Sympathectomy in Man. (*Arch. Neur. and Psychiat., vol. xxxviii, p. 757, Oct.,* 1937.) *Richter, C. P., and Levine, M.*

Cervical sympathectomy, i.e., removal of the stellate and first thoracic ganglia, was performed on 10 patients and produced a large increase in the electrical resistance of the skin of the palms of the hands, and a smaller and less consistent increase on the backs of the hands.

Lumbar sympathectomy, i.e., removal of the second, third and fourth lumbar ganglia in two patients produced similar changes in the resistance of the skin on the soles and the backs of the feet.

The writers found that in some patients the changes in the resistance of the skin on the arms, chest, etc., were sufficiently great to make possible a fairly accurate localization of the sympathetic lesion. By placing patients in a cool temperature these differences can be made even more marked.

G. W. T. H. FLEMING.

The Permeability of the Nerve Centres. V: The Effects of Certain Pharmacological Substances (Picrotoxin, Aconitine, Quinine) on the Permeability of the Isolated Cerebro-spinal Axes of Bufo viridis. (*Boll. Soc. Ital. Biol. Sper., vol. xii, pp.* 228–9, 1937.) *de Marco, R.*

The technique previously described was used. The permeability of the potassium ion to the isolated cerebro-spinal axes of *Bufo viridans* at rest and during stimulation was studied after the addition to the nutritive liquid of 2–6 drops of (1) picrotoxin, (2) aconitine and (3) quinine. The three substances produced an increase in permeability of a degree corresponding to that observed previously with strychnine, crotalus venom and morphine, but markedly less than that obtained with *Trachinus* and *Scorpæna* venoms, whether the cerebro-spinal axis was at rest or under electrical stimulation.

PETER MASUCCI (Chem. Abstr.).

The Relative Hypnotic Effects of some Ureas of Varied Types. (*Journ. Pharmacol., vol. lxi, pp.* 175–81, 1937.) *Hjort, A. M., De Beer, E. J., Buck, J. S., Ide, W. S., and Fassett, D. W.*

The relative hypnotic potencies of 20 widely diversified substituted ureas were compared. Most ureas have a hypnotic action. The introduction of a hydroxyl or carboxyl group decreases or abolishes this property. Halogenation of alkyl and alkylaryl ureas increases the hypnotic potency, so does lengthening the alkyl chain or increasing the size of the aryl group in alkylaryl ureas. Thioureas are effective hypnotics, but the only isothiourea studied, ethylethyl-*p*-anisylisothiourea-HCl, is not a hypnotic but a powerful convulsant and relatively very toxic.

L. E. GILSON (Chem. Abstr.).

A Further Study of Barbiturate-picrotoxin Antagonism. (*Journ. Pharmacol., vol. lxi, pp.* 153–61, 1937.) *Krantz, John C., jun., Carr, C. Jelleff, and Beck, Frances F.*

In the white rat, picrotoxin antagonizes the depression of oxygen consumption produced by nembutal, but does not increase oxygen consumption in rats which had not been previously depressed. Picrotoxin does not combat the depressed oxygen uptake of rat or rabbit brain *in vitro*. It does not stimulate respiration through the carotid sinus. Its antidotal action is attributable mainly to its convulsant action.

L. E. GILSON (Chem. Abstr.).

Hydrolysis of Salts of Barbituric Acids as Related to the Rate of Onset of Anæsthesia. (*Journ. Pharmacol., vol. lxi, pp.* 134–8, 1937.) *Bush, M. T.*

The apparent ionization constituents of the hypnotics phenobarbital, barbital, amytal, pentobarbital and evipan were determined. The respective *p*K values are

7·34, 7·89, 7·89, 8·04 and 8·23. The degree of hydrolysis of the sodium salts and the acid-salt ratios at the *p*H of blood were calculated. These values are such that there is no apparent correlation between them and the rate of onset of anæsthesia. L. E. GILSON (Chem. Abstr.).

The Local Action of Eserine on the Central Nervous System. (*Journ. Physiol., vol. xci, pp.* 212–21, 1937.) *Miller, F. R.*

Experiments with cats indicate that the eserine response is evoked locally from the cerebral cortex, and is not a consequence of absorption followed by spinal or peripheral action. E. D. WALTER (Chem. Abstr.).

The Theory of Narcosis. (*Trans. Faraday Soc., vol. xxxiii, pp.* 1062–8, 1937.) *Meyer, Kurt H.*

The threshold concentration of the "indifferent" narcotics (CH_4, $CHCl_3$, CCl_4, ether, alcohols, etc.) in the surrounding medium (water or air) was determined for tadpoles and mice. Determinations were made of the corresponding distribution coefficients between the external media and albumin, olive oil and oleic alcohol (the latter was chosen as a model for the cholesterol type of compounds). No correspondence was observed between the effectiveness of a compound as a narcotic and its surface activity. On the other hand, the distribution coefficient in oleic alcohol was nearly constant, suggesting that such a distribution occurs also in the sterols of the organism. Narcosis commences when any chemically indifferent substance has attained a certain molar concentration in the cell sterols, this concentration depending on the nature of the animal or cell, but being independent of the nature of the narcotic. S. A. CORSON (Chem. Abstr.).

The Action of Narcotics on Enzymes and Cells. (*Trans. Faraday Soc., vol. xxxiii, pp.* 1057–61, 1937.) *Clark, A. J.*

There are two important rival theories which attempt to explain the action of aliphatic narcotics on living cells: (*a*) the properties of the cell surface are determined by its lipide content, and narcotics change these properties by dissolving in this surface; (*b*) narcotics are adsorbed on the cell surface, thus covering it with an inert layer. The adsorption hypothesis is supported by the following data: (1) Resemblance between the action of narcotics on living cells and on enzymes. The concentration-action curves obtained were of an adsorption, linear or intermediate type. The linear curve is usually adduced as proof for theory (*a*). But it was shown that the action of narcotics in lowering the air-water surface tension follows, over the range of concentrations of physiological interest, a nearly linear relation exactly similar to that obtained with living cells. It is suggested that if more than half the total adsorption possible is required in order to produce full inhibition of an action, then an exponential concentration-action curve is obtained. If inhibition is produced when the surfaces are less than half saturated, then the curve approximates a linear form, although it is really a portion of an exponential curve. (2) Pharmacological activity of narcotics increases with the increase in the length of the C chain, thus showing a marked parallelism between equinarcotic and isocapillary concentrations. This rule, though, often breaks down when different series of compounds are compared. However, the same divergence is obtained in the action of narcotics on enzymes. (3) Warburg showed that narcotics interfered in a similar manner with the action of cyanides on cells and on the inorganic catalyst, blood charcoal. (4) Schurmeyer showed that alcohol inhibited the action of purified invertase only after globulin was added, suggesting that inhibition depends on the active group of the enzyme being fixed to particles of colloidal dimensions. Quantitative data support the adsorption hypothesis but do not entirely exclude theory (*a*). S. A. CORSON (Chem. Abstr.).