manifestations which usually obtrude themselves upon the observation during the first week. As before remarked, in doubtful cases the tender spot should always be sought.

Treatment.—Though this is probably at first a local disease, constitutional treatment must not be by any means neglected. The alimentary tract being one of the channels by which infection undoubtedly occurs, free purgation is in order, and no drug may be more fitly used than calomel, given in say half-grain doses every half-hour, until liquid evacuations are produced. Kocher advises salicylate of soda in large doses, and the exhibition of this drug might act beneficially both as an antipyretic and as a disinfectant of the bowels. Stimulants are often required early and freely, and the giving of nourishment in an easily assimilable form must not be neglected.

The importance of local treatment can not be too strongly insisted upon. The application of iodine blisters and liniments is not only useless but hurtful, as these tend to obscure the symptoms, and mislead the surgeon, while they lead the patient and his friends to believe that some good may be done by external application, and thus dispose them to be less willing to allow surgical interference. I am most strongly of the opinion that nothing will do the least good, short of a free incision down to the seat of the disease whether that be in the periosteum, in the cancellous tissue of the end of the shaft, or in the medulla. And I am fully in accord with Tubby and Senn, in urging that this should be done at the earliest possible moment after a diagnosis has been made. Frequently the friends will raise strong objections to an operation for which they can see no indication; but this is one of the cases in which the surgeon must assert himself very forcibly, and so far as possible use, his authority in order to carry out what he well-knows to be essential to the welfare of his patient. The operation should be performed by Esmarch's bloodless method, if thenature of the part will permit of this, but the limb should be exsanguinated by simple elevation, without the application of a bandage, thus avoiding the risk of pressing clots, pus, or germs into open veins or lymphatics. In this way a deliberate dissection can be made down to the diseased tissue, and even if the periosteum be found apparently healthy the surgeon should not falter, but should unhesitatingly drill or chisel the bone on the shaft side of the epiphysis, and if pus is found the opening should be enlarged so as to afford free drainage. It may be necessary to chisel away one wall of the medulla to a considerable extent, and this should be done with extreme care, lest the shaft be driven away from its epiphyseal attachments which are loosened by the inflammatory process.

If the operation is not done until a late stage, when the periosteum is raised by pus, for some distance along the shaft, and when a considerable portion of the medulla is affected, it will be necessary to make several openings into the medulla at various intervals. These should be made by means of separate incisions through the skin, so as to avoid inflicting one large wound, which might destroy important structures. The affected medullary tissue should then be scraped out with curettes bent at various angles as required. Every part of the abscess wall should then be brought into contact with a powerful antiseptic solution, such as corrosive sublimate 1-1000, or chloride of zinc 40 gr. ad. ℥j. An iodoform-glycerine emulsion 10 per cent. strength, may then be introduced, and a bulky antiseptic dressing applied. If the wound is large and likely to give rise to extensive capillary oozing, it would be advisable to pack it with iodoform gauze, which should be removed at the end of 24 hours. The subsequent treatment would consist in thorough irrigations at such intervals as the condition of the wound would suggest.

In dealing with the results of the disease it is necessary to remember that all *bare* bone is not necessarily *dead* bone, and accordingly the part of the bone which perishes should not be removed until its limits are clearly defined.

It is impossible in a paper of this length to deal with the subject in its entirety, and I will close by saying that the hiatus left after removing the dead bone should be treated on general principles, viz., either by the implantation of new living bone by filling with Senn's decalcified bone chips, or with desilicated sponge.

NOTE the pupil in chloroform anesthesia. When the pupil dilates, the cardiac respiratory centers are beginning to be inhibited.