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August 27, 1952

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VISIT TO THE UNIVERSITY OF ROCHESTER AEC PROJECT ON AUGUST 22, 1952

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A visit was made to the University of Rochester AEC Project on August 22, 1952, to discuss with Dr. Hodge proposals for a new approach to the experimental production of chronic berylliosis. Because of the possible allergic implications of the disease, the opinions of several investigators in the field of immunology were sought. (Dr. Chase of Rockefeller Institute and Drs. Eisen and Lawrence of New York University) It was the opinion of these investigators that berylliosis might be best produced by intermittent exposure. Likewise, a favorable subject for the production of the disease might be the hog. It was also felt that sensitivity might be enhanced by parenteral administration of beryllium in a medium consisting of ground tubercule bacilli and a carrier oil. These thoughts were transmitted to Dr. Hodge who felt that they were worth putting into effect. He will draw up an experimental protocol in the near future incorporating this approach.

It was learned that Drs. Newman and Feldman were unable to demonstrate any irreversible binding of beryllium with any of the blood proteins. This is with full knowledge of the data reported by F. Klemperer who previously worked at Saranac Laboratory. They were unable to explain the discrepancy in results but promised to review Dr. Klemperer's work carefully in the near future and forward their opinion of it to me. The failure of a beryllium-blood protein complex does not necessarily indicate that beryllium is unable to complex with any body protein. They will pursue the matter further by repeating the experiments with partially purified proteins from various tissues. They have, however, demonstrated that beryllium does complex with nucleoproteins. This they feel is due to the high phosphorus content of these substances. They fully recognize the importance of pursuing this type of investigation because in the opinion of the immunologists the demonstration of a protein complex is a crucial point in establishing a beryllium sensitivity. It was suggested that they also attempt to demonstrate a beryllium tuberculin binding in view of the possible potentiation of sensitivity by this combination in the experimental animal. It was pointed out by Dr. Hodge that the Public Health Service is in process of making an epidemiologic study of 500 cases of Boeck's sarcoid which occurred in the Army. All these cases occurred in Negroes and apparently the only common environmental denominator is all lived along a strata of sandy soil containing beryllium. Another interesting bit of evidence of

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the relationship of berylliosis to Boeck's sarcoid and possibly to tuberculosis is that the only other endemic site of sarcoid is in the Scandinavian countries which contain an extension of the same type of geological formation. The University of Rochester has made measurements of the beryllium content of this type of soil and has demonstrated its presence although in small quantities.

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Division of Biology and Medicine, Washington, Attention: Dr. Dunham ✓

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