

of distinct value, since muscle and tendon transplantation does not offer much in this region. The shoulder, when the scapular muscles are unaffected, yields at times excellent results. The removal of the astragalus may sometimes be indicated, because it is a factor of instability at the ankle on account of its lack of muscular attachments. Tendon grafting and removal of skin flaps to overcome the tendency of the deformity are also mentioned. Silver says in conclusion that it is rare to find an untreated patient for whom some benefit cannot be obtained by orthopedic surgery. Fortunately, this treatment is most effective in the region most frequently affected, the foot, but in all regions enough can be gained to make the labor worth considering; usually the combination of several operations or procedures will be required.

SYPHILITIC ARTERITIS.

E. M. Hummel, New Orleans (*Journal A. M. A.*, September 17), says that only recently has sufficient emphasis been placed on the tendency of specific arteritis to appear shortly after primary infection, and on the relative frequency of isolated involvement of the arterial system as a lesion of syphilis. It is now held that this lesion in its pure form practically does not occur in very late syphilis, or more than three years after the initial lesion. The importance of recognition of these facts in the correct diagnosis and treatment of syphilis is sufficiently obvious. As a matter of course, it is essential to interpret correctly the symptoms of diminution of the blood supply, as shown in neurasthenia, transient paresis, etc., not extending to the gravity of organic disease. When actual hemorrhage, softening or thrombosis occurs, the symptoms are not specially different from those from other causes, excepting the tendency of syphilis to select the branches of the middle cerebral artery for its attacks. In Hummel's experience the involvement of the arteries supplying the striate body, thalamus and bulb are especially frequent. A detailed report of a case going on

to autopsy is given, showing these peculiarities very markedly.

EXPERIMENTAL POLIOMYELITIS IN MONKEYS

S. Flexner and F. A. Lewis, New York (*Journal A. M. A.*, August 20), contribute an eighth note on their experimental research on poliomyelitis in monkeys. It can now be accepted as an established fact, they state, that human beings and monkeys who have passed through an attack of poliomyelitis have come to contain in their blood certain neutralizing principles for the virus of the disease which are demonstrable by animal tests for two or more years in human beings and probably are equally persistent in monkeys. It has been shown, however, that monkeys after recovery from poliomyelitis are highly refractory to reinoculation with the disease, and it is probable that recovered human beings are similarly protected. A strong active immunity has been conferred. Recovery from the disease, however, is not the only way to obtain immunity, as it has been proved possible to make immune monkeys actively by infection into the subcutaneous tissue, either of a full strength virus or that which has been modified by chemicals like glycerin. This, however, is not uniformly safe, since some of the animals do not develop a strong immunity, but develop paralysis from the treatment. The test of this active immunity, as published, consisted in the power to resist a large intracerebral injection of the filtrate that in far smaller quantities produces paralysis in the control animal. It has been shown that the blood serum of human beings and monkeys recovered from the disease contains neutralizing principles for the virus lacking in normal serum, and it is safe to assume that these neutralizing substances are responsible for the immunity. Like substances, therefore, should be found in the serum of animals directly actively immunized which have not gone through an attack of poliomyelitis. When an active filtrate containing virus is mixed with the serum of actively immunized monkeys and inoculated for a