One must consider in fact the possibility of the appearance, after birth, of delayed teratogenic effects, such as those on the teeth, and the need to carry out the treatment during the whole gestation to show a crude teratogenic effect.

In fact, some ontogenetic moments may be easily missed using fractional treatment, especially in animals having relatively rapid gestations. On the other hand, if the determination of the precise moment of the pregnancy which is sensitive to the drug should be of interest, the fractional treatment may show it in further trials.

Riassunto. La 2-sulfanilamido, 3-metossi-pirazina, a differenza della 2-sulfanilamido,4-6-dimetossi-pirimidina, non induce malformazioni dentarie nella prole, qualora venga somministrata al ratto durante la gestazione.

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Uridine Incorporation into Pyramidal Nuclei of the Mouse Brain

Recent memory has been assigned to the hippocampal zone of the brain in mammals and longer-term memory to the neocortex (STEPIEN et al.[1]). Intracerebral injections of puromycin into the hippocampi have been found to cause loss of short-term memory, whereas longer-term memory was lost only after the remaining cortical areas were involved (FLEXNER et al.[2]). Studies on the significance of compounds, which inhibit protein synthesis, such as puromycin, and brain function also has rationale from the early work of HYDEN[3] who demonstrated a correlation between neuron function and nucleotide incorporation into pyramidal cells of the mouse brain.

A male C3H mouse received i.v. 5 μC of (H)^3-uridine 1.15 C/mM) per g of body weight and was sacrificed 2 h later. Tissues were fixed in Bouins solution and autoradiographs of slide material were made with Kodak NTB1

1 L. STEPIEN, J. CORDEAU, and T. RASMUSSEN, Brain *83*, 470 (1960).
2 J. FLEXNER, L. FLEXNER, and E. STELLAR, Science *141*, 57 (1963).
3 H. HYDEN, Symp. Soc. exp. Biol. *1*, 152 (1951).

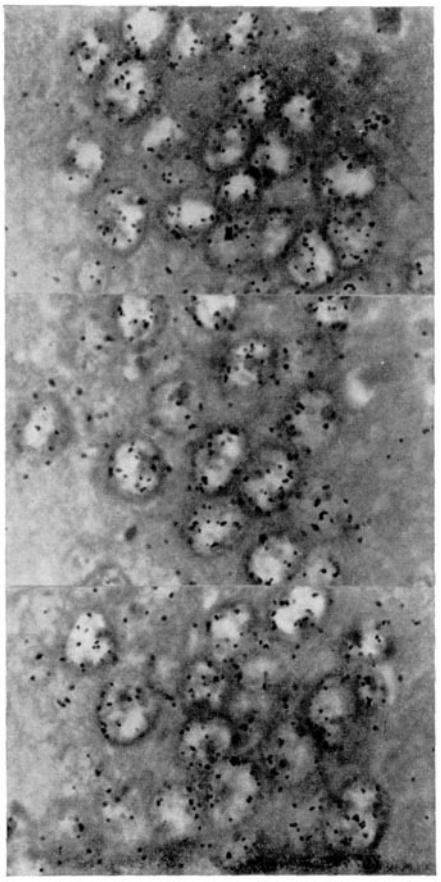

Fig. 1

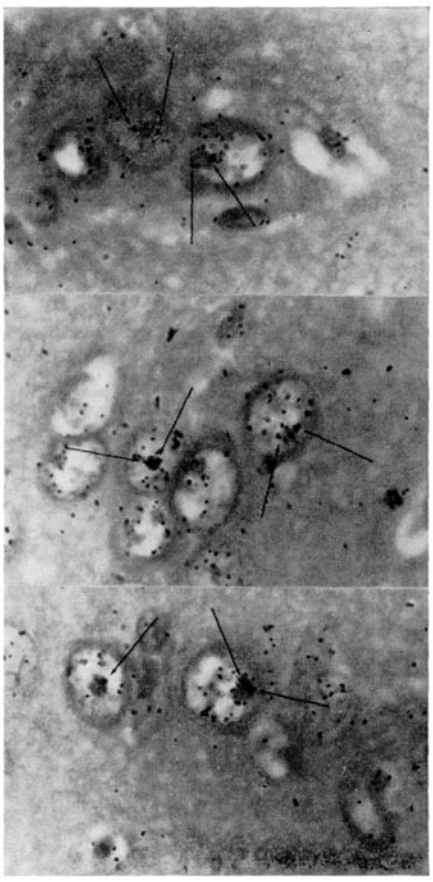

Fig. 2

emulsion and exposed for 12 weeks. Subsequently, the slides were developed and stained with hematoxylin and eosin.

No significant incorporation occurred in the glial or vascular elements. All incorporation was into neuronal nuclei. Figure 1 demonstrates hippocampal nuclei and is to be compared with Figure 2, which shows representative nuclei from the cortex. All of the hippocampal pyramidal nuclei are labeled and appear to be more heavily labeled than the cortical pyramidal nuclei, but there is a marked difference in the pattern of labeling. The hippocampal nuclei have a well defined nuclear label with this particular pulse interval (2 h). The label tends to be generally distributed within the nucleus, i.e. over the chromatin, nucleolus, and nucleoplasm, whereas the cortical pyramidal nuclei have nucleoplasmic areas devoid of label and instead a great number lie over the nucleolar periphery. The finding of the nucleolar label frequently grouped at two particular points (see arrows on Figure 2) is reminiscent of the position of the nucleolar organizers in cortical pyramidal nuclei. The concept of s-RNA synthesis at these nucleolar organizers has been given serious consideration by SIRLIN[4]. BONDY and WAELSCH[5] have presented evidence showing that the rabbit brain is not only higher in RNA polymerase activity than liver, but that the cerebral cortical nuclei were more active than other areas of the brain (if based on $\mu\mu$moles of nucleotide incorporation per mg DNA). UTP or ATP gave similar results.

It may be that differential aspects of nucleotide metabolism in various layers of the brain are basic in their capacity to perform at the psychological level.

Zusammenfassung. Beim intranuclearen Einbau von tritiummarkiertem Uriden wurden Unterschiede im Markierungsmuster zwischen Maus-Hippocampus und Cortex-Pyramiden-Neuronen gefunden.

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[6] Present address: Hulls Cove (Maine).

The Effect of Severe Hypoxic Hypoxia in the Decompression Chamber on the Catecholamine Content of the Hypothalamus in the Cat

It has been already found that asphyxia lowered the amount of noradrenaline in the hypothalamus of the cat, provided it was sufficiently severe to cause considerable medullary secretion[1]. In these experiments a hypercapnia was also present, because asphyxia was produced by an occlusion of the trachea. It was therefore of interest to repeat these experiments under a considerable decrease of pCO_2. Cats were kept for 1 h at the simulated altitude of 10,000 to 10,500 m in the decompression chamber. Recompression was made for 1 min. The catecholamines were extracted from the hypothalamic tissue by acidified ethanol and estimated both fluorimetrically[2,3] and biologically on the rat's blood pressure. The results are presented in the Table. Each group represents the mean value of 10 experiments.

It can be observed that the hypothalamic catecholamines were significantly reduced in animals exposed to severe hypoxic hypoxia. These findings confirm those of VOGT, and show that these changes occur even under a significant decrease of pCO_2.

Résumé. La quantité de la noradrénaline dans l'hypothalamus de chat exposé a l'hypoxie grave dans la chambre de décompression fut diminuée significativement.

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Fluorimetric estimation						Biological estimation	
Controls			Animals exposed to hypoxia			Controls	Animals exposed to hypoxia
1 N	2 A	3 N + A	4 N	5 A	6 N + A	7 N + A	8 N + A
1.443 ± 0.08	0.107 ± 0.01	1.551 ± 0.08	0.722 ± 0.07	0.099 ± 0.01	0.822 ± 0.07	1.571 ± 0.37	0.752 ± 0.30
P (1:4) < 0.01	P (3:6) < 0.01	P (7:8) < 0.01	P (2:5) not significant		P (1:7) not significant	P (6:8) not significant	