

marked rise in body-weight, and she began to display her present childishness.

She smirks, gives little shouts of delight, claps her hands, and has little outbursts of temper like a spoiled child; she toddles about with arms outstretched, swaying as if unsure of her feet; she will sit on the ground for hours, arranging little pebbles about her; she seldom speaks, and then only in baby talk, with a lisp. But the picture of babyishness she presents has certain inconsistencies: if she eats unsuitable things, such as fallen leaves, she carefully washes them first, like an older child who plays housewife. In several respects her behaviour differs from that of any child; she shows none of the child's inventiveness in her play, none of the child's coquetry, none of the child's favouritism towards particular persons; her way of collecting stones and bits of wood is a dement's way; and as regards matters sexual, though she exhibits an infant's immodesty, and though she treats her husband with indifference, seeming to care only for the eatables he brings her, yet when she hears another woman propose to make conquest of him she objects bluntly, saying he is hers.

Her childishness is simply a mannerism of dementia præcox, such as might later be exchanged for some other mannerism having no childish quality. Its distinction from the affected childishness of an hysteric may perhaps be somewhat nice, but the childishness in this woman's case is evidently quite different from that of senile dementia, in which the principle of regression operates, or of severe shell-shock, where an amnesia, stripping the civilised adult of his social acquisitions, leaves only infantile activities. Her childishness is not a bare state of mind, but an assumed garb.

SYDNEY J. COLE.

4. Treatment of Insanity.

La Phényléthylmalonylurée (Gardéual, Luminal) dans le Traitement de l'Épilepsie. Bergès, Gaston.

This substance, first obtained by Hörlein, and best known by its German name "luminal," is akin to veronal, from which it differs in the substitution of a phenol group for one of the two ethyl groups. It is a crystalline solid, melting at 172° C., and is almost insoluble in water, but soluble in alkaline solutions (forming a sodium salt, which can be isolated); from such solutions it is precipitated by addition of hydrochloric or acetic acid. It was first studied pharmacologically in 1912 by Impens, and in the same year Kino published some remarkable results obtained with it in epilepsy. It soon attracted considerable attention in Germany, and was beginning to be noticed in other countries when the war put a stop to research.

The drug is best given by the mouth, either in cachets or in the form of tablets, which should be crushed. It has a bitter but not disagreeable taste. It should be taken on an empty stomach or between meals, and accompanied by some hot beverage. The daily quantity for an adult is from 20 to 30 cgrm., which should be divided into two or three doses. Hypodermic administration is unsatisfactory and uncertain in

its results, for it necessitates the use of the sodium salt, which is exceedingly prone to decompose and become inert.

The author of this brochure gives a glowing account of the action of luminal in epilepsy. At the commencement of the treatment the hypnotic effect of the drug is very marked, and after three or four days a condition of torpor may be produced, or in some cases excitement, whose appearance, however, if it occurs at all, may be delayed till the second week. After two or three weeks of the treatment the somnolence and other psychic disturbances disappear, while the therapeutic effect upon the epilepsy remains. The action of the drug in inhibiting the fits is very rapid; within a day from the commencement of the treatment the fits cease, even in inveterate cases in which they have been habitually frequent. If, however, they continue to occur, the daily quantity of the drug is increased to 30 or even 40 cgrm., but the increased doses are not to be continued beyond two or three days if there is excitement. After their initial cessation the fits recur, if at all, only at long intervals and in a milder form. In the first six months of treatment, the average number of fits per month is about one-tenth of what it was before. In some cases major fits are reduced to minor fits, or to other epileptic equivalents, such as fugues; these modifications are generally favourable unless, as exceptionally happens, occasional major fits are superseded by frequent minor fits. Attacks of *petit mal* are usually inhibited like major fits, but upon those the effect is less clear and often less rapid. In some of the cases of traumatic and Jacksonian epilepsies in which the drug has been tried good results have been obtained; but the cases in which the benefit is most striking are the cases of genuine epilepsy with frequent typical major fits, in which bromide has proved ineffective.

Luminal is said to have a beneficial influence also on the chronic mental troubles of epileptics. The mental retardation is diminished, the patient becomes brighter and more quick-witted, and his memory improves. He becomes less irritable. These good effects are most marked in children, but are observed also, though in less degree, in older and more chronic cases in which mental deterioration has been long in progress. The improvement is not due simply to disuse of bromide, for it occurs also in cases in which bromide has either not been used at all or has been abandoned long before the administration of luminal was begun. There is often also a physical improvement—an increase in body-weight and in appetite for food.

In the initial period of the treatment the drug sometimes provokes acute mental disturbances; the convulsive attacks being restrained, the epilepsy finds a psychic manifestation in excitement, delirium or confusion; and even long after the beginning of treatment there may be choleric outbursts and alterations of character and mood. Though the drug is evidently responsible for these phenomena its action is said to be only contributory, for they occur only in cases in which they have already occurred before the treatment was instituted. On the other hand, the drug seems often to prevent or mitigate such attacks in patients previously subject to them; they become slighter and less frequent, but are more prone to recur than convulsive fits.

As the treatment is not curative but only symptomatic, it must be

continued for months or years. If for any reason it is to be discontinued, this must be done gradually; abrupt discontinuance almost invariably induces a grave general disturbance, with numerous fits, and sometimes status epilepticus. If, however, under treatment the patient has for many months shown no epileptic manifestations even of the slightest sort, it may be possible to reduce the daily 20 cgrm. to 10 cgrm.

In early stages of treatment the drug often causes a skin-eruption—a transient erythema, never serious—and occasionally vomiting. This, or a dangerous fall of blood-pressure and pulse-rate, may necessitate the reduction or abandonment of the drug. In severe chronic cardiovascular affections, in uncompensated heart disease, and in renal disease the drug is very decidedly contra-indicated. Several deaths have been reported which appeared to be due to it.

The author adds notes of seventy-five cases, observed personally or collected, and a bibliography of fifty-six items.

SYDNEY J. COLE.

Analysis of more than 200 Cases of Epilepsy Treated with Luminal.
(*Amer. Journ. Ins., April, 1921.*) Kirk, C. C.

In 1914 Dr. Richard Eager directed the attention of Dr. Dercum to the value of luminal in epilepsy. Luminal is pheno-barbital, and the addition of the phenyl group is claimed to advantageously increase the hypnotic power. Luminal in the cat or dog affords quiet sleep, rarely preceded by excitement. It lessens the frequency of breathing, but increases its volume. It is eliminated by the kidneys, and injury to these organs has not been observed. There is considerable range between effective and lethal doses. It kills by respiratory paralysis. The dose is 3 to 5 gr., if need be increased to but not exceeding a maximum of 12 gr. Luminal-sodium has a dosage 10 *per cent.* greater. It may be used hypodermically in 20 *per cent.* solution in distilled water. The hypodermic dose may be from 1½ to 5 gr.

In 1919, after lengthy trial, Dercum reported astonishing improvement even in old-standing epilepsies, and stated that luminal acted as a specific in idiopathic epilepsy, seizures being abolished for several years.

In December, 1919, Kirk adopted its use with reservation. The cases selected were those with frequent and profound seizures, some having been bed-ridden for months or years. Certain results were so amazing that within a month luminal was being administered to all cases of essential epilepsy, 1½ gr. in tablet at bedtime. Luminal-sodium appeared equally effective. In only five cases was the treatment varied, 1½ gr. night and morning, and in two instances the same dose three times a day. In all cases on improvement the doses were reduced to one at bedtime. Continuous treatment was persisted in for four to five months, when the stock of the preparation was exhausted; this was May 1st, 1920. During the month after cessation the number and strength of seizures were appreciably increased; but there had been no retrogression to the position prior to treatment.

All stimulants, tea, coffee, tobacco, were prohibited. The diet was unaltered except for closer supervision as to quantity. The secretion