

LF-904-0-1

~~0-2~~

Dr. Proper

RESEARCH PLANNING STUDY OF AGING CRITERIA

FINAL REPORT

- 1. Aging
- 2. Aging, physiology
- 3. Pilot aging study
- 4. FAA Pilot aging study
- 5. N.I.H. Pilot aging study
- 6. Project FA 904

Federal Aviation Agency
Project No. FA-904

THE LOVELACE FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH
Albuquerque, New Mexico
July 31, 1961

biological data in a form to facilitate in machine processing will be mandatory (Schwichtenberg, Fickinger and Lovelace 1959).

The feasibility of doing the variety of laboratory examinations outlined in the above discussions cannot even be considered. Many facets of the study of physiological aging are particularly compelling. However, the practicality of such an extensive coverage in a life situation where neither time nor space are infinite presents limiting factors. In consequence, we have chosen about thirty tests of physiological function which show promise of delivering the information sought (See Tables I and II), the apparatus for which could be housed in a reasonable amount of space, and which could all be performed over a strictly scheduled period of two working days. The technique, the findings, areas of criticism, and information collateral to that in each specific test are outlined below:

PAR TESTING: CNS and Special Senses

CNS:

Cerebral Circulation (¹³¹I Hippuran Oldendorf)

- Technique: 1 scintillation counter over each internal carotid 20-100 mc ¹³¹I injected intravenously
- Findings: Appearance time and shape of curve determine functional patency of internal carotid system
- Critique: "New techniques;" interference from venous drainage (occipital). Question of where best to place counters
- Collateral Information: Other CNS Tests - rheo-encephalogram Pulsenor to measure ophthalmic artery pulsations

Simple Learning and Cortical Translation Function (Kay-Halstead-Reitan)

- Technique: 1. Trail making (see sample)
2. Form Board - blindfolded subject matches wooden block forms to those cut out of the board in a specific time
3. Category Test - 35 mm slide patterns are thrown on the screen and the subject indicates impairment of the slide theme by pushing a button. Incorrect answers sound a buzzer.
- Findings: Subjects with cerebral deterioration and/or pathology are unable to (1) correlate trail making (older subjects take longer to do this test), (2) put more than 4/12 of the forms back in the board in the specified time interval, (3) follow the theme of the slides in the category test.