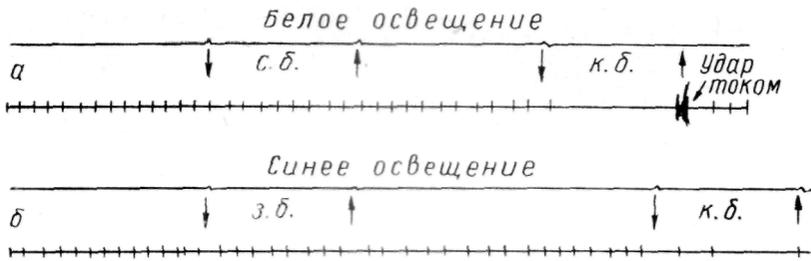


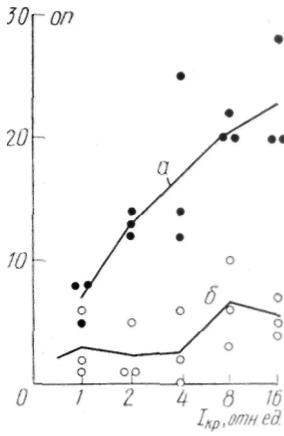
7, 1



1.

Fig. 1. The conditioned reflex changes in the frequency of fish heart beating caused by positive and negative conditioned stimuli.

(2×3),
 (8×10) 15
 [1],
 (,
 () ,
 (. 1).
 « [6]).
 « » ()
 , ,
 ,
 [6],
 , , ,
 , . . ,
 ,
Cyprinus carpio L. *Carassius carassius*,
tectum opticum, [3, 4].
 () $5 \pm 1^\circ$.
 — 10° — (10°)
 20 /



3.
(on) (I).
Fig. 3. The response of a cell to the movement of a green paper.

$S(\theta)$,

$$F(\theta) = S(\theta) \cdot (\theta) \cdot \cos \theta \quad (1)$$

$S(\theta)$,

$$\cos \theta$$

(R) (G)

$$F^R = S^R \cdot R \cdot \cos \theta \quad (2)$$

$$F^G = S^G \cdot G \cdot \cos \theta \quad (3)$$

[2].

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2., 22, 772—779, 1972.
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THE PHYSIOLOGICAL MECHANISMS OF COLOUR CONSTANCY

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Summary

The colour constancy is the ability to recognize correctly the colours of the objects under different illuminations. For this purpose the visual system must identify the character of illumination and estimate the colour of the object, using the light reflected from this object according to the spectrum of illumination. The behavioural experiments with fishes showed that they possess the colour constancy. The electrophysiological studies on colour-coding ganglion cells showed that the simplest mechanisms of estimating the colours of objects according to illumination exist at the retinal level. The presence of colour vision facilitates the recognition of the volume form of the objects. The generally accepted view on the place and role of colour vision in the general function of the visual system of animals has to be changed on the basis of these facts.