

MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
CAMBRIDGE 39, MASSACHUSETTS

April 30, 1963

Prof. Joshua Lederberg  
Department of Genetics  
Stanford University  
Medical Center  
Palo Alto, California

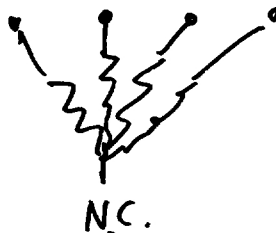
Dear Joshua:

Here are some references on "clumping", etc. My source is mainly Calvin Mooers.

1. V. Giuliano and P. E. Jones  
Report CACL-1  
CACL-2  
Arthur D. Little Co.  
35 Acorn Park, Cambridge, Mass.

This is a nice little electrical analogue device in which one connects resistors between associated nodes. Seems cute, but probably oversold.

Say, suppose you take your crossover data, and assign vertices to properties. Then, for each assay, connect a resistor star so:



Maybe, then, if you locate the endpoints and put through a current, the potentials will give the ordering.

2. H. Edmund Stiles  
JACM, April 1961, pp. 271.  
"Association Factors" between pairs of descriptors.

He computes "association factors" between property pairs.

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3. Frank B. Baker, "Latent Class Structure," JACM, October, 1962.
- 3a. P. F. Lazarsfeld and J. Dudman  
RAND Memo RM-455, Part II (1951)  
A theory of "Latent Class Structure".
4. "Theory of Clumps": Four reports from  
Cambridge (England) Language Research Unit (1960-1961)  
Reports ML 138, 139, 140, 144  
Proposal N-1064  
  
Papers by R. M. Needham  
A. F. Parker-Rhodes  
  
Cambridge Language Research Unit  
20 Millington Road, Cambridge, England
5. Report by Gerald Salton, Harvard University, on  
Hierarchical Models for Automatic Document Retrieval
6. C. N. Mooers  
Paper in "Information Processing", UNESCO, Paris, 1959.
7. Rogers and Tanimoto, "A computer program for classifying  
plants," SCIENCE, October 21, 1960, pp. 1115-1118.
8. Swanson  
Science, October 21, 1960, p. 1099.
9. Ledley and Lusted  
Science, July 3, 1959, p. 9.

Sincerely,

*Marvin*

Marvin Minsky

MM/s

P.S. I expect to be out there to a meeting on May 10.

P.P.S. I recall some recent work in this area by Harold Borko  
of SDC, Santa Monica.