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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.

Abbott Lois
Baer Darius
Epp Robert
Gould Diane
Johnston Barry
Kunkel Gregory
McArthur Gregory
McGuire Patrick

Dr. Roger's Students
Send copies of papers to above.

M - W - 9-12

Mon, Sept. 7

NOV 26-28 Thurs - Sun - Thanksg

Dec 7 - Start student review week -

Dec 12 - Sat, start final exams -

1. M - Sept 7 — Characters + Charact... — 1. Objectives of course (Types of data and)
2. W - " 9 — 2 → 2. Patterns + Pattern definition
3. M - " 14 — 3. Models + model building
4. W - " 16 — 4. Measures of similarity
5. M - " 21 — 3 → 5. How To derive characters
6. W - " 23 — 6. Math explanation of S(a,b)
7. M - " 28 — 4 — 7. Biological considerations of characters
8. W - " 30 — 5 — 8. " " "
9. M - Oct 5 — 6 — 9. Character analysis - Math -
10. W - " 7 — 7 — 10. " " "
11. M - " 12 — 8 — 11. Set up for computer runs
12. W - " 14
13. M - " 19 — Reports -
14. W - " 21 — Graphs Clustering
15. M - " 26
16. W - " 28
17. M - Nov 2
18. W - " 4
19. M - " 9
20. W - " 11
21. M - " 16
22. W - " 18
23. M - " 23
24. W - " 25
25. M - " 30
26. W - Dec 2

Review week { M - " 7 · Reports
{ W - " 9

Oral Exam.

Sept. 7 - Objectives of course & historical perspective.

A. To give a firmer base to work in taxonomy, ecology & evolution. Read paper in Evolutionary Biology -

B. To separate the methods from the data -
General logic does not result from looking at details of populations -

C. The synthetic areas vs the analytic -

D. Very important in this setting to know one's purpose
1. Special vs general categorization.

E. Basically we're all out for some classification -

F. Derive the requirements for a classification in your field -

Sept. 9 - Patterns + pattern recognition.

1. Look over efforts to draw flow charts.

2. Define pattern: form or shape, or outline, a configuration, design, a decorative figure or motive.

3. Biologists very much involved in pattern recognition - but also many others.

a. Psychology of patterns -
Gomez "Good Patterns have few alternatives" Am. Scientist 58(1): 34-42. 1970.
Redundancy and information theory.

b. Computer experts -
Pattern recognition mostly has been a type of cluster analysis.
Some measure of similarity as input, then putting like things together.

c. Automation of input - many must a scanning device to "examine" an object - 2 or 3 dimensional and tell what it "sees".
1. Difficulty - see Rosen, 1967. Pattern Classification by Adaptive Machines. Science. 156. 7 April P 38-44

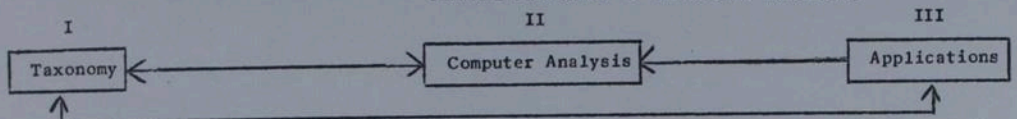
d. Sokal + Rohlf
in last issue of Taxon - the ignorant individual.

We, of course, call patterns characters.

e. The basis of our ability to recognize patterns in organisms is their genetic control.

Patterns (need) (may) not be major gene combines to give a good clue as to relationship.

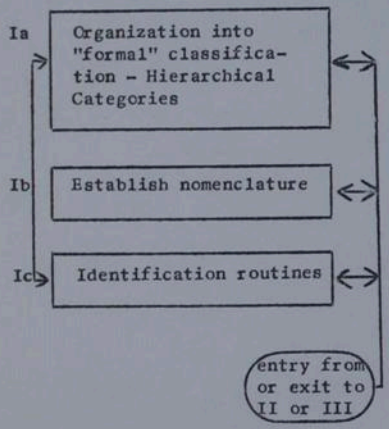
GENERAL FLOWCHART OF TAXONOMIC PROCESSES



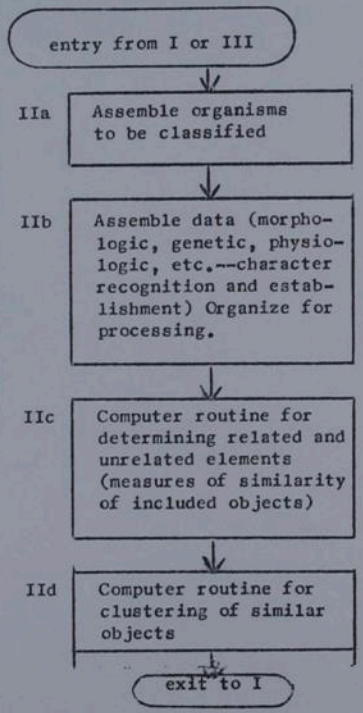
Note: The procedure begins and ends in either one of the taxonomic areas or in one of the applications.

DETAILED FLOWCHARTS

I - Taxonomy



II - Computer Analysis



III - Applications