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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.

31 October 1967

Dr. Ramon Riba
Instituto de Biología
Universidad Nacional Autónoma de México
Apartado Postal 70-233
México 20, D. F.

Dear Dr. Riba:

Enclosed please find the abstract for my paper entitled
"A Computerized Information Retrieval System for Taxonomy."

Also enclosed is an abstract of a paper to be presented
to the same symposium by Mr. Robert Brill. Although Mr. Brill
has not received a letter from you, I am sure that it is your
intention that he present his information. For this reason I
am enclosing his abstract as well.

Sincerely yours,

David J. Rogers
Professor of Biology

DJR:gm

30 October 1967

Warren E. Grabau
Research Geologist
U. S. Army Engineer Waterways Experiment Station
P. O. Box 631
Vicksburg, Mississippi 39180

Dear Warren,

Thank you for the very interesting article on computer art. I read it with interest as did Robert Brill, our computer expert here. Aside from the superficial amusement pursuant on perusal, these pictures suggest a further heuristic application, viz. "pictures" of familiar mathematical transformations, c.f. page 8, bottom. Perhaps a better intuitive feel for what various mathematical transformations "look like" might be provided in this way - especially for those whose formal mathematical training is insufficient for accurately envisioning the subtler properties of common transformations.

I am also anxious to see the results of our idea for coding ecological data. It would seem that we have addressed what has been a difficult problem with an encouraging bit of ingenuity. I intend to mention our idea at the forthcoming numerical taxonomy meetings at Lawrence, Kansas.

I look forward to our next meeting.

Very truly yours,

George F. Estabrook

GFA:gm

INVOICE

Your Account No.....

UNIVERSITY OF COLORADO

FINANCE OFFICE, REGENT 102

(Cr. Our No.) 0530-15-070

BOULDER, COLORADO 80302

Sold to

D. J. Rogers
Tax. Lab. Bot. Dept.
Colorado State University
Fort Collins, Colorado

Our Voucher No.....

Date July 27, 1967

Your Purch. Order No.....

Date Shipped.....

Req. No.....

Shipped Via.....

Date.....

F. O. B.....

TERMS: Net Cash

Dept. Work Order No..... Shipping Memorandum No.....

	Quantity Shipped	DESCRIPTION	Unit Cost	AMOUNT
<i>original sent to CSI 1 Aug</i>		Computing Service on IBM 7044 for June 1967 per attached Detail Please return a copy of this invoice with your check Make all checks payable to University of Colorado		38 50

INTERDEPARTMENTAL ORDER AND INVOICE UNIVERSITY OF COLORADO

COMPUTER RENTAL

C 4770

- GENERAL STORES FOOD LAUNDRY OTHER (EXPLAIN)
 LINEN BOOK STORE PHYSICAL PLANT ALCOHOL
 PHARMACY PRINTING SERVICES MOTOR POOL ACCT. NO. OF DEPT. RENDERING SERVICES

DEPARTMENT		BUD. CODE	OBJECT CLASS
NUMBER	SUB.		
3350	15	0	040

QUANTITY	DESCRIPTION	UNITS ISSUED	UNIT PRICE	AMOUNT
	COMPUTING SERVICE ON IBM 7044 FOR MONTH			
	MAY 1967			
	.385 HOURS AT \$ 100.00 PER HOUR			\$ 38.50
	Send Bill to:			
	D. J. Rogers			
	Tax. Lab. Bot. Dept.			
	Z030 Colo. State University			
	Ft. Collins, Colorado			

DELIVER TO			
ADDRESS		TOTAL	\$ 38.50

REQUESTED BY	TAX. LAB. B	DATE	H /67	CHARGE ACCOUNT	ACCOUNTS RECEIVABLE E		
APPROVED BY				DEPARTMENT			
RECEIVED BY				NUMBER	SUB.	BUD. CODE	OBJECT CLASS
				0530	15	5	516

JUL 31 1967

FINANCE OFFICE FORM NO. 14

25 October 1967

Finance Officer
Regent 102
Campus

Dear Sir:

Let me give you the history of this bill and the payment status of things. I presently am a member of the faculty of The University of Colorado and have been since July 1, 1967. Immediately before this, I was a member of the faculty at C.S.U. This bill was first submitted to me for payment on July 31. I immediately okayed the bill for payment from the Resident Instruction Account of the Department of Botany, Colorado State University, Fort Collins. The computing done was chargeable to this account for student computer hours at the Graduate School Computer Center (Boulder).

After I had approved the bill I was told by the clerk in the Botany Office of C.S.U. that the bill could not be paid because they had changed accounting systems and would not honor anything that had been submitted after July 1.

I suggest that the accountants of the two universities should probably communicate about this particular bill, because it is beyond me to move otherwise intractable rules. I have no solution to the problem involved with this particular bill. It seems to me relatively straightforward and should not tax the mentality of the C.S.U. accountant to make the necessary arrangements, but they seem unwilling to make such a move.

Sincerely yours,

David J. Rogers
Professor of Biology

DJR:cm
Copy to:
D. W. Brown
Department of Botany
C. S. U.

24 October 1967

Mr. Jerry Rubin
I.B.M. Center for Scientific Research
56th and 5th Avenue
New York, N. Y. 10022

Bear Jerry,

Thanks for asking me to participate in the session
Taxonomic Structure etc. of the Kansas meeting this
November. I intend to stimulate discussion concerning
the desirability of optimizing criteria based on the
information content of a classification. Let me know
if this is suitable. I look forward to seeing you in
Lawrence.

Very truly yours,

George F. Estabrook

GFE:gm

24 October 1967

Dr. Theodore J. Crovello
Asst. Professor and Curator of the Herbarium
Department of Biology, College of Science
Notre Dame University
Notre Dame, Indiana 46556

Dear Ted,

Thanks for inviting me to contribute to the discussions at the Kansas meeting. I would be glad to say a few things. I will confine my prepared statement to literally a few words. The publications, Taxon and BioScience, that you mention, I would rather not mention formally. However, a very interesting idea concerning the coding of characters was advanced here and I intend to present this to generate discussion.

I look forward to seeing you in Lawrence.

Very truly yours,

George F. Estabrook

GFE:gm

24 October 1967

Dr. Murray F. Duell, Editor
Bulletin of the Torrey Botanical Club
Butgers - The State University
New Brunswick, New Jersey 08903

Dear Murray,

Since I have very little complaint with Lens' paper, it will not be necessary to remain anonymous. I frankly think he has written a good paper. There are one or two suggestions concerning procedure that I will make but that is all. As far as his discussion on Echium is concerned I have no value judgement. I think he has defended his design making process for the new taxa eloquently. I wish that 90% of taxonomists would be as evident.

On the procedure I suggest that on page 3, characteristics employed, also list the states of each character employed. This is important for knowledge of establishment of the similarity measure. On page 7, it seems to me that Lens has not been sufficiently detailed in describing the development of his similarity index. If he has used his own methodology then it is necessary for him to describe it. If he has used others then he should give reference to the similarity measure adopted. Still on the same page, about midway down, is the sentence "It is clear that there are at least three distinct groups . . . etc." I find the clarity not so clear. Please ask Lens to state the meaning of the distinction which is the basis of his clarity. Aside from these comments nothing strikes me as being "wrong" with the paper. I find it mostly "right." If there be anything wrong with Echium then there will have to be someone else who makes that noise.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

23 October 1967

Dr. Paul W. Barkley
Department of Agricultural Economics
Washington State University
Pullman, Washington 99163

Dear Paul,

Have your business manager (or whatever the Hell they call him) figure the salaries the same as you did and add those salaries figures the overhead rate of 40.8%; this is allowed. Ask that this Invoice be sent to me, whereupon I will affix my John Henry, ~~set~~ ward it to the Office of Research Services at Boulder, and hopefully within sixteen years Washington University will get paid.

O.K.?

P.S. got your outline; haven't read it; too damn many committees.

Love and Kisses,

David J. Rogers
Professor of Biology

DJR:gm

19 October 1967

The Hon. Donald T. Brotzman
1330 Longworth Building
Washington, D. C. 20015

Dear Mr. Brotzman:

May I request your assistance in the following manner? I understand that through your facilities it is possible to use the Library of Congress Reference Service. Would you through this service find information concerning the world production and trade in cassava and tapioca plants and/or products. I know that the Foreign Agricultural Service, USBA, prints reports entitled "World Agricultural Production and Trade." Unfortunately this deals with different commodities in different issues and I do not have a cumulative index which tells me where to look for tapioca or cassava.

I will be pleased to have your assistance and thank you very much.

Sincerely yours,

David J. Rogers
Professor of Biology

DJR:gm

18 October 1967

Mr. L. A. Montoya
IICA, Oficena en Mexico
Londres, 40. ^{1st Floor}
Mexico, 6, D. F.

Dear Mr. Montoya,

I was very disappointed that there was not an opportunity to see you at the meetings in Texas. We are still planning to come to Mexico at Christmas time, specifically the days are December 14 to 23. We would like to spend the first two days (Friday and Saturday, the 15th and 16th) in Vera Cruz, looking at the Manihot cultivars there. I will be very pleased if you will make reservations at a good hotel for me and my wife during that time in Vera Cruz. I will also be pleased if you can suggest whether we can get transport easily through your office to assist us in the collecting of the Manihot data.

I would like to send you in advance some collecting equipment. Would it be all right to send plant presses to IICA Oficina en Mexico in your care? I hope that this will be satisfactory.

As you may know part of our visit will be to a meeting sponsored by the Nacional Universidad dealing with biological information retrieval. You might be interested in those meetings.

I trust that it will be convenient on the dates given. We look forward to seeing you and the Manihot in Vera Cruz. Please let me know the answer to the question above as soon as you can so that we can make our plans well in advance.

Sincerely yours,

David J. Rogers
Professor of Biology

DJR:gm

17 October 1967

Dr. James S. Ferris
Museum of Zoology
University of Michigan
Ann Arbor, Michigan 48104

Dear

The gathering of "computerniks" for evolutionary systematics at Bob Sokal's place has been straightened out, as you probably know..

I am writing to ask if you would be prepared to say a few informal words about numerical procedures and studies in evolution. Apparently nothing fancy in the way of preparation is required, but this is to forewarn you that during the last session I may ask you to make appropriate noises. I hope you will be prepared to do so; if not you don't even need to say "No" until the meeting.

Looking forward to seeing you again.

/sincerely,

David J. Rogers
Professor of Biology

DJR:gm

17 October 1967

Dr. F. James Rohlf,
Department of Entomology
University of Kansas
Lawrence, Kansas 66044

Dear Jim,

Please be prepared to say something about information retrieval on Tuesday afternoon (14 November) when I am discussion leader at the Numerical Taxonomy Conference.

Looking forward to seeing you.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

17 October 1967

Dr. Robert R. Sokal
Department of Entomology
The University of Kansas
Lawrence, Kansas 66044

Dear Bob:

I will be glad to serve as a discussion leader.

Looking forward to seeing you.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

17 October 1967

Dr. Richard M. Klein
The University of Vermont
Department of Botany
Hills Building
Burlington, Vermont 05401

Dear Dick,

I was glad to have your recent letter concerning the status of the books. For my own, I do have the manuscript in my hands. I have not done anything with it all summer long, for fairly obvious reasons. The problem that I face is that some idiot editor there said "it ain't big enough." I have not had the courage to write back and say that I was told by another editor (the guy I first dealt with at Doubleday - I can't remember his name) to keep it short and that's what I did. I'll get around to it sometime.

It seems to me that if you have approved Howard Irwin's book that they should have a very difficult time rejecting it. Something must have slipped recently.

Great to hear of your activities at U.V. We are happy as clams here in Boulder. We are not going back to Fort Collins - that was a rumor started by some people at C.S.U. who were made at me for leaving.

Regards,

David J. Rogers
Professor of Biology

DJR:gm

P. S. Your paper with Art from the Quart. Rev. just came. From its weight it looks like a significant contribution. Thanks for sending it.

16 October 1967

Dr. William L. Stern
Department of Botany
College of Agriculture
University of Maryland
College Park, Maryland 20740

Dear Bill:

A complete set of reprints was sent out recently. Some of the papers ~~are~~ of historical interest only - namely the Science paper of 1960 and the earlier BioScience paper by Fleming and me.

I cheer your idea of methodology in plant taxonomy and I surely hope that you will bear down hard on the business of ~~str~~ structuring of characters. Whether one uses the computer or not, the whole taxonomic process rises or falls on the basis of the good construction of the input data. I wish that we could give you some sort of seminar ourselves to go along with the paper from BioScience by Estabrook and me because, while that says all we want to say, it is rather straight off the shoulder, and as a result could stand some additional explanation. However, take a good look and let me know if there is anything else we can do to help your seminar. Incidentally

Incidentally, there is on the staff of the University of Maryland another escapee from the Washington bureaucracy, namely Dr. Jerry Kidd who is interested in information retrieval. I recommend that you have a chat with him sometime, because systematic botanists have great need for ~~re~~trieval of data and Jerry is very good about this sort of thing.

Sincerely,

Boofes J. Rogers
Professor of Biology

DJR:gm

16 October 1967

Mr. Richard See
Acting Program Director, Special Programs
Office of Scientific Information Services
National Science Foundation
Washington, D. C. 20550

Dear Mr. See:

I should like to withdraw my request for additional funds that I sent to you on 19 September. I would rather request that I be permitted to use funds from the existing grant for the purpose mentioned in the 19 September letter; namely to travel to Mexico to collaborate with workers in the Museo Nacional de Historia Natural.

Sincerely,

David J. Rogers
Project Director

DJR:gm

12 October 1967

Dr. David M. Prescott
Scientific Editor, BioScience
Institute of Developmental Biology
PSR Bldg. I,
University of Colorado

Dear Dr. Prescott:

Returned herewith is Davidson's and Dunn's paper.

First, let me say that Davidson has prepared a number of papers which I have seen and most of which I have turned down for one journal or another. For that reason I would appreciate it if you would get an independent decision from mine before any final decision is made on the present paper.

Somewhere, I think, Davidson has a message but somehow he never seems to "cut the mustard." In a way he tries to be a philosopher, a psychologist and a biologist all rolled into one. I feel that he misses the boat on all three. Mathematically we find him belaboring the obvious with a set of mathematical symbols which looks like the score for an opera. We cannot even be sure we can follow a lot of his statements, but as far as we can determine it looks as though he mostly demands some a priori classification (see page 15, comments in margin). Furthermore we are more sophisticated, even laymen, than to make a modern-day classification which includes whales, perches and rabbits. Our problems do not involve that sort of division and modern biologists are aware that their classifications do not necessarily reflect the "truth." The problem of weighting also is an unnecessary lot of discussion.

I would recommend to Davidson to go and talk over his problem with a non-statistical mathematician, listen very carefully to his words and try to stick to his business of development of some satisfactory algorithm and program. I don't know why he does not use ours - they work for the purpose of classification.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

11 October 1967

Dean E. James Archer
Regent 201
University of Colorado
Boulder

Dear Jim:

The opportunity to do some collaborative research between the museum here and the Smithsonian Institution is now a very live option. President Johnson recently pointed out that museums were in need of assistance to do their job, and it has been an "in" thing to do to work on information retrieval. Bill Weber's idea and mine was to make some sort of communication system via teletypewriter or some other line such that data could be exchanged between the Smithsonian and our museum. The Smithsonian has established a number of procedures for data recording with automatic input devices (similar to the Flexi-writer) which save immense amounts of time in terms of secretarial and curatorial activities. Our museum would benefit by the knowledge in the Smithsonian already available for processing museum-type information and this tie between our museum and the Smithsonian could be thought of as a prototype system for many other museums around the country. Information retrieval could work very nicely in a situation where queries could be made between large and small institutions concerning the disposition of certain specimens or the location of rare specimens or the fossil record of a certain area, etc. The objective of such a tie could be to make more efficient the type of work for which museums are particularly well suited.

I think the best people to talk with about this particular type of activity are Dr. Burton Adkinson, Head of the Office of Scientific Information Services, National Science Foundation, and Dr. Sydney Galler, Assistant Secretary for Science of the Smithsonian. Adkinson, I am sure, would be well disposed to the development of a system. He has encouraged biologists to apply to NSF for information retrieval work. I know that Galler and others at the Smithsonian will be more than glad to collaborate on this experimental phase, because I have talked with him and others (Dr. Don Squires, Deputy Director, Natural History Museum) there.

I suppose that this project should be talked over with Rodeck and many others at the museum here before it gets to the point where we should do something positive about a proposal to NSF. I will be glad to participate in the discussions about this sort of work provided there is somebody in the museum willing to go along with it. I do not want to work with this thing if the people in the museum are less than enthusiastic. I know Bill Weber is enthusiastic but can say nothing about the others (Rodeck, et al.).

11 October 1967

Dr. Don W. Smith
Department of Biology
North Texas State University
Denton, Texas 76201

Dear Don:

Glad to hear from you, and about the Economic Botany course possibility. I have the following suggestions:

1. Texts: Hill, Economic Botany. McGraw Hill
or
Schery, Plants, Man and Life. Wiley (I think)
2. Reading: the journal, ECONOMIC BOTANY, for both you and your students. You can subscribe to the journal as a member of the Society for Economic Botany (you should be a member) by writing to:

Miss Ruth J. Breach
330 E. 70th Street
New York, N. Y. 10021

with a \$7.50 check.

Your university ought to buy all the back issues of the journal to back up your course, and they can do this from Stechert-Hafner, Inc., 31 East 10th Street, New York, N.Y. 10003. There are 21 volumes, including this year.

You can get many other very useful volumes about economic plants, and I recommend strongly the World Crop Series published by Interscience (Leonard Hill in England), of which there are 15 or so published volumes. A good book on tropical economic plants is H. E. MacMillan, "Tropical Planting and Gardening." This is an old book, but still in print from MacMillan & Co., Publishers. I find it a wealth of information, though it is supposedly restricted to talking about the island of Ceylon. Another fabulous source of information which you probably will have to go to the second-hand dealers to find is the two-volume Dictionary of the Economic Products of the Malay Peninsula, by I. H. Burkhill. This is no doubt one of the best sources of information you will run across. I think you might have some luck on Burkhill from Stechert-Hafner. They are pretty good about finding such things. Another useful source

and one that I know has just been reprinted is Willis, Flowering Plants and Ferns. This is a name finder. If you want to know what family a certain genus is in, or to what genus a certain common name is applied, this work will be very useful. Many other goodies can be found in this same volume. You should also have available to you the various U. S. Pharmacopoeias. These works, published every five years, are a tremendous source of information on drug plants. Another useful volume, but I don't have full details on it, is the "Oil and Drug Reporter." Put your librarians to work in locating this work, published strictly for the trade in oil seeds, etc.

Also write to the various trade associations, most of which are headquartered in New York, for their give-away publications. The best way to locate them and their addresses is to go to the central phone exchange in Denton, where you can find a Manhattan phone directory, and look under such headings as "associations," "trade associations," etc. You can pick up much useful information this way, and it won't cost you more than a 5¢ stamp.

For your own edification, go to Anderson's list of readings recommended in the back of his book; the one which I loaned you for damned near a year.

Now, friend, with these you should be on the track - there are thousands of sources of information on plants useful (and harmful) to man. I've only started you in the direction you need to go. To be a good Economic Botany teacher is probably one of the most challenging jobs you will ever encounter. This literature is vast and scattered under many disciplines, and you should know it all.

Good luck!

David J. Rogers
Professor of Biology

DJR:gm

11 October 1967

Miss Ann L. Farren
Professional Relations Officer
Biosciences Information Service
2100 Arch Street
Philadelphia, Penns. 19103

Dear Ann,

Thanks you your letter of the 3rd which tells me that you will be glad to give us a talk on November 8th. As usual with Universities seminars are given at such time as people are "pooped" from the day's work and start at 4:00 P.M. The seminar will be sponsored by Phi Sigma, the local biology honorary fraternity and will, I hope, attract a large crowd.

The major emphasis should be general biology, i.e. taxonomy, ecology, physiology, genetics; the specialized fields are not too well represented here, but if you cover the ones mentioned you'll get the biggest crowd.

Please come sooner than 4:00 P.M., by lunch time if you can, and I'll see that you get a short sightseeing tour, if that pleases you. Give me a call from Fort Collins, our phone number is in the heading, and we'll look forward to seeing you.

Will you need a place to stay? I think that the Harvest House Motor Hotel would be the most suitable. Their address and phone number are:

1345 28th Street, Boulder 80302

Phone 443-3850.

I have written back to John E. Crips with the blank form filled out that he requested. I hope it is meaningful.

Looking forward to seeing you,

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

11 October 1967

Dr. Donald F. Squires
Museum of Natural History
Smithsonian Institution
Washington, D. C. 20560

Dear Don,

Herewith is a sort of a summary of our impressions after our visit with you and the various staff members. The impressions overall are that you have a good group of people and we were pleased to learn from them as much as we did.

We have not named the individuals concerned feeling that this would not necessarily improve what we say and you know about them. This paper is strictly for your perusal and will possibly be out of date tomorrow. I hope however that it serves some useful purpose for you.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

9 October 1967

Mr. Lester Talkington
53 Hickory Hill Road
Tappan, New York 10983

Dear Lester:

We have supplied all the requisite information to SHARE for the IBM 7044. We started using the IBM 7094 but ran into such difficulty with the WDPO for the western universities that we abandoned the project.

Enclosed are copies of the "Input Deck Setup", a paper George Estabrook may have left with you at the Symposium on how to set up characters, and a paper on "reading the Printout."

We have not the faintest idea of how it will do with nutrition data since at least two things are unknown to us: (1) the nature of the data, and (2) what he wants the data to tell him. Our program satisfies the assumptions for the clustering of plants and animals that indicates relationships between either specimens of taxa for the eventual determination by the use of biological principles, or taxa or classification.

One additional output of the program is not in the write up. We call this the "Nodal Distance Array." It is simply a listing of the ten closest objects in order to each of the objects in the program along with the associated similarity value. We find it of use with reticulate related objects or for objects that lack significant amounts of information.

We are now running the program at the Graduate School's computer, a C.D.C. 6400, here at the University of Colorado.

Give my best to your wife and how are the birds migrating? If we can be of any more help let us know.

Sincerely yours,

Henry S. Fleming

HSF:gm

6 October 1967

Dr. Joseph A. Tihen
Council of Biology Editors, Inc.
c/o American Midland Naturalist
University of Notre Dame
Notre Dame, Indiana 46556

Dear Dr. Tihen:

Please remove me from your list of editors; I have not been connected with ECONOMIC BOTANY since the end of 1964. You can see from the letterhead that I am no longer in New York.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

Present Editor of ECONOMIC BOTANY:
Richard Evans Schultes
Botanical Museum of Harvard University
Cambridge, Mass. 02138

4 8 October 1967

Dr. Mason E. Hale
Department of Botany
Smithsonian Institution
United States National Museum
Washington, D. C. 20560

Dear Masen:

Thanks for your kind words in your recent letter. Reprints as requested are enclosed. Anybody that wants more, I am afraid, will have to get a Xerox copy of these. Perhaps one of the most important of our contributions is the paper by Estabrook and me published in BioScience entitled, "A General Method of Taxonomic Description for a Computed Similarity Measure." This last paper has attracted a very large audience and we have only this and one other copy of the reprint. I have reorded but do not have them yet. Incidentally, Henry said he left all the reprints he had.

Let me thank you for your time and effort with our group there. It is a pleasure to see things moving under your hand.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

4 October 1967

Mr. Roger P. Smith, News Editor
Scientific Research
330 West 42nd Street
New York, N. Y. 10036

Dear Mr. Smith,

Enclosed is a revision of your news story about our project which tells a little more exactly what it is we are trying to do.

Thank you for letting us see your copy.

Sincerely yours,

David J. Rogers
Professor of Biology

DJR:gm

see publicity file for copy

4 October 1967

Dr. Theodore J. Crovello
Department of Biology
The University of Notre Dame
Notre Dame, Indiana 46556

Dear Ted:

Here is the run-down on our present information retrieval project:

1. Principal Investigator: David J. Rogers (Professor)
Department of Biology
Armory 101A
University of Colorado
Boulder, Colorado 80302
2. Title of project: Development of a Prototype System for the Storage and Retrieval of Biological Data
3. Dates: July 1, 1967 for two years (till the money runs out).
4. Purpose of project: A. Development of a computer system to allow more efficiency in writing specialized I.R. systems.
B. Development of "packages" of macros applicable to various aspects of I.R.
C. Production of one complete I.R. system from the above for the purpose of "scratch pad I.R." for the working monographer (or curator). The genus Manihot will serve as a sample of this specialized system. The project is in collaboration with the Smithsonian.
5. No literature yet except the grant instrument, probably available from NSF.
6. No computer program yet. XPOP is the computer system.
7. Type of hardware: Program attempts to make system hardware-independent. The XPOP system is run now on IBM 7094, IBM 360/30, and will soon be converted to CDC 6400. Input device not designated; output display optional.
8. Data availability: When the system is running, it will be available to all. This laboratory will be actively seeking a system designer who wishes to apply macros to specialized systems.

You didn't ask for it but the other participants as Investigators in this system are as follows:

Henry S. Fleming	Research Botanist
Robert C. Brill	Systems Analyst
George F. Estabrook	Mathematician
Howard Christensen	"
Bruce Handley	Programmer
Genevra B. Metcalf	Secretary

Ted, you have confined this to essentially systematists though most people I know working in information retrieval would not call themselves by this title. See you in Kansas in November.

Sincerely,

David J. Rogers

DJR:gm

3 October 1967

Association for Computing Machinery
211 East 43rd Street
New York, New York 10017

Gentlemen:

I would like to obtain a membership for a member
of my staff, Mr. Robert C. Brill. His address is

Department of Biology
Amory 1101
University of Colorado
Boulder, Colorado 80302

It would be more convenient if you could bill me
for the \$18.00 to cover the membership.

25.00

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

3 October 1967

Mr. Ernest Sohns
Office of Science Information Service
National Science Foundation
Washington, D. C. 20550

Dear Ernie,

This is just a note of appreciation of your efforts on our behalf. I really do appreciate your confidence in our project.

I believe we can demonstrate already that your confidence is not misplaced. We have broken the back of one problem in computer filing and retrieval that was not solved when we started. This problem initially might be characterized by the fact that no suitable means had been found to prevent a linear searching of tapes at great expense and with much inefficiency. This problem had generated a whole host of different types of look-up tables acting as intermediates between the user and the stored data. Our original scheme to escape this problem did escape it, but in so doing added another one to the already inefficient storage. Without going into any of the mathematical details we will even have learned to "pack" the data into extremely efficient smaller units. This not only prevents the necessity of linear arrangement and tables but indeed makes a much more highly efficient storage and search system.

I think we can attribute the solution to the problem to the fact that it had many similarities to other problems we have faced in classification. I think because of our experience in other programs for taxonomy we had an "in" not available to other workers. I will ask you please not to so much as mention this work until it is published and safely labelled as ours. Even the words I have said to you here can clue others to the solution which is so simple we wonder why it hadn't been done before. The paper is in preparation at the moment and should be in the hands of the publisher within the month. If we do nothing else on this project (which is of course not the case) we will have justified the "dough" spent on us. More news as it develops.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

2 October 1967

Dr. David Gates
Missouri Botanical Gardens
St. Louis, Missouri 63110

Dear Dr. Gates,

The best schedule arrives at the St. Louis Airport at 10:27 A.M., so I cannot make it to the Garden by 11:00, but I should arrive about 11:30, on Thursday, October 12.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

2 October 1967

Dr. Phyllis Parkins
BioSciences Information Services
2100 Arch Street
Philadelphia, Penna. 19013

Dear Phyllis,

This belated note is written to thank you and your staff for their time cooperating with us during our visit. As usual I learn a little each time I see you and the operation you are running so well. We are very impressed with Mr. Zabriskie whose knowledge about information retrieval we respect and hope that we can again have a chance to exchange ideas.

Best wishes for your 40th Anniversary celebration. I am sorry not to be able to attend.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

2 October 1967

Dr. Ralph G. Johnson, Editor
Editor, Evolution
Department of the Geophysical Sciences
The University of Chicago
Chicago, Illinois 60637

Dear Dr. Johnson:

Returned herewith are our collective comments on Farris' paper "Maximum Parsimony and Maximum Likelihood in Numerical Cladistics." In addition to my own comments, part of which are editorial from my experience as editor of *Economic Botany*, there are included those of two of the Taxometrics Laboratory who are professional mathematicians. Where one stops and the other begins is probably evident, for we haven't made too much effort to "smooth out" the critique.

From this review and critique I think you can see that we consider both the author and the paper well worth encouraging, but also that we have many misgivings about the work. I hope that you can diplomatically transmit these sentiments to the author, a young man who has much promise as a contributor to this area. We do not wish to "blast" him with our comments, but rather to give him a nudge in a direction we think will be useful if he wishes to make himself heard.

Some of our comments are dictated by our own experience in reporting work of this type to audiences primarily in systematics. We feel that, if biologists are to be the major audience, we should present our works in terms most meaningful to them. When we cross disciplinary lines to include mathematics, at least to this generation of biologists, we'd better be very careful to get it out with the least amount of confusion. In its present form it satisfies neither a mathematician nor a biologist.

I hope the time lapse hasn't been excessive, and that we have done the job to your satisfaction.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

2 October 1967

Dr. Alfred Jones
USDA, ARS
Georgia Coastal Plain Experiment Station
Tifton, Georgia 31794

Dear Al,

I am sorry to have delayed so long in thanking you for your most generous hospitality. Please be sure to tell your wife that I did indeed enjoy our dinner together.

I have just sent the list of names to Frank, but will possibly be able to augment it greatly. I am very excited about our opportunity to work together; with the relation that you, *Frank + I* have, *we* can go a long way, I am sure, to solving the problem of the origin and relationships of the sweet potato.

Sincerely,

David J. Rogers
Professor of Biology

DJR:qm

2 October 1967

Dr. Robert M. Hayes
Institute of Library Research
University of California
405 Hilgard Avenue
Los Angeles, California 90024

Dear Dr. Hayes,

This letter is written in appreciation for the time you spent with Mr. Robert Brill. According to Mr. Brill you contributed greatly to our knowledge and understanding of the problems involved in the computerized information retrieval.

While it is a bit early to make any statements, I believe that because of your contribution and some of our own input we have got an idea for efficient computer filing and retrieval. As soon as we have developed this idea sufficiently we will let you know of our efforts.

Let me issue a standing invitation to drop by and see us here at Boulder.

Sincerely,

David J. Rogers
Professor of Biology
Project Leader

DJR:gm

2 October 1967

Dr. Frank W. Martin
USDA Federal Experiment Station
P. O. Box 70
Mayaguez, Puerto Rico 00708

Dear Frank,

Enclosed are some suggested names for the collection of Ipomoea seeds. The letter you sent to me seems O.K. to do the job. I am very excited about the whole process and came away from the meeting with you and Al very pleased with the chance to work with you. We should have lots of fun.

The enclosed list does not necessarily cover a wide range of Old World tropics. I was not sure whether it would be useful to ask people from Africa, Asia and the Islands of the Pacific to send seeds. If you think it is useful to ask for seeds from the Old World tropics I have a few more names to add.

Best regards,

David J. Rogers
Professor of Biology

DBS:CM
Enc.

2 October 1967

Mr. Paul B. Holden
Utah Cooperative Fishery Unit
Utah State University
Logan, Utah 84321

Dear Paul,

Glad to hear you are going. I strongly recommend that you get in touch with Dr. Meredith Morris at the Rocky Mountain Experiment Station, Colorado State University, Fort Collins 80521. Dr. Morris has our program, and he can run it on the CSU computer. Ask him if he is willing to run your data and the method of operating (that is, how do you set up a charge account between you and him?).

This is your best bet. Failing Morris's cooperation, try Dr. George A. Van Dyne, Fisheries and Wildlife Biology at CSU. Both Van Dyne and Morris have the program and instructions for running it, so no sweat, except for them. Perhaps Dr. Behnke can get a free run for you. I recommend this route. However, if you hit a snag let me know and we will run your objects for \$100. Good luck to you.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

2 October 1967

Quality Motel
5120 Oakland Avenue
St. Louis, Missouri

Gentlemen:

Please reserve a double room for me and Mr. Henry Fleming for the nights of Thursday, Friday, and Saturday, October 12, 13, and 14. We will be attending the meeting at the Missouri Botanical Garden.

I am enclosing a postcard on which you can confirm this reservation.

Yours truly,

David J. Rogers
Professor of Biology

DJR:gm

30 November 1967

Mr. B. K. Farris
Science Communication, Inc.
1081 Wisconsin Ave., N. W.
Washington, D. C. 20007

Dear Mr. Farris:

Although I indicated by postcard that I would be willing to answer the questionnaire sent by you, I shall not be able to comply. I find that the questions are so diffuse and ill-defined generally that I as an Investigator cannot decide which way the questions should be answered.

I recommend strongly that you recall this questionnaire from all people to whom it has been sent; spend much more time on its conception, and the selection of people to whom it is sent to achieve whatever goal you are seeking.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

30 November 1967

Local Board No. 16
48 Webster Avenue
Town Hall
Goshen, New York 10924

Gentlemen:

Please find enclosed a resume of my professional activities for the past year. Would you please include it with my file.

Thank you,

George F. Estabrook

30 November 1967

Dr. Luis A. Montoya
TICA in Mexico
Londres 40, 1^{er} Piso
Mexico 6, D.F.

Dear Dr. Montoya:

This is to let you know that we are still planning to arrive in Mexico on 14 December via American Air Lines at 2:14 P.M. (1414 hours).

I have decided not to send ahead any equipment but bring the material with me. I think the airlines will allow me to carry sufficient weight so it will not be necessary to make a special shipment. Therefore you will not have to worry about a box before my arrival.

My wife will be accompanying me and we look forward to our visit to the Manihot growing in Vera Cruz. I trust that you have had an opportunity to reserve a hotel room for us in Vera Cruz for the nights of 15 and 16 December.

Sincerely yours,

David J. Rogers
Professor of Biology

DJR:gm

30 November 1967

Sr. Miguel Fdez. de la Pazata
Cía. Turística Mexicana, S.A.
Paseo de la Reforma 185, Primer Piso
Mexico 5, D.F.

Dear Sir:

There seems to have been some misunderstanding about the arrangements for our transfer. We shall arrive at the Hotel María Isabel on 17 December by automobile and will not need transfer from the airport on arrival.

The transfer which we requested is from the hotel to airport on departure via Braniff flight #4 on Saturday (Sabado) 23 December at 08:25 hours.

This arrangement was covered by Voucher T-1367 (TMR-30).

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

28 November 1967

Dr. Robert F. Raffauf
Park Drive Manor 317-B
Philadelphia, Penna. 19144

Dear Bob,

I have not much positive news to report. I have contacted the Pharmacology Department at the University Medical Center, Denver, and given a copy of your resume to Dr. Norman Weiner there. While his group is off in a different direction, he seemed at least willing to look around for you.

The chairman of Biology, Askill Löve, has been apprized of your letter and is much interested in the chemotaxonomy aspects. We might, if you care to, consider the following route: ask you to come in as a visiting research professor with your total salary paid from a grant. After two or three years of this status, then we would move toward permanent faculty assignment.

I do not know whether there is any more chance of success now for a request that I was originally turned down on, but you might wish to consider a thoroughgoing chemotaxonomic study of the genus Cinchona. I got clobbered this year myself but I suspect it was for the reason that I was not considered a satisfactory citizen in the eyes of the granting agency. I think that your qualifications are such that you would more than make up for any deficiencies that I had.

There are probably other types of problems where a thoroughgoing investigation would pay commensurate dividends. I only suggest Cinchona, but if you care to go this route then let us pursue further planning. Let me know how you feel about it.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

27 November 1967

President Joseph R. Smiley
Regent 301
University of Colorado
Boulder, Colorado

Dear President Smiley:

I recommend that during the interim period that Lawson Crowe be publicly announced as continuing the graduate school activities with reference to student affairs, and that Wesley Brittin be appointed to administer those functions which Dean Archer had with relationship to various grant and research functions.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

21 November 1967

Dr. John R. Reeder
Editor-in-Chief, BRITTONIA
Osborn Memorial Laboratories
Yale University
New Haven, Conn. 06520

Dear John:

I recently saw Ted Crovello, and he gave me hell for the review I gave him on the paper submitted to you. After having cooled him down, I told him that he should try again. But I told him that he'd have to say things differently from the way he did, and clarify his points. He did not emphasize, as I recall, that if you use a different number of OTU's (jargon for objects) that you would get differing types of classifications. He was interested in getting this across in the paper. At that point, I told him he should indeed rewrite and resubmit.

Would you be willing to take another look at his paper if he decided to reorganize it? I told him I was pretty sure that you would, but that I would check with you for him. Let me know, and I'll pass the message on to him.

I am a little unhappy that he found out that I was one of the reviewers, particularly when I was as harsh with his paper as I was. How did it happen? Or can you remember the circumstances? It really doesn't matter now, however.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

20 November 1967

Dr. Kenton L. Chambers
Systematics Program
National Science Foundation
Washington, D. C. 20550

Dear Ken:

I promised in St. Louis to give you a resume of the meeting of numerical taxonomists which was held in Kansas in the beginning of last week (November 13 and 14). The reason for giving you this report is to refresh your memory about what is going on in the field, so that more intelligent funding of numerical taxonomy projects may be made. You know that I felt very strongly that NSF systematics panels have usually been relatively harsh in dealing with numerical taxonomy for reasons not necessarily related to the value of the research. Much of the criticisms of numerical taxonomy has been on an emotional basis on both sides of the fence. It is not clear to me why some spokesmen for the use of various mathematical methodologies and computers for taxonomy have felt that they had to make relatively derogatory remarks about the people who were not so interested. I need not tell you who these people are for I am sure you can fill in the blanks.

Therefore it is a pleasure to be able to report that when workers in this type of endeavor are amongst themselves and their kind, you find them to be solid citizens, much interested in the fundamental aspects of the science of taxonomy. What is going on now is a very deep and thorough investigation of the tenets in the field, to discover if there be some basic assumptions, rules and procedures by which we can elevate the science of taxonomy from an intuitive process to one which can be expressed in some more precise manner.

The sessions that were held in the two day workshop attended by some thirty people were devoted to the following:

1. The overall philosophy of numerical taxonomy (and read here for Numerical taxonomy theoretical taxonomy),
2. The best structuring of characters for use in numerical taxonomy,
3. Optimization of the information for classification, and
4. Methodology for phylogenetic investigation, taxonomic keys, and information retrieval.

It is noteworthy that in these sessions the thinking processes which taxonomists have long said could not be quantified were the major effort

of the group. Very little was said about the more mechanistic aspects of the hardware. This is indeed an interesting development because it indicates confidence amongst the group that we now have in the computers effective tools to carry out our intentions. Perhaps this is not generally known to the taxonomic community (I am sure it is not) but amongst the group present there was no quarrel with whether we should or should not use computers, in the same sense as to whether we should or should not use biosystematic evidence for classifying or use electron microscopes to discover more accurate detail.

Now the problem of how to discover who is or is not doing useful investigation in the field of numerical taxonomy becomes increasingly difficult because there are so many people becoming interested in this area, with so many disciplinary backgrounds, we cannot always be certain at this stage of the game whether a particular activity is new or redundant. This problem is, I think, one common to most developing disciplines and is not necessarily confined to numerical taxonomy. Therefore I suggest that in the considering of support for endeavors in this field that considerable leniency be allowed for a period of, say, ten years. In that time we will have developed sufficient background to be able to say with some certainty whether a particular research proposal contains new and interesting basic science or is just pedestrian copying.

Over the years observing the NSF systematics program I think I can say that the conservative group has allowed the minimum of support for the development of the basic science. Now allowance was made if a worker strayed from some well-established pathway. It is most disturbing to see one group of taxonomists attacking another group of taxonomists concerning new aspects of the same discipline. This is particularly disturbing because it fragments the field in the view of more "modern" disciplines who will allow in their midst any variation. I must say at once that many of the attacks of molecular biologists against the classical taxonomy has been vicious and unscientific but on the other hand also say that taxonomists themselves have brought much of the contention down on themselves for failure to keep abreast of modern thinking and the opportunity to employ some devices for their benefit. Since no field of effort is ever worked out we should constantly be on the lookout for ways to improve the science which we follow.

We will have to support graduate students and investigation in numerical taxonomy in order that this field be allowed to settle itself in among the other subdisciplines of taxonomy (by subdisciplines I refer to chemotaxonomy, biosystematics, etc.). We are going to have to support post-doctoral fellowships which will allow workers to go to the centers where numerical taxonomy is being done to learn methodologies and theoretical aspects. NSF and the systematics community should be the leaders in this field rather than dragging its heels and bickering about non-useful arguments.

It is not my opinion that numerical taxonomy intends to eliminate other kinds of taxonomy. It is rather my opinion that it will be a supporting endeavor to taxonomy adding both to fundamental theoretical levels and in solving the many still unresolved taxonomic problems.

We can benefit by using computers in floristic studies, in developing computer keys for identification of unknowns, for aiding curators in their busy work of keeping up with the many tasks imposed on these fellows by their multiplying record-keeping requirements, provide information retrieval systems about the organisms in which we are so interested, and perhaps even in teaching taxonomy.

As you can see from this, my report to you is more of an opinion than a factual summary of the papers presented. One of the interesting facts that you should know about is that at this meeting, although financed by the individuals who attended, a good 50% of the people there were from other countries. This, to me, is a reflexion on American taxonomists who refuse to examine what has to be done, and the potentialities in this field.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

20 November 1967

Biol. Javier Valdes G.
Jardín Botánico, U. N. A. M.
Ciudad Universitaria
Mexico 20, D. F.

Dear Sir:

Enclosed is a check for the registration fee for me
and Mrs. Rogers; and for Mr. Robert C. Brill, a colleague
who has been asked by Dr. Donald Squires to present a paper.

Sincerely yours,

David J. Rogers
Professor of Biology

DJR:gm
End. check for \$48.00

20 November 1967

Biol. Javier Valdes G.
Jardín Botánico, U.N.A.M.
Ciudad Universitaria
Mexico, 20, D. F.

Dear Sir:

Enclosed is our check for Professor and Mrs. Rogers, and
Mr. Robert C. Brill, a colleague who has been asked by
Dr. Donald Saulres to present a paper, to cover their registration
fees.

Sincerely yours,

David J. Rogers

DJR:gm

20 November 1967

Mr. Miguel Fdez. de la Regata
General Manager
Cia. Turística Mexicana, S. A.
Paseo de la Reforma 185 Primer Piso
Mexico 5, D. F.

Dear Sir:

We are returning our confirmation forms, with one check,
revised as indicated.

Mr. and Mrs. Rogers would like to stay on for two more
nights, leaving on Saturday morning, December 23. They will
make their own arrangements for transportation.

Mr. Brill would like to be met, but will arrange his
own return.

I trust that these changes can still be made.

Sincerely yours,

David J. Rogers
Professor of Biology

DJR:gm

15 November 1967

Dr. John W. Rowen
General Research Corp.
P.O. Box 3587
Santa Barbara, Calif. 93105

Dear Dr. Rowen:

We have looked over your data listing and find that already it presents many problems that we should like to have a chance to discuss with you. There seem to be several kinds of programs that we have which might be of considerable interest to you and we feel that to get the most "goody" out of your data we should talk over the structuring of the input. So we urge you to follow your present plan to come here with your briefcase full of your preliminary data recordings so that we may go over our project and program techniques with your research data.

Needless to say, we are very interested in your data and hope that we can provide some useful sort of output for you.

Sincerely,

David J. Rogers
Professor of Biology

DJR:GM

15 November 1967

Dr. H. P. Friedman
c/o University of Kansas Health Service
Lawrence, Kansas 66044

Dear Herman,

This letter expresses our deep felt sympathy and hope that you will have a speedy recovery. We are sorry that you could not be with us to share your fine ideas about numerical taxonomy. We will look forward to seeing you here in Boulder next year, at the next conference.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

15 November 1967

Dr. Arthur S. Boughey
Department of Population and Environ. Biology
Division of Biological Sciences
University of California
Irvine, California 92664

Dear Dr. Boughey:

Thank you for sharing with us your interesting project for taxonomic keys. We look forward to continuing output from your efforts.

A colleague of mine, Robert Baxter, a well known paleobotanist, is interested in moving to California. He is presently at the University of Kansas. If you have any hope of adding senior staff in the area of paleobotany, I cannot think of a better person than Dr. Baxter. He has lead a very productive life and his list of publications is large. He would be an asset in anybody's department. I am sorry I did not have a chance to speak with you face to face about Dr. Baxter, but I will be glad to provide any information in the event that you (or any of the other campuses in the California system) would be interested.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

15 November 1967

Dr. Robert Sokal
Department of Entomology
University of Kansas
Lawrence, Kansas 66044

Dear Bob,

The enclosed epistle to your President expresses my Ideas about the conference.

In keeping with your request I am sending herewith another copy of all our papers. In addition to those published papers, the following activities are being presently investigated here.

1. An information retrieval system for Biology. Description of this work is probably in the hands of Professor Michener. I would be pleased if you would ask him to share his copy with you for an explanation of our activities with respect to this work.

2. A manuscript submitted to the Association for Computing Machinery, "Compressed χ Functions as Inverted Information Files," by Estabrook and Brill. Abstract: A procedure is described for storing and retrieving information in inverted files such that 1) a large number of search criteria may be stored, 2) using the information theory minimum of storage space, and 3) retrieval is effected by direct boolean arithmetic on the stored information.

We will be pleased to have a conference here approximately one year from now. I trust that you will share with us at any time any Ideas which you may have concerning this conference.

George and I enjoyed ourselves tremendously and received much valuable information from the conference. Many thanks to you and Jim Rohlf.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

15 November 1967

The President
University of Kansas
Lawrence, Kansas 66044

Dear Sir:

I write to express my appreciation for the many courtesies that the university of Kansas extended to the members of the Conference on Numerical Taxonomy held in your Student Union on November 13 and 14. It was an exceptionally ^{well} organized conference and all of the supporting people should be congratulated for making our stay so very pleasant.

I am sure that this conference will be looked upon in the future as having had great impact on an important aspect of modern biology. I was honored to be considered as a member of this conference.

Sincerely yours,

David J. Rogers
Professor of Biology

DJR:gm

Taximetrics Laboratory

10 November 1967

Armory 101A

D. G. Coursey, Esq.
Tropical Products Institute
56/62 Gray's Inn Road
London, W.C.1, England

Dear Mr. Coursey:

Following is my response to the formal proposals of Circular #3.

Proposal #1: Acquiesce. However, see comments concerning Proposal #4.

Proposal #2. Accept.

Proposal #3. Accept.

Proposal #4. Accept. However, with respect to the development of subcenters, it is felt that the additional labor will be a burden upon the institutions and individuals involved unless there be allowed some expense budget. (secretarial assistants, librarian work, purchase of books, papers, etc.). For this reason it is felt that the approach to UNESCO and FAO should be made soon for a small fund to assist with the development of an orderly processing of information. This comment is also directed to the last paragraph of the 3rd Circular Document suggesting the possibility of obtaining funds for subcommittee members to meet. It is my opinion that the nature of this work falls well within UNESCO's domain and they should support travel and related expenses.

Following Dr. Martin's suggestion that Dr. Jorge Leon be kept informed of this subcommittee's activities, I concur.

Results of deliberations should definitely be reported to the standing committee of Tropical Root Crops.

David J. Rogers
Professor of Biology

DJR:gm

10/11/67

University of Colorado
10 November 1967

D. G. Coursey, Esq.

Dear Mr. Coursey:

I have been appointed as a consultant to the Rockefeller Foundation to establish a research center for cassava (amongst other crops) for Latin America. It may be that through their auspices some of our activities may be sponsored. I shall explore this possibility of collaborative efforts between ITRIC and the Rockefeller Research Center at a forthcoming meeting in Bogota.

Has there been any activity with respect to the writing of a book?

Thank you for your efforts in ITRIC. I appreciate working with this group.

Sincerely,

David J. Rogers

DJR:gm

Request for estimates

GREENHOUSE IMPROVEMENTS (in order of priority)

1. Control valves for heating system with three sets of thermostat controls (one set of heat controls for each of the three parts of the greenhouse.) Range of controls: ~~60°~~ 60° night temp., 70-80° day.

2. Light. 2 banks of 4-tube fluorescent lights length of houses (75')
2 banks of incandescent lights (50 outlets for 150 watt bulbs -
7500 watts)

Time-control switches, automatic setting for both

Both mounted on movable fixtures to allow

intensity control

3. Remove permanent shading on glass.
4. Check glazing for tightness - reglaze where necessary.
5. Replace rotted out boards in all benches.
6. Rebuild rooting benches and add spray-humidity devices.
7. Build temporary headhouse on north end of greenhouse, 15' x 20', cement floor, wire and plumbing (see sketch)

10 November 1967

Dr. Paul W. Barkley
Department of Agricultural Economics
Washington State University
Pullman, Washington 99163

Dear Paul,

I goofed in that I didn't get to Jack Robbins before he left for a week's meeting. We tried to call him this morning but did not succeed. The earliest we can get to him is next Thursday, the 16th. Sorry about that!

Depending on which version of the budget one consults, there seems to be some plus or minus \$35,000, available for salaries, overhead and travel (for two years).

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

Taximetrics Laboratory
Department of Biology
Armory 101A
University of Colorado
Boulder, Colorado 80302

Mr. David P. Cuthbertson
Department of Pathological Biochemistry
University and Royal Infirmary of Glasgow
Glasgow, Scotland, U.K.

Dear Mr. Cuthbertson:

I read with interest your comments on cassava in the Symposium Proceedings of the I.P.B. in the Nutrition Society Proceedings. Perhaps it is not known to you that there are a very large number of native processors of manioc in South America involved in uncontrolled fermentation in the preparation of an edible product. I have seen these processes all the way from the mouth of the Amazon westward. I wonder if it would not be useful to observe their processing before making some investigation in the laboratory of selected yeasts or other organisms. Perhaps then the type of organisms that would be useful would be more easily derivable.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

10 November 1967

Dr. H. A. Rodenhiser
The Rockefeller Foundation
Apartado Aereo 58-13
Bogota, Colombia

Dear Rody,

Unless the air lines tell me I cannot come on the days proposed, the following is my projected time of arrival and departure:

Arrive Friday, December 1, at 9:22 P.M. via Braniff

Leave Saturday, December 9, at 10:30 A.M. via Avianca

I trust that I can ask your assistance for accomodations, etc., upon arrival. Any instructions you care to give concerning activities during this period will be appreciated. I assume, of course, that we will be doing some beating around in the bush (or at least on farm grounds).

Do you suppose that while we are visiting Mon~~e~~ta that we can get up to see the old city of Cartagena? I have been wanting to see that place, but never have had the opportunity to do so.

I am making travel plans via a local travel agency, and according to your letter have booked first class passage. Any other instructions about reimbursement, needed receipts, etc. will be appreciated.

Looking forward to seeing you.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

Taximetrics Laboratory

10 November 1967

Armory 101A

D. G. Coursey, Esq.
Tropical Products Institute
56/62 Gray's Inn Road
London, W. C. 1, England

Dear Mr. Coursey:

Following is my response to the formal proposals of Circular #3. Acquiesce. However, see comments concerning Proposal #4.

Proposal #2. Accept.

Proposal #3. Accept.

Proposal #4. Accept. However, with respect to the development of subcenters, it is felt that the additional labor will be a burden upon the institutions and individuals involved unless there be allowed some expense budget. For this reason it is felt that the approach to UNESCO and FAO should be made soon for a small fund to assist with the development of an orderly processing of information. This comment is also directed to the last paragraph of the 3rd Circular Document suggesting the possibility of obtaining funds for subcommittee members to meet. It is my opinion that the nature of this work falls well within UNESCO domain and they should support it.

Following Dr. Martin's suggestion that Dr. Jorge Leon be kept informed of this subcommittee's activities, I concur.

Results of deliberations should be reported to the standing committee of Tropical Root Crops.

David J. Rogers
Professor of Biology

DJR:gm

University of Colorado
10 November 1967

D. G. Coursey, Esq.

Dear Mr. Coursey:

I have been appointed as a consultant to the Rockefeller Foundation to establish a research center for cassava (amongst other crops) for Latin America. It may be that through their auspices some of our activities may be sponsored. I shall explore this possibility of collaborative efforts between ITRIC and the Rockefeller Research Center at a forthcoming meeting in Bogota.

Has there been any activity with respect to the writing of a book?

Thank you for your efforts in ITRIC. I appreciate working with your group.

Sincerely,

David J. Rogers

DJR:gm

9 November 1967

Dr. W. Hardy Eshbaugh
Department of Botany
Miami University
Oxford, Ohio 45056

Dear Hardy:

Thanks a lot for your statement, but I am really glad to have a fight with the "establishment." I guess maybe half the fun is in the competition involved. It looks as though there was quite a bit of life left - it's not quite a dead science.

Your name is recorded for any of our future pearls of wisdom.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

8 November 1967

Dr. J. W. Dodson
Curator, Succulent Collection
Department of Botany
University of California
Berkeley, California 94720

Dear Dr. Dodson:

Thank you for the Ipomoea seeds. When they are grown
and identification made we will send them to you posthaste.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

CC: Dr. Frank W. Martin + seeds
Dr. Alfred Jones

3 November 1967

Mr. Herbert Ohlman
Xerox Corporation, Box 150
Rochester, New York 14604

Dear Mr. Ohlman:

Please add my name to the members of the SIGIR. I am enclosing \$2 for the annual dues.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm
Enc.: \$2

1 November 1967

Local Board 115
Selective Service System
15325 So. Page Avenue
Harvey, Ill. 60426

Dear Sirs:

I am appealing my classification to I-A. I request that I be reclassified 2-A. In support of this appeal an affidavit of Dr. David J. Rogers is enclosed.

Sincerely,

Bruce Handley

BH:gm

13 December 1967

Dr. W. R. Stanton
Tropical Products Institute
56/62, Gray's Inn Road
London, W.C.1

Dear Dr. Stanton:

Thank you for your letter of December 7. Unfortunately I have myself not pursued the research in which the micro-organisms are examined with relationship to their fermentation capacity in Manihot. I am a taxonomic botanist.

Incidentally, Mr. Coursey of your organization and I are in relatively constant contact. You might check with him concerning my interest in this area.

I am sending under separate cover some of my papers concerning these plants so that you may know of my interest and direction. I shall be interested in any publications of yours concerning these plants and their uses and food value.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

13 December 1967

American Express Company
P. O. Box 1885
New York, New York 10008

Gentlemen:

I am terribly disappointed in the slowness with which you have replied to my request for a credit card. I applied for this card at least three months earlier than this date. I was notified in November that a card was coming. It has not yet appeared.

Can you please tell me why I should wait and wait and wait?

Sincerely yours,

David J. Rogers

DJR:gm

13 December 1967

Dr. John R. Reeder, Editor In Chief
Brittonia
Department of Biology
Yale University
New Haven, Conn. 06520

Dear John,

Thanks for your letter of the 27th. I'll go
ahead with Ted Crovello.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

12 December 1967

Dr. Harvey E. Sheppard
National Research Council
2101 Constitution Avenue
Washington, D. C. 20418

Dear Dr. Sheppard:

Thank you for your letter of the 5th concerning the disposition of my information retrieval proposal and the comments made upon it.

Perhaps since the proposal has been funded by the NSF I have achieved my major objective. However, I find that the spirit of my submission of the proposal to IBP has not been made clear. My primary interest is that IBP have some system whereby the disparate data collected in the various significant primary endeavors will not be lost. Unless the central organizing committee of IBP take some strong steps to use an information retrieval system (not necessarily mine) I fear that the objectives of IBP may not be fully met. The Europeans involved in IBP already understand this problem and have selected an IR system.

Since I have a program for the development of a system and, indeed, at this writing can almost guarantee a flexible, useful, computer-based IR system, which comes close to a natural language input-output arrangement, I would be glad if the organizing committees would not care to examine it in light of a service to the IBP community.

It would be my hope that I could serve some useful purpose to the organizers at IBP (and incidentally, also, a capable staff consisting of biologists, mathematicians and programmers) to help scientists of various primary IBP projects organize their results (and indeed the primary data) so that they may be placed into an IR system useful in developing the objectives of IBP. If the central organizing committee so wishes I shall be pleased and honored and very happy to work as a service to IBP.

Sincerely yours,

David J. Rogers
Professor of Biology

DJR:gm

Taximetrics Laboratory

12 December 1967

Armory 101A

Dr. Ulysses J. Grant, Director
Rockefeller Foundation, Agricultural Sciences
Apartado Aereo 58-13
Bogota, Colombia

Dear Jerry,

My expenses for the trip to Bogota were:

Car rental, Boulder to Denver and return	18.72
Plane fare, round trip	492.30
Trip to Magdalena Valley	21.50
Telephone - Miami to Boulder	5.00
Cablegram - Boulder to Bogota	3.75
9 1/2 days at \$25 per diem	237.50
8 days consulting @ \$75 per day	600.00
	<u>\$1378.77</u>

I trust that the report which I am working on at the moment will have the desired result. I am very pleased to have had the chance to spend some time there, because it clarified many points I needed.

Thanks for the opportunity of visiting you and give my thanks to Dr. Rodenhiser.

Best wishes for a merry Christmas and a happy new year.

Sincerely,

David J. Rogers
Professor of Biology

Taximetrics Laboratory
Department of Biology
Armory 101A
University of Colorado
Boulder, Colorado 80302
12 December 1967

Dr. Alick Ellithorn
Department of Psychological Medicine
Royal Free Hospital
Lawn Road
London N.W.3

Dear Dr. Ellithorn,

/Thank you for sending the reprints on "The
Perceptual Maze Test" and "The Computer Analysis of
Human Problem-Solving Behavior: The Choice of
Problem."

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

12 December 1967

Dr. Alfred Jones
USDA, ARS
Georgia Coastal Plain Experiment Station
Tifton, Georgia 31794

Dear Al,

Your data has come. From a hurried perusal it looks in very good shape. As soon as we have had a chance to punch up the data and run it (it may take three weeks to be done) we will let you have the results.

Thanks, and a Merry Christmas.

Sincerely,

David J. Rogers
Professor of Biology

DJR:gm

11 December 1967

Dr. Robert F. Raffauf
Park Drive Manor 317-B
Philadelphia, Penna. 19144

Dear Bob:

I have your letter of the 5th and am pleased with your response. Right at the moment I am busier than two people ought to be and so will take a little longer to get some good solid information for you than I would like to have done. I am showing your recent letter again to Askal Löve and hoping that he will come up with some good idea in the next few days.

If you don't hear from me till January the reasons are as follows: Thursday, leave for Mexico; return the 23rd. On the 26th have all teeth removed; 8th January begin classes again.

Sincerely,

David J. Rogers
Professor of Biology

BJR:GM

8 December 1967

Glenn Sharrock
Department of Zoology
The University of Chicago
Chicago, Illinois 60637

Dear Glenn,

I just received your excellent letter. I deeply appreciate the amount of work on your part which your letter to me represents. Your gesture is far above the normal dictates of professional obligation. I trust we share the same enthusiasm for this problem and it is my hope that you took at least some pleasure in preparing your extensive exposition for an interested reader, as I assure you I am. I have not yet read your exposition in the depth it deserves but when I have I shall write you my reactions. I do not want to delay this acknowledgement the time required to give your writing the reading it deserves so I hope you will excuse the cursory nature of this note.

Please find enclosed the reprints of our recent publications. There are other publications not methodologically oriented which I have not included. If you would like these as well, let me know. They are, however, of limited interest to those not working with the groups with which they deal.

I would presume to ask you, if you are so disposed, to send me a brief resume of your academic career to date and a rough statement of your professional aspirations. Should the opportunity present itself for more formal collaboration I should like to give you the opportunity to say no.

Very truly yours,

George F. Estabrook

GFE:gm

7 December 1967

Peter M. Neely
Division of Bio. Statistics
Presbyterian-St. Luke's Hospital 1753 West Congress Pkwy
Chicago, Illinois 60612

Dear Peter,

It was a pleasure to make your acquaintance recently at the Kansas meeting. I was most interested in your ideas and would appreciate receiving anything that you have published which is relevant to this general area.

Find enclosed a few of the things we have published lately.

As I explained to you in Kansas we here at the Taxometrics Lab. expect to require the use of a 7090 or 7094 very shortly after the first of the year. We would appreciate it if you would put us in touch with the right people.

I look forward to seeing you at next year's conference here in Boulder.

Very truly yours,

George F. Estabrook

GFE:gm