don having sustained the loss of substance, will retract, and their ends heal by granulation and cicatrization with almost total loss of functional activity, as in Dr. Outten's case. An efficient external support is applied to the thigh and this together with the dressings are allowed to remain for several weeks. If death of any portion of the injured tissues takes place, it will be *aseptic death*, and no harm can follow. Thus, *ideal results are achieved, and the ideal of scientific progress consummated*, and the further advance toward that which we should all desire the most, namely, *the prevention of deformities, the relief of suffering humanity, and the prolongation of human life and usefulness*.

The special points in the foregoing remarks that I wish to emphasize, may be epitomized in the following brief conclusions:

1. That by the development of cellular pathology the process of cell proliferation, and the discovery of the laws of repair and regeneration, and the introduction of Lister's antiseptic system, the principles underlying the practice of surgery have undergone a complete revolution within the last few years.

2. That the principles of scientific surgery are so intimately interwoven with the advances in bacteriological pathology, that a progressive knowledge of the latter is essential, in order to be able to intelligently appreciate its value, in practical surgery, or to comprehend the principles upon which ideal surgery is founded.

3. That the observation made by Cabot, "That every surgical operation is an experiment in bacteriology," proves to be full of wisdom.

4. That the merely antiseptic era has been passed by modern surgery and the trend of the surgery of the future is to purely aseptic procedures; antiseptics is gradually being supplanted by asepsis and disinfection is made unnecessary by avoiding infection.

5. That to secure ideal results in the treatment of compound fractures the injury of the bone must be treated upon the same general principles that are applied to secure union by the first intention of wounds in soft parts; that is, by carrying out in detail the rules of asepsis and antiseptics, immediate and perfect reduction, approximation with direct fixation, efficient external support, and immobilization.

SUPPURATIVE PERFORATIVE OSTEO-MYELITIS OF INFERIOR MAXILLA,

AND MULTIPLE SUPPURATIVE OSTEO-MYELITIS OF TIBIAL SHAFT, IN ANOTHER PATIENT.

BY THOMAS H. MANLEY, M.D.,

SURGICAL CLINIC AT HARLEM HOSPITAL, NEW YORK.

Dr. Manley stated that he had been specially fortunate, in being able at the same clinic to exhibit two very interesting cases of an identical pathological process, in two different subjects, who, in each, presented, however, very widely diverse conditions, as to age, general condition and the seat of lesion.

The first case was a young woman, born of healthy parents, in Germany 27 years ago. She was cigar-maker by occupation and always enjoyed good health until two years ago. He said you will notice that she is of slight build, fair complexion, bright eyes, but of anæmic appearance.

Two years ago she had the left lower bicuspid and

first molar tooth extracted. Since then she has had constant trouble with the left lower jaw. At first there were neuralgic pains, then swelling and tenderness along the ramus of the left lower jaw; and finally, something about fourteen months ago, an abscess formed and burst, just a little posterior to the anterior surface attachment of the masseter muscle into the same jaw-bone, in other words, about three lines posterior, to the point at which the facial artery winds over the free border of the jaw. She has been under various practitioners' care, trying, in turn, antiseptic solutions, iodoform ointment, poultices, and caustics; but in no instance with any substantial benefit. It had been dried up or healed, in this time, twice; but each time with the closure of the drain her sufferings were aggravated, until it reopened.

Along with the disfiguring effect of the opening, she has to continually wear some sort of absorbable material to soak up the drip, which intermittently escapes from it. Now, the question arises what is the nature of this lesion and where is the precise source of this discharge?

She denies specific disease, and it surely is not malignant; this case, then, is one which in modern times is known as tubercular. But how did she acquire tuberculosis? She did not inherit it, nor has she been subjected to contagion. The fact of it is, she has what our fathers in medicine would have designated a strumous-diathesis. At the time of the extraction of these teeth the alveolar arch was damaged by misdirected forceps pressure, or else the dentist has left the necrosed fang of a tooth imbedded in the jaw. This has acted as a splinter or foreign body, so that we have a condition present, dependent on two distinct conditions. First, a constitution-cachexia, plus a traumatism. The precise source of this sinus which opens through the soft parts, is in the osseous elements of the jaw.

The prognosis, in tubercular disease in bone is said to be unpromising in adults. This is correct, when the process extends into, and involves the joints; but it certainly is not when the lesion is limited to the shaft or diaphysis, as in this case: for though I have treated a considerable number of this description, I have yet to see one which did not promptly and permanently recover. The operative technique, in this case, will consist of the application of a few simple principles of surgery. First, go into the mouth and make a deep furrow, with the scalpel down on to the alveolar surface of the bone, at the suspected point. If we come on a fang, and I think I can feel one, freely strip and extract it. Next, make a free opening over the small sinuous fistula and trace it to the point of disease in the bone. Scrape away all the softened carious bone, trim away the cicatricial, calloused edges of the ulcer and firmly seal in the cut with fine silk. We will do the draining through the mouth. The patient being ready, the first step in the operation was to enter the buccal cavity and extract the long angular necrosed root of a tooth. Now, the operator seized a small pointed gouge and scraped the cavity from which the dental substance had been removed. He said that here the bone was so rotten and friable that he could push his little finger entirely through the bone shaft into the opening in the skin. A direct communication was now made, the cavity of the mouth being continuous with the external opening. After grattage

and irrigation the external wound was pared and carefully sutured, when the usual aseptic dressings were applied.

The second patient, was a boy ten years old with the following history: Six months previously he had scarlet fever, after which he suffered from nephritis, and rheumatic pains in the lower limbs. About three months ago, two suppurative points broke out on the inner surface of the left leg, from which a sero-purulent matter has since issued. After awhile along the same plane, and on the same surface, many other purulent foci erupted, and now as can be seen, one side of the limb, from the knee downward, is covered with port-holes which communicate with necrosed bone. Twice the pus has made its way to the surface. All severe pain in the limb has ceased.

What is the pathological character of the process which has led to such extensive bone disease? Is the lesion tubercular? In answer to this one might ask, is the specific germ present? We may say, that it has not been proved. In fact, I attach no importance whatever, to the presence or absence of this germ, for it is incontestibly true that we may, and do have strumous disease, so-called tuberculosis without the bacillus. And, again we often find myriads of them, in the laudable pus of a healthy strumous wound. The fact is, that the basis of this boy's disease is blood change. The poison of scarlet fever is terribly destructive to the blood, and the vasomotor nerves. In this case, the deeper layers of bone, lining the medullary canal have simply perished, through mal-nutrition. It may be noted that although there is extensive disease of this boy's leg, yet he walks without a limp. This is commonly found in all cases, where the bone lesion is at a considerable distance from an articulation.

On an examination of the limb, I find a probe will enter any one of those apertures and penetrate deeply into the medullary cavity. Small, loose particles of sequestra can be felt at the top of the probe. Now, I will by surgical interference endeavor, at least, to do to this boy no harm; that is, I will simply enlarge those openings and endeavor to pick out with the dressing forceps, the fragments of remaining dead bone, which the natural processes of life are, unaided, rapidly disintegrating and throwing off, by liquifaction. It might be said that as I have not very extensively opened the cavity of this bone some microscopical foci of the disease may have remained. But, in my experience the generalization of tubercle is never dependent on a local lesion; hence, I am confident that in operating in these cases, it is better to err on the side of conservatism, than to take chances on an extensive mutilation and consequent damage to structures, which might have been preserved, if nothing whatever had been done, other than by a tentative therapy.

PRACTICE OF MEDICINE IN ANCIENT ROME.

BY J. F. JENKINS, M.D.,
OF TECUMSEH, MICH.

In an early day, the practice of medicine in Rome was chiefly confined to foreigners, principally Greeks. Most of the physicians whose names are handed down to us are of Greek origin, yet there were many Egyptians and Syrians, who practiced medicine in Rome as well as in the provincial cities.

If we go still further back in the history of Rome,

we find wealthy families who kept many slaves, and would have one of their number skilled in the medical art, who would gratuitously practice for the household but received compensation from those outside of the household.

During the reign of the Cæsar's, and the century following many physicians in Rome became very popular; some of them received large fees which would compare very favorably with the fees of the popular physicians of the present day.

Pliny the Elder states that an ex-prætor, who had leprosy paid a physician 20,000 sesterces, about \$8,000, but he does not state how long he attended him, whether it was for one visit or for several of them. The same author states that there were five physicians in his day whose annual income amounted to 250,000 sesterces, equal to \$10,000 per annum. The physician to the emperor Claudius, Stertinus by name, received 500,000 sesterces, or \$20,000 per annum, still he claimed he could make in private practice 600,000 sesterces or \$24,000 yearly. The amount which this physician received from Claudius is probably equal if not greater than the salary of any modern court physician.

Stertinus and his brother who was also a physician, left a fortune of thirty millions of sesterces, or one million two hundred thousand dollars, besides making large donations during their lifetime to the city of Naples. Pliny mentions another physician, named Cranus of Marsailles, who gave largely, and spent money very freely, yet, notwithstanding his extravagant life, left a fortune of ten million sesterces, a sum equal to four hundred thousand dollars.

In the Roman empire, there was no law regulating the practice of medicine consequently many, as in our day commenced the practice of medicine with little or no preparatory education; many left trades and other occupations, and with a large supply of effrontery commenced the practice of the healing art. Like their modern type, some succeeded while others failed.

During the first century of the Christian era, there had developed all sorts of specialists; there were surgeons, gynecologists, oculists, aurists, dentists, etc., in all probability as great a variety as the nineteenth century has developed—in this way we find history repeating itself. Different schools of medicine existed, among which may be mentioned the "wine-givers" who no doubt were very popular in their day; the cold water doctors, one of whom named Antonius Musa gained the reputation of saving the life of the first Roman emperor, Augustus, although it is said that he killed Marcellus.

Pliny makes a statement that we very often hear at the present day, that physicians frequently try experiments upon their patients, and that the doctor is the only man in the community who may kill people without punishment.

Doubtless medical knowledge had made some progress since the days when Hippocrates taught the healing art under that famous old tree in the Isle of Cos, but our means of knowing how much progress was made is very limited, yet when I looked over the house of the surgeon in Pompeii, and examined the instruments that were taken out of this house, (which are in the museum at Naples), I am led to believe that the educated physician and surgeon of that day was in every way equal to the civilized society of the first century.