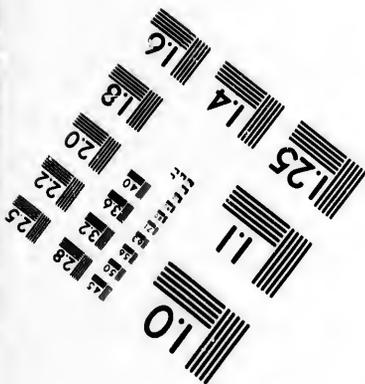
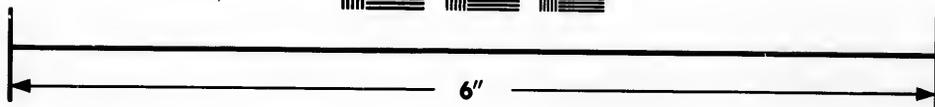
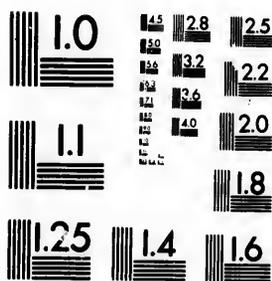


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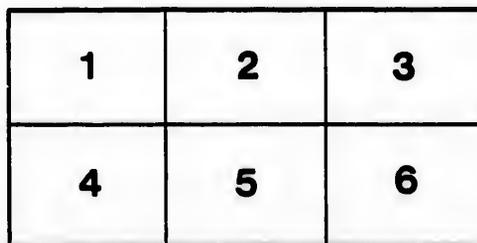
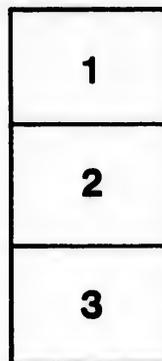
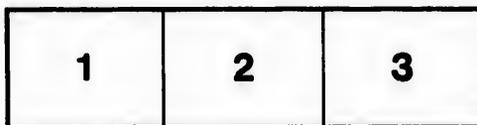
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[A. A. ROBERTSON, 1894.]

Reprinted from the *Montreal Medical Journal*, June, 1895.

SUPPURATIVE ARTHRITIS DUE TO THE TYPHOID BACILLUS.*

By C. F. MARTIN, B.A., M.D.,

Demonstrator of Pathology in McGill University; Assistant Physician to the Royal
Victoria Hospital.

AND

A. A. ROBERTSON, B.A., M.D.,

Senior Resident Physician Royal Victoria Hospital.

Cases of typhoid fever, in which complications of a suppurative nature have been found can no longer be placed in the category of rare affections, yet so seldom are the etiological factors of these secondary conditions identical with the primary cause of the disease that any new case is perhaps properly placed on record.

The present report concerns a man, P. C., æt. 34, who entered Dr. Stewart's wards at the Royal Victoria Hospital on September 25th, 1894, complaining of headache, fever and loss of appetite, and presenting the usual distinct signs of enteric fever. He gave the ordinary history of the early stages of that disease, and on admission seemed to have reached the eighth day of the fever.

During the first ten days of his illness in the hospital, favourable progress occurred, but on the eighteenth day recrudescence supervened and the temperature continued to rise till the 29th day, by which time the highest point was attained.

Three days later (i.e., in the earliest days of deferescence) the patient complained of some pain and tenderness in right wrist joint, increased by movement. In forty-eight hours there developed other signs of acute inflammation—redness, swelling, heat and greatly impaired function—the visible signs appearing both in front and behind the joint.

* Read before the Montreal Medico-Chirurgical Society, March 22nd, 1893.

Hot fomentations were applied, and a few days later a splint and bandage adjusted to keep the joint at rest. For the following two weeks the temperature gradually subsided to normal and then suddenly (on the forty-eighth day) again rose to 101°. The splint was forthwith removed, revealing a tender, fluctuating tumour all about the wrist joint, and manifesting no evidence of improvement in the local condition.

With a view to ascertaining the nature of the fluid within, a hydrodermic syringe was employed with the usual aseptic precautions and half a drachm of this pus removed. From this a series of cultures on broth, gelatine and agar was made, and the presence in each case of but one form of bacteria demonstrated, viz., that corresponding in size and form to the bacillus of enteric fever. Further investigations showed its extreme motility, that it produced no acid reaction on litmus agar, and that when grown in a broth medium containing calcium carbonate no gases were formed. There was further no sign of fermentation in a growth of the bacteria in 2% lactosed broth. We were thus enabled to exclude the presence of bacillus coli communis as a complicating factor.

Subsequent to this small aspiration gradual improvement ensued, though two weeks later there was still a small quantity of fluid left. Accordingly, for a second time, the hypodermic was introduced and a small amount of bloody pus withdrawn. A rabbit inoculated with this fluid manifested no ill effects. This, we believed, could be readily explained from the fact that as on a culture medium, so here the bacilli had grown old and hence innocuous to our animal.

One week later patient left the hospital, his wrist being almost completely restored to its normal condition.

We have recorded this case not only because of its interest in verifying the pyogenic properties of Eberth's bacillus, but also because in the fairly extensive literature at our command we were unable to discover any similar case in which a suppurative arthritis complicating typhoid fever was induced solely by the bacillus of that disease.

During the course of our investigations, however, Swiezynski, in the November number of *Centralblatt für Bakteriologie*, has recorded a somewhat similar instance, though merely of a periarticular inflammation, and the observer further notes the uniqueness of his case and his inability to find a parallel in the literature at his disposal. That ordinary pyogenic organisms are responsible for most of the suppurations in enteric fever has been amply demonstrated by Vincent, who further pointed out that wherever streptococci were associated with the typhoid germ the prognosis is always grave. On the other hand, the association of staphylococci could not be regarded as an unfavourable sign so far as recovery is concerned.

The correctness of these views is perhaps strengthened by the experience met with at the Royal Victoria Hospital, where a patient in whom streptococcus infection was super-added to his enteric fever succumbed to the disease. On the other hand, the numerous cases in which we have found staphylococci in various complications of typhoid fever, have all terminated in recovery.

As regards the treatment of suppurations occurring secondary to enteric fever, it has been urged by Dr. Meisenbach, of St. Louis, that in cases where Eberth's bacillus is the sole cause of the abscess formation, exactly the same surgical treatment is required as in cases where pus arises from infection with ordinary pyogenic bacteria. However, if it be true that a fresh growth of typhoid bacilli when inoculated into rabbits is fatal, and that the same growth a few hours old loses entirely this virulence, could not the same apply to the abscess formations in the human body? In other words, where Eberth's bacillus alone is the sole factor in producing suppuration, its virulence is so rapidly lost that the mere removal of the mechanical and chemical irritation, *e. g.*, by ordinary aspiration, might suffice for treatment without other operative interference. In our own case, although pus was present in considerable quantity, there was never any tendency to pointing of the abscess, and its whole character after the first few days took on the appearance of a chronic affection in which all signs of active progress had disappeared.

