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*About the Institute*
The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

DEPARTMENT OF FISHERY AND WILDLIFE BIOLOGY

M E M O

November 17, 1966

TO: Department and Unit Faculty

FROM: Harold Steinhoff

I am finishing up Principles of Zoogeography this year with guest speakers who have special knowledge and interests relating to this course.

You are hereby invited to attend any of the sessions.

Room 230, Forestry

8 a.m. Fri. Dec. 2 Dr. Harold Hagen - Effects of Competition on Distribution of Fishes

8 a.m. Mon. Dec.5 Dr. Dick Ward - Major Principles of Ecological Plant Geography

8 a.m. Wed. Dec. 7 Dr. Dave Rogers - Methodology in Taxonomy (Taximetrics) BOTANY

1 p.m. Fri. Dec. 9 Dr. Paul Baldwin - Distritution of Birds of the Arctic

2 p.m. Fri. Dec. 9 Dr. Ed Reed - Limnologic Zoogeography

To Stainhoff's Class in Zoogeography
12/7/66

Taxiметrics Lect.

Historical - computers + taxonomy. Relation to numerical taxonomy.

1. Definition - a set of methodologies useful in studies of taxonomy. (As different from the more inclusive Biometrics)

2. Inclusions - a classification - all sciences eventually, but for our purposes, those biological sciences mainly concerned with the syntheses of information.
   These include taxonomy, ecology, and at the highest level, evolution.
   These, I call the synthetic, as opposed to the analytic, aspects of Biology -

3. Exclusions Analytic ~~techniques~~ areas are genetics (except population genetics) physiology, etc.

4. How we break down taxonomy - the flow chart

Formal tax-
Nomenel.
Hierarchies
Descriptions

Classification
~~Clustering~~
Dotagathering
" analysis
Similarity
Clustering

Keys for identification

→ Info Retrieval

5. The parts of taxonomy now clearly identified

6. The studies of evolution and phylogeny clearly separated - these constitute differing techniques.
   We have one program - for discovering evolutionary pathways.

7. Processes involved in classification (see chart).
A. Data-gathering & structuring (see recent paper in BioScience

B. Measures of Similarity -
C. Clustering techniques. See Systematic Zoology.

8. The biologist's role -
A. Clearly, he must designate the nature of the models.
B. Decide the meaningful inclusions
C. Know the nature & meaning of chosen math -
D. " " logic of his methods.

9. Description of our clustering methods.
Rules - see p. 407 of George's paper -
Using these rules, mathematician