

MINUTES

of the

PROGRAM COMMITTEE

Division of Biological and Medical Research
Argonne National Laboratory

REPOSITORY Argonne/CHR
COLLECTION Austin Brues Subseries
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FOLDER Radium Correspondence
Historical

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The eleventh meeting of the Program Committee began at 10:15 A.M. on
January 12, 1951, at Site B.

Present:

A. M. Brues, Chairman
R. J. Hasterlik
L. D. Marinelli
F. C. McLean
J. E. Rose
R. E. Zirkle
E. L. Powers, Executive Secretary

R. L. Cardwell

J. S. Schubert (part time)

* * *

Reorganization of Research
in Biology, Medicine and
Radiological Physics
(See Minutes of 10/6/50,
p. 4-23; and 1/5/51, p. 10-74)

Dr. Brues noted that Dr. Schubert was invited to this meeting in order to discuss with the members of the Program Committee the relationship of himself and his group to the research activities of the Division of Biological and Medical Research and to the service activities of the Health Services Division. For Dr. Schubert's benefit, Dr. Brues reviewed briefly the scope of the reorganization plans as discussed in the last meeting. He recalled the general opinion that the Schubert group belonged programmatically and administratively within the Division of Biological and Medical Research, but that some responsibilities toward the bioassay functions of the Health Services Division should be maintained by the group. In regard to Dr. Lawrence S. Myers, Dr. Schubert said that he felt Dr. Myers could not be satisfied with an entirely routine job, but that Myers would have more time in the future to develop analytical methods which are needed for fecal analyses. The development of these analytical methods and the assistance

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Myers would give to investigators in H³ analyses and to investigators dealing with low levels of C¹⁴ would constitute an amount of research work acceptable to Myers while allowing sufficient time for the routine aspects of the bioassay services. Accordingly, Schubert agreed that Myers could be listed formally as devoting about 90 per cent of his time to bioassay and about 10 per cent to research. He agreed that it would continue to be necessary for him to have frequent contact with Myers and that he probably would be the best liaison between bioassay services and the Program Committee. In order to formally recognize this relationship, it was agreed that Dr. Schubert would be listed as devoting approximately 10 per cent of his time to distributed services, being responsible to Dr. Hasterlik as Director of Health Services for this portion of his time, and that the remainder of his time would be spent under the authority of the Division of Biological and Medical Research. Dr. Schubert left the meeting at this time.

There were several questions raised concerning the names of research groups and several suggestions were incorporated into the new listing.

Dr. McLean said that with the death of the Noyes Panel, there is no laboratory group within the AEC which now recognizes formally the need for thought on military and civilian defense problems. While he does not feel that a special group carrying such a name need be set up, it should be agreed that one of the responsibilities of some group (e.g., Special Problems) would be this type of problem.

Human Radium Studies
(See Minutes of 11/17/50, p. 8-59)

There was brief discussion concerning certain legal aspects of the current study of toxicity of Ra in humans. One of the questions being considered by the Legal Department of ANL is the acquisition of bodies of persons known to have ingested Ra. It appears that a Superior Court order for exhumation with the consent of the nearest relatives is all that is necessary to obtain the bodies. If there is no kin, a Supreme Court order is needed. Dr. McLean pointed out that a person, when placed in a museum, is considered by the courts to be legally buried. Dr. Hasterlik could foresee no serious problems in obtaining authority to exhumate the bodies of the people of interest to the Ra group.

Dr. Hasterlik said that one of the Ra patients, _____, is becoming quite ill and it is likely that she will die in the near future. This patient is of particular interest because external γ ray measurements indicate a total Ra content of 2 μ g. The usual experience has been that parotid symptoms are not demonstrated by persons containing less than 100 μ g. For this reason, all other possible diagnoses must be carefully ruled out, and to this end a biopsy on her foot is planned for next week.

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Dr. Arnold, who has had no military experience, has requested of his board a deferment to July 1, 1951, which marks the end of his term as a fellow. He is investigating autoradiographic means of locating tracers deposited in bone, a subject of considerable interest to the Laboratory at the present time in view of its concern with chronic effects of many radioactive elements.

Dr. Brues expressed the opinion that a move to retain Dr. Arnold in the field in which he has been working for a year and a half and for which he has shown some aptitude should be considered.

Dr. McLean said that it was his experience that Draft Boards should be dealt with by persons other than the individual and that the Army should be dealt with after a person has enlisted. He felt that the Army authorities show much more sympathy for an appeal for the efficient retention of a scientist or physician than the ordinary Draft Board is likely to. Mr. Marinelli recalled General Cooney's appeal for referrals (minutes of 10/6/50, p. 4-21) and suggested that should all else fail, Arnold be recommended to him.

Dr. Looney, who is responsible for a large part of the administration of the current studies on the metabolism and toxicity of Ra in mammals, is in the Organized Reserves of the U. S. Navy. Up to his Commanding Officer has shown a willingness to cooperate and has asked him to remain with Argonne. Dr. Brues felt that a continuance of this type of deferment should not be expected and wondered if a more liberal policy emanating from a higher level is not in order. He expressed his belief that the administration of the Laboratory is not anxious to take the initiative in asking for assignment of military personnel on full duty here at the Laboratory. Dr. Brues said he would attempt to change the mind of the Committee on Medical Sciences of the Panel on Medical Aspects of Atomic Warfare, National Military Establishment, concerning persons like Dr. Looney.

Concerning draft deferments in general, it was agreed that it would be very wise for the Laboratory to have a paragraph on file for each man requesting a request for deferment, describing the particular way in which he is contributing to the research of the Laboratory.

Argonne Cancer Hospital

Dr. Hasterlik discussed briefly the research program of the Argonne Cancer Hospital. It is his understanding that the Argonne Laboratory is expected to assist in the determination of the research program to be carried out in this installation, and he requested members of the Program Committee to consider the kinds of problems that are properly and most efficiently investigated in it. The program is to be discussed with Dr. Eggeshall, Director of the Argonne Cancer Hospital and Dean of the

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Division of Biological Sciences, in the very near future, and Dr. Hasterlik wished to have some definite proposals ready for consideration. As part of a general discussion concerning the program, it was pointed out that the current investigation of toxicity of Ra in human beings is an excellent example of the kind of activity for which a hospital is needed and for which the Argonne Cancer Hospital is intended. The Argonne Cancer Hospital can reasonably be expected to provide the access to clinical material needed by the Division in its cancer investigations and certainly the hospital is the proper place for experiments involving radioactivity in human beings.

Concerning the last subject, Mr. Marinelli asked if there is a general policy concerning human experimentation. Dr. McLean said that the Advisory Committee of the Division of Biology and Medicine of the AEC has been approached several times in the past for a general policy and has refused to formulate one. Apparently, proposals for human experiments with radioactivity will continue to be judged on an individual basis.

Toxicity Laboratory

Up to the present time, the Toxicity Laboratory has been supported by the Division of Military Applications through the Division of Biology and Medicine of the Commission. Dr. McLean felt that further support on this basis will be difficult and that it is not likely the present contract which expires October 1, 1951, will be renewed. There are no indications as to what will happen to the facilities nor to the persons employed by the Laboratory after expiration of the present contract. Dr. McLean listed several possibilities -- 1.) It may return to the Medical Corps as the type of laboratory it was during the last war, 2.) It may retain an interest in radiation biology but be supported by one of the Services. For example, the Air Force which has a considerable interest in the deleterious effects of radiation, their prevention and therapy, has no facilities of its own and it may be interested in acquiring one, 3.) The Toxicity Laboratory may continue to be occupied for military and civilian defense and atomic warfare as an independent contract, or as a part of the Argonne National Laboratory.

It is Dr. McLean's impression that a proposal to incorporate the Toxicity Laboratory into Argonne Laboratory would not be unwelcome in certain quarters and that the facilities and certain of the personnel may be used on problems relating to civilian and military defense (see Minutes of 1/12/51, p. 11-80). Dr. Powers said that he doubted that the Administration of the Laboratory would feel kindly toward assuming responsibility for the physical plant on the campus occupied by the Toxicity Laboratory because of the Laboratory's current heroic effort to consolidate geographically.

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e of CP-3, the number which just makes possible lethal exposures in reasonable lengths of time. Drs. Zirkle and Vogel are to h Dr. McCorkle to settle design questions and it is likely that source will finally become available to the Division.

Human Toxicity Tests

Jack Schubert's desire for a test in humans of the toxicity of carboxylic acid was discussed. The compound shows some promise s a remover of deposited Be. Obviously the Laboratory should not rectly involved in this sort of testing program, and it is sug- at perhaps some pharmaceutical house could be persuaded to handle similar tests. The Chairman said he would inquire of the Medical the Division of Biology and Medicine, Atomic Energy Commission, e.

Human Radium Problem

, a patient referred to previously (see Minutes of 1/12/51,) of particular interest because the low estimated radium content cal symptoms of radium poisoning demonstrated by her, underwent a ast week. Definite diagnosis of fibrosarcoma has been made. A of the biopsy material has been sent to Dr. Robley D. Evans for ²²⁸ determinations. Dr. Hasterlik also reported sending to the New erations Office information from the Barker files concerning certain lyses which the U. S. Radium Corporation had made at one time.

Other item was reported for the information of the Committee. The) was interested in running a newspaper story of the toxicity been consulted. This individual is an employee of the State epartment and his motive in this instance was to demonstrate how titutions are cooperating in scientific research. When the delicate this particular research was explained to him, he agreed not to as publicity until such time as Dr. Hasterlik thinks it proper.

Mesothorium

Correspondence between W. P. Norris and H. Deplanche of The Rare ls and Metals Company, Inc., 21 East 40th Street, New York 16, New resulted in their offering the Laboratory 8 to 10 mg Ra²²⁸ (see of 1/12/51, p. 11-81). If the Laboratory were willing to divide ot into lots of 8 to 10 mgs, the Minerals Company would waive s for the Ra²²⁸. Otherwise the only Ra²²⁸ (mesothorium bromide) ble from them at the present time is a tube of Ra²²⁸ No. T 162, which led on April 22, 1944 and measured last on February 17, 1950, as ing 69.1 mg Ra equivalent. The cost is \$35.00 per mg ex-warehouse,

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ed by Mr. Wahl, namely 50 μc per cubic meter of air as T₂ or HT, is the maximum permissible level recommended by the International Commission on Radiological Protection (see Nucleonics, February 1951, pp. 70-74). Mr. Wahl pointed out that this figure differs somewhat from that used by this Laboratory at the present time as the mpl for operations. Allowing a 100 μc/week total dosage, 23 μc/m³ is indicated. Since an allowance for exposure to other radiations must be made, 10% of this figure, or 2 μc/m³ is the mpl for Argonne operations. The need for experiments on absorption and metabolism was briefly discussed.

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Human Radium Studies

Dr. McLean told of the recently initiated conferences with various interested members of the division concerning the decontamination of persons exposed to radium. This group will continue as one of the study groups previously described (see Minutes of 10/20/50, Appendix I, pg. 5-28). Dr. McLean reported that his recent examination of the files of the U. S. Radium Corporation reveals the disturbing information that beginning in 1928 there was rather free substitution of RdTh (Th²²⁸, T_{1/2} = 1.9 years) for Ra²²⁸ in the paints used for clock dials. The Th²²⁸ contents range from 2 to 25% of the total activity, indicating great difficulty in tracing the original activity in a particular patient. Furthermore, it is necessary now to appreciate Th²²⁸ toxicity in addition to that of Ra²²⁶. It seems likely that the dial painters will not constitute a good source of information concerning Ra toxicity in humans.

Consultants

Dr. Wainwright announced the intention of the Division to contract with Edward Wainwright as a consultant. Dr. Wainwright was formerly a physicist at the University of Chicago. He is interested in radioautography and will assist and advise the Division in this field.

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Meeting adjourned at 11:30 A.M.

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E. L. Powers
Executive Secretary

Committee