of information transmission. Independent channels, in fact, have the capacity to carry the maximum of information. Any link between the transmission lines is a sign of redundancy in the system, and therefore decreases the channel capacity.

From the standpoint of the information transmission, hypothesis 1. implies that each channel transmits different information, while hypothesis 2. implies, at least in part, parallel transmission of the same information by a certain number of independent channels.

In our opinion, hypothesis 2. is more likely: in the above quoted work (HUGHES and MAFFEI 1966), it was seen that a good replica of the sinusoidal light stimulus requires response average over a certain number of input cycles. It is very unlikely that this time average is actually performed at the reception level; on the contrary, if a certain number of cells transmit the same information in parallel an ensemble average replaces the temporal average.

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BUCHBESPRECHUNGEN

Growth and maturation of the brain. Edit. by DOMINICK P. PURPURA and J. P. SCHADÉ. (Progress in Brain Res. Vol. 4.) Amsterdam-London-New York: Elsevier Publ. Co. 1964. 289 S., 180 Abb. u. 46 Tab. Geb. DM 40.—.

In neurology there are several open questions for which one may resort to the study of immature brains. If one adopts the organological point of view, one may look into embryology to find differences in the timing of maturation in the various suborgans of the nervous system and, more important still, in order to establish correlations between these units and particular functions on the basis of the chronology of their appearance. Furthermore, the (somatotopic) mapping of various portions of the nervous system into each other may be elucidated by the study of the embryological mechanisms through which these orderly projections are established. Also, the anatomical or biochemical substrate of acquired vs innate behaviour is a subject to be studied at different ontogenetic stages. This volume is a laudable attempt to collect papers in this

fruitful field of neurological ontogeny, although it is fair to say that the reader is not presented with a completely representative sample of the whole compass of studies of an embryological kind, since e.g. the second and third kinds of problems mentioned above are not treated. Rather, some broad monographic expositions of particular chapters of neurology are impressive, such as Levi Montalcini's article on embryological mechanisms, RABONOWICZ' architectonic atlas of the 8th month human fetus, HUMPHREY's treatment of human fetal reflexes, LØVTRUP's article on brain mitochondria. Anatomical papers are by BRIZZEE et al., SCHADÉ et al., PAPPAS and PURPURA, PURPURA et al. MARTY and SCHERRER establish correlations between the functional and anatomical maturation of fiber systems, while SARKISOV correlates the morphological development with facts from experimental psychology. The biochemical point of view is represented by BONAVITA and by WENDER and HIEROWSKI.

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