At the congress Professor von Schrötter showed a portable Bulling apparatus, such as might be used in any private house; and finally he pointed out that perhaps this new procedure will in time be extended to the whole organism, and be employed in certain affections of the nerves, possibly, also, in cases of heart disease.

## INFANTILE CEREBRAL PALSIES.

Writing in the *Clinical Journal* Dr. Tooth divides the cerebral palsies of infancy into two main groups—those due to traumatic lesions, and those due to causes other than traumatic.

In the first class, those of traumatic origin, the early history is generally obscure, and the first appearance of the symptoms frequently by no means definite; their cause may generally be traced to pelvic malformation or undue rigidity of the mother, but precipitate labour occasionally produces similar results.

In assigning the use of instruments as a cause, it must be remembered that it is precisely in those cases which, if left, might result in brain lesion that instruments are most frequently used, and it is reasonable to suppose that, by the timely use of instruments in such cases, subsequent palsy in the child may be avoided.

The symptoms by no means always appear at birth, and may be delayed for weeks or months, the explanation being that in earliest life movements are not of cerebral but of reflex origin, and referable to the grey matter of the cord ; which fits in with the fact that myelination of the lateral tract, whilst essential for the transmission of ordinary impulses, is not complete before the end of the first year, and this view is supported by the observation that the plantar reflex in children below this age is normally of the extensor type.

The palsies of other than traumatic origin are practically always due to disease of the cortex either of an inflammatory or thrombotic origin, or of the nature of an acute cellular degeneration.

1. Paralyses of vascular origin include infantile hemiplegia, monoplegia, and diplegia, together with associated conditions of epilepsy and degrees of idiotcy. The onset may be at any time, from shortly after birth to two or three years, or even to thirteen years, as in two cases referred to by the lecturer. It is generally acute and marked by convulsions and a rise of temperature, but the diagnosis is often

obscure until paralysis appears, which, as above indicated, is not easily determined if occurring soon after birth. Grouped according to the nervous symptoms, the commonest variety is that in which there is hemiplegia in no way differing from that occurring in the adult, distinctive features showing themselves later in a tendency to improvement, and the presence of disordered voluntary action without loss of power, together with some degree of rigidity, accompanied by a variable amount of mobility.

This "mobile spasm" may show itself in several forms, among them athetosis, or constant, almost rhythmical, movements, increased by attempts at voluntary action, and jerking movements simulating chorea, which have received the name post-hemiplagic hemichorea.

Another form, "chorea spastica," somewhat closely resembles the tremor of disseminate sclerosis.

In infantile hemiplegia, as in the adult form, the leg recovers earlier and more completely than the arm; in some cases the paralysis of the lower extremity practically entirely disappears. Usually, however, some degree of spasticity or athetoid movement, or "clumsiness," persists. In severe cases nutrition of the affected limb is profoundly affected or almost arrested.

A fairly common distribution of the disease with regard to symptoms is double hemiplegia —infantile spastic paraplegia, or Little's disease —characterised by diminished voluntary power and marked spasticity with increased reflexes. Sensation is rarely affected.

After demonstrating cases showing the motor symptoms detailed above, Dr. Tooth points out another and even more serious aspect of these cases, that is, the tendency to arrest of mental development and epilepsy. Unless the lesion is confined to the motor part of the cortex, mental deterioration inevitably shows itself, and, remembering the large percentage of epileptics whose first fits occur in the first year of life—" teething convulsions," so called —it is possible that they owe the tendency to a brain lesion situated in a position giving rise to the paralytic symptoms.

Paralysis due to degeneration of the cortex (infantile cerebral degeneration).—This is a degenerative process affecting the entire cortex, and going on to a fatal issue. This disease shows itself typically among Jews, and, beginning about the sixth month, may be divided into three stages: (a) muscular weakness



