

Selected Articles.

STUDIES ON THE HYPNOTIC ACTION OF THE VALERIC ACID GROUP.

PROF. A. VAN DER EECKHOUT, of the Veterinary College in Brussels, reports a number of experiments made on animals, to determine the physiological action of "bromural." The report is from the Pharmacological Institute of the University of Heidelberg, and explains that quite recently monobrom-isovaleryl-urea has been synthesized by Dr. Saam, and introduced as an hypnotic under the name bromural $(\text{CH}_3)_2\text{CH}.\text{CHBr}.\text{CONH}.\text{CONH}_2$. It occurs in the form of white, almost tasteless, needle-like crystals, which are soluble in hot water, ether, alcohol, and alkalis, but with difficulty in cold water. Its melting-point lies at 146°C . Clinical tests showed that 0.3 to 0.6 grams will generally induce sleep in from five to twenty-five minutes. This sleep lasts from three to five hours, unless natural sleep supervenes or a second dose is given. The perfectly natural and after-effects have not been observed.

Before testing the drug clinically, its relative harmlessness was proven by experiments on animals. Deep hypnosis may here be induced without any deleterious action on circulation or respiration, so that the drug can be considered an efficient, non-toxic hypnotic.

Other similar compounds were also investigated. The isovaleryl-urea proved inactive. The bromine substitution product of ordinary valeryl-urea was also free from hypnotic effect, while that of methyl-ethyl-acetyl-urea showed about the same hypnotic action as bromural. Analogous amides of brom-isovaleric acid were also soporific but too toxic.

Experiments on frogs showed no signs of irritation. The depressive action affected first the cerebrum, then extended downward. The heart was influenced only with larger doses.

The action on rabbits was found to be about the same as on frogs. There was never irritation. Respiration was slowed early. The normal hypnotic dose for a rabbit is 0.2 to 0.3 grams per kilogram but the individual susceptibility varies. A dose of 1 gram per kilo is sometimes fatal. The animal will wake up, but refuses food and dies in several days. No lesions were found post-mortem.

Bromural was also demonstrated to have an hypnotic action on dogs. Therapeutic doses cause sleep without affecting respiration