

March 27, 1935

Dr. Louis P. Bosman
African Life Buildings
St. George's Street
Cape Town

Dear Dr. Bosman:

I have your letter of February 17th with regard to the "qualitative investigation of urine and faeces with a view to lead". I am not quite certain that I know what you mean or what you wish. We in this laboratory have not worked with qualitative methods, hence I am unable to see how the mere detection of lead in biological material would be useful. It has been demonstrated adequately that minute amounts of lead are to be found in practically all types of biological materials. The evidence which we have obtained on this subject has been published in large measure in the Journal of Industrial Hygiene - Volume 16 - March 1933. The precise quantities found, therefore, under a variety of conditions become essential for any type of interpretation. If you are merely interested in the most sensitive means of detecting lead, I think it is quite certain that spectrographic methods are the most effective. It is possible to detect the presence of lead in a few drops of blood or urine, or spinal fluid, or tissues merely by introducing the material in question into the crater of a carbon electrode and after drying it, using the sample in the electrode in the electric arc. The presence of lead in a few parts per billion of material can be demonstrated in this way. On the other hand, if you are thinking of the application of qualitative tests to clinical material, I can only express my complete skepticism as to the consequences of any results which may be obtained.

Perhaps I am mis-interpreting your inquiry, and your grounds for interest in the subject. However if you will write me and tell me what you wish to know, I shall do my best to give you an answer.

Very truly yours,

RAK:IS

Robert A. Kehoe, M.D.