

~~SECRET~~

Subject: Program of the Clinton Laboratories Biology Division (Cont'd).

In addition to occupational hazards and cancer, it is proposed that the following biological investigations be undertaken at Clinton Laboratories during the next fiscal year:

a. Tracer Studies:

Both original studies and much service work can be carried out with the use of C^{14} and other tracers in analyzing such fundamental biologic processes as carcinogenic action, photosyntheses, enzyme function, metabolism, genetic control of cell behavior, etc.

b. Microbiology:

Preliminary investigations have shown that some organisms can withstand an unbelievable amount of radiations and there is a suggestion that some may even utilize radiation as a source of energy for life. Studies along this line are proposed as a part of our general biological program.

c. Gerontology:

Since premature "aging" is induced by radiation, facilities are available for studying the mechanism of this process. It is logical to believe that we may be able to greatly modify the "aging" process.

d. Radioisotope Therapy:

Through the use of certain tissue specific and serologic agents, radiation can be made to influence particular parts and thus be developed as a unique therapeutic agent.

In addition to these specific investigations, there are, of course, other biologic fields that could be investigated effectively with the facilities available at Clinton Laboratories, but these mentioned above can, perhaps, be undertaken most readily.

Negotiations are now under way with the U. S. Public Health Service for working out a more detailed biological program which can be coordinated with other major problems which are of wide interest and will directly affect the major part of our population."

* * *

~~SECRET~~

~~CONFIDENTIAL~~

Subject: Program of the Clinton Laboratories Biology Division (Cont'd).

Although the above quotation does not necessarily give the true picture of the program being carried on within the Biological Section, it is presented to indicate the general design which the work is following.

3. More concrete evidence that the planned work is developing according to the generalities in the proposed program is protrayed in the monthly reports initiated by the Health Division. Broadly, the effects of radiation upon biosis, both as to direct tissue injury and lethality, are being studied.

4. In Par. 2, of Dr. Chapman's memorandum, mention is made of a program of affecting and guiding cell behavior to affect changes in the skin. In no manuscript yet received is it reported that research work is underway to "control the destiny of cells." Irradiations of animals under a problem assignment to determine the effect of radiation has resulted in the observation that an agent (either radiation or caused by radiation) has, besides directing the nature of tissue activity along channels of malignant activity, directed ~~some~~ toward different than normal but not malignant. In this respect, a duplication of claws opposing the regular claws and a chitinous appendage resembling a horn has appeared upon rats which received single large doses of beta rays. It is well to consider that the mere mention of unexpected results and observations made should not be construed to mean that work is converging out of project-approved channels.

5. In private conversations with the undersigned, Dr. Chapman has intimated that therapy is outside the scope of Clinton Laboratories program. Here again, information relating to the assimilation, metabolism, and effects of radioisotopes is important to a good health program as well as to their use as therapeutic agents. It is not indicated that treatment is considered.

L. K. Hurst
L. K. HURST,
Engineer (Chemical).