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QUARTERLY PROGRESS REPORT NO. 9

HINGE POINTS OF THE HUMAN BODY

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The following summary of work during January, February, and March of 1954 are presented as brief monthly work reports. Under the heading "ANNOTATIONS" supplementary comments are presented.

REPORT ON WORK DURING JANUARY

During January project work was advanced by the principal investigator and his associate, by part-time research assistants (280 hours), and by a secretary (70 hours). The month's work was cut up by the termination of the fall academic semester and the irregular schedules for both the student assistants and the principal investigator. An important activity, however, was a general consolidation and house cleaning, involving reorganization of files and records, checking over of bibliographic sources, and a scheduling of the remaining work. The principal continuing work consisted primarily of the following:

1. Record taking and analysis was virtually completed on the relation of body weight to horizontal push and pull forces. The writing up and illustrating of this phase has also begun.
2. Work on joint centers was brought to a stage where illustrations and consolidation could be planned. The wrist-joint centers were ascertained on a living subject by an x-ray technique using angiographic equipment.
3. The literature on bone proportions and the relation of lengths of long bone to stature was combed over as a background for mannikin planning.

Work during February will involve a heavy emphasis on writing and illustrating of several sections of the study. Work on limb-force vectors will get under way.

REPORT ON WORK DURING FEBRUARY

Our record of time by research assistants amounted to 213 hours for February; this was supplemented by approximately 200 hours of time by secretarial and illustrator help and time by study subjects. Principal activities of the month were:

1. Analysis and plotting of records on the location of joint centers. The remaining work in this area is the preparation of illustrations and consolidation of data for the written report.
2. Initial record taking and analysis for one subject of push and pull vectors in relation to upper-limb joints.
3. Completion of data gathering and analysis of records on the relation of body dead weight to horizontal push and pull forces.
4. Miscellaneous computation of records and plotting of data preparatory to writing and illustrating of results.

The consolidation of data and the planning and preparation of illustrations will be the chief activity for the next month.

REPORT ON WORK DURING MARCH

During March project work involved 120 hours of research-assistant time plus 260 hours of secretarial and illustrator time. The principal activities consisted of:

1. Completion of work on joint centers and preparation of illustrations.
2. Miscellaneous work on checking records and calculating in preparation for writing and illustrating.
3. Preparation of a paper on project work (regional distribution of body bulk) for delivery at the American Association of Physical Anthropologists, Yellow Springs, Ohio, presented Sunday, March 28.
4. Presentation (on March 29) of a seminar on aspects of project work to the Army Medical Laboratory, Fort Knox, Kentucky.
5. Some four days were taken to make somatotype photographs of subjects used by Dr. Paul Hunsicker in the companion project on body forces.

The principal work of the project during the coming month will be consolidation, illustration, and writing of the final report. Two papers are scheduled for presentation at the Galveston meeting of the American Association of Anatomists (April 7,8,9).

ANNOTATIONS

The work of the past three months and that of the next three form the terminal phase of this investigation. Data gathering has virtually ceased. As material is worked up, occasional checks involving subjects or cadaver material are called for, sometimes merely for detail or accuracy in an illustration. The work on force vectors of the hand and foot relative to the major limb joints of the seated subject has come so late in the project that only an exploratory study on one man can be made. This will continue during the next few weeks.

A primary interest in the original contract was the synthesis of a design mannikin. Certain measurements on bones are still required as background for this, then all pertinent data will be directed to the mannikin.

Apart from these activities writing and illustrating are the chief emphases. All but two part-time assistants have been dropped from the work as the terminal effort falls on the principal investigator, on his collaborator, and on the secretary and illustrator. The two remaining research assistants have been putting in less and less time on project work; shortly they will be off project work and on an entirely different payroll. They will thus still be available for consultation.

An encouraging amount of the work is now in first draft, but much remains during the next ten to twelve weeks before the final report will be complete.

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