of one in a million, 0·1 c.c. of a one in five hundred thousand emulsion was added to 0·1 c.c. of a seeded-Peters's-Staphylococcus liquid: the addition of distilled water alone made controls. On account of the strong photo-dynamic action of benzpyrene, all manipulations must be carried out at very low illumination, preferably behind a 2*a* Wratten filter; and the cultures afterwards kept in the dark. Leaving the cultures at ordinary laboratory illumination, if it does not kill them, greatly reduces their growth rate. When ready for counting, 0·05 c.c. of 'Susa' was mixed into the cultures; after fixation the organisms are no longer light sensitive and can be counted at ordinary illuminations.

Counts of control cultures show some variation, so that sets of four or five pairs were used in all cases.

All these details must be followed for successful experiments. The results obtained in six consecutive experiments are given in the table; in No. 6 sugar was omitted from the Peters's medium; in all cases the dilution of benzpyrene was one in a million.

		Hours of cultivation	Numbers counted	Percentages
1	Benzpyrene	24	549	118
	Control	24	467	100
2	Benzpyrene	30	1095	115
	Control	30	949	100
3	Benzpyrene	30	389	126
	Control	30	308	100
4	Benzpyrene	30	364	142
	Control	30	256	100
5	Benzpyrene	48	1363	154
	Control	48	884	100
6	Benzpyrene	48	773	152
	Control	48	507	100

Benzpyrene was also tested against the non-blastogenic 1 : 2-benzanthracene and gave 115 per cent against 101 per cent, the control taken as 100 per cent. In a single experiment, using benzpyrene in dilutions of one in 100,000, one in a million and one in ten million, the results were 99, 137 and 100. Thus was demonstrated a growth-stimulating property of 3 : 4-benzpyrene on Paramecium in a dilution of one in a million, provided that the cultures were kept in the dark. The method enables one to express quantitatively this action on an animal cell. No attempt has yet been made to estimate the volume of the organisms. In this connexion it may be mentioned that no differences in size between experimental and control were observed.

When benzpyrene is applied to the tissues of animals a localized hyperplasia occurs; from the above results it seems that this is probably due to a direct action on the cells, to growth stimulation.

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