

Records Series Title	DR. CORNELIUS TOBIAS'S PAPERS
Accession No.	434-89-0100
File Code No.	10-08-063
Carton No.	22 / 89
Folder No.	50 - MARKLE FOUNDATION
Notes	
Found By	C. HALL
Date	

COPY

724867

THE JOHN AND MARY R. MARKLE FOUNDATION  
FOURTEEN WALL STREET  
NEW YORK 5, N. Y.

OFFICE OF THE SECRETARY

February 6, 1950

Dr. John H. Lawrence  
University of California  
Berkeley, Calif.

Dear Dr. Lawrence:

Will you please send us as soon as possible for our Annual Report a summary of the research carried on during 1949 under our grant-in-aid program. In style, the material should follow last year's published report, a copy of which is attached. We should like to have with your summary a list of papers published under our grant during 1949.

If a statement of expenditures as of December 31, 1949 has not already been forwarded, our Treasurer's office would appreciate receiving one before March 15.

A copy of the Annual Report will be sent you on publication.

Sincerely yours,

*Dorothy Rowden*  
Dorothy Rowden

Enclosure

1173129

Records Series Title	DR. CORNELIUS TOBIAS'S PAPERS
Accession No.	434-89-0109
File Code No.	10-08-666
Carton No.	22 / 89
Folior No.	50 - MARSH FOUNDATION
Notes	
Found By	P. HALL
Date	

COPY

### Rheumatoid Arthritis

by JOHN H. LAWRENCE, M.D., CORNELIUS A. TOBIAS, Ph.D. and JOHN J. BERTRAND, M.D. Two grants totaling \$16,000 to University of California, Berkeley, Calif.

The transport mechanism of gold administered intravenously in animals and humans is being studied in order to understand some of the biochemical processes underlying the possible action of gold in the treatment of rheumatoid arthritis. When radioactive gold sodium thiosulphate is administered, most of the gold becomes bound in the plasma proteins. If colloidal gold is administered, most of the gold is carried in the white cells. Red cells have relatively small amounts. The plasma proteins bind the gold quite rapidly after introduction of the drug in the blood stream;

within five minutes after administration the gold in the plasma will not dialyze through a semi-permeable membrane.

The effect of jaundice on the distribution of gold in the animal body was also studied, since some patients with rheumatoid arthritis who have jaundice have recovered from their arthritis. However, distribution of gold in jaundiced animals is the same as in normal animals.

Labeled plasma was prepared by taking blood from a rabbit who had just received the radioactive gold compound. This plasma was transfused into a second rabbit and the distribution of gold in the tissues was measured. When the donor rabbit was normal, the distribution of the transfused gold was unaltered. When the donor was jaundiced, relatively less of the gold was excreted and more was retained in the tissues,

3 the concentration of the joint structures having been increased by a factor of up to ten. Studies with humans showed that gold is bound and transported in the plasma proteins as in the rabbit, and that it is not dialyzable. The availability of a new long half life radioactive gold preparation Au<sup>198</sup> makes it now possible to make long-range observations on humans.

BERTRAND, JOHN J. A rapid method for celloidin impregnation of undecalcified bone. *Science*, 107:152, (Feb.) 1948.

WARRNE, H. and C. A. TOBIAS. Distribution of gold in the animal body in relation to arthritis. *The Journal of Laboratory and Clinical Medicine*, 33: 1133, (Sept.) 1948.

DUNN, RAYBURN W. Recovery and estimation of radioactive isotopes from biologic tissues. I. Gold. *The Journal of Laboratory and Clinical Medicine*, 33: 1169, (Sept.) 1948.

1173130