

September 18, 1947

Dear Dr. Mahoney,

Within the next few days we hope to have the prophylactic study in syphilis under way as originally planned. It all depends upon how soon the three carriers inoculated in the cervix with human material begin to show evidence of infection. All men exposed will receive prophylaxis, half of placebo injected and half of local application of our preparation. It will, though, be quite some time before this aspect of the work begins to give answers.

We do not have data yet from exposure to intact mucous membrane for 2 hours in syphilis, but it is now evident that the Nichols material was not infectious in a one-hour exposure to the intact mucous membrane. Experiments have been done using both animal passage and fresh human material for two-hour exposure to the intact membrane. It may be that mucin will promote invasion through the intact membrane, and we are planning to study that aspect in the very near future. At the same time we feel that perhaps the smegma may aid in invasion, and are thus planning for the next exposure without cleaning the penis.

We know nothing of infection following scarification, but it is my own feeling that we have underestimated the importance of minute breaks in the continuity of the mucous membrane in the invasion of the spirochete. For in inspecting the penis in the groups of men in the gonorrhea studies immediately after contact we have been impressed by the fact that all show reddening of the glans and foreskin which suggests both influence of engorgement and trauma leading to removal of superficial epithelial layers and to minute breaks or lacerations in the mucous membrane.

With respect to the effect of breaks in continuity of the epithelium, the results of experiment #5 performed August 24 for which you have the protocols may prove highly interesting. Observations made this morning indicate that every patient in the control group shows a red, indurated, shiny papule measuring approximately 8 x 6 mm and appearing equal to those following intracutaneous injection. None of the patients treated with prophylaxis one or two hours after the similar exposure has shown any evidence of infection as yet. Of course, the final analysis will have to be deferred for another three months, but this method, if it proves successful, will give a means of subjecting the prophylaxis to a much more severe test than we can imagine occurring under normal conditions.

By now you should have the report from Mr. Fortnoy on the work in serology to date with some highly interesting findings. While our study on the children at Puerto San Jose is not complete it is very evident to us that the cardiolipin test is much more nearly specific than the Kahn or Mazzini techniques. None of the children showing any degree of serologic reaction has shown progression characteristic of early syphilis. The only one showing evidence of congenital syphilis on physical examination is the boy with a positive cardiolipin test, and none of the children has shown evidence of early syphilis. What is the cause of the reaction in the other techniques we cannot say, whether it be malaria, intestinal parasites, liver disease, malnutrition, vitamin deficiency, or what.