



Hunt Institute for Botanical Documentation  
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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.

30 July 1969

Mr. Ralph Rivera, Executive Director  
Colorado Migrant Council  
Denver, Colorado

Dear Mr. Rivera:

I am pleased to submit herewith a proposal for studies collaboratively between the Migrant Council and the Taximetrics Laboratory.

We are very pleased to have the opportunity to collaborate with you in this very important work.

Sincerely yours,

David J. Rogers  
Professor of Biology

DJR:qm

30 July 1969

Dr/ Howard L. Mills  
Department of Biological Sciences  
Marshall University  
Huntington, West Va. 25701

Dear Howard:

It was a pleasure talking to you and your colleagues recently. Enclosed is the plan of work as I understand it. Included is the instruction for the Data Reduction Program which we discussed. If these are correct as you understand them, please forward copies to the concerned parties in Vicksburg. If you wish to discuss any of the points here, please call me between 4 August and 15 August and we can straighten out any dubious points. Best of success with the continued effort. When reduced data is ready, we can schedule another meeting to process and discuss it further.

Very truly yours,

George F. Estabrook  
Research Mathematician

GFE:gm

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

Dear Dick:

I am sending along a copy of a paper produced by one of the students here for your review. I think Allan Hale has done some good work on this, and I would like to have your reading of it to see whether or not it is original and sound. The boy has a tremendous skill with electronic apparatus: he has put together a very nice set of instruments at a minimum cost using all kinds of government surplus and has kept his biological efforts uppermost during all of this. Since writing the paper he has continued testing with a large sample and I think has demonstrated some honest results have been produced.

What he doesn't know, and this is the reason for asking you, is what actually is happening with the microwave in the seeds? He is suggesting electrophoretic studies, but I have no idea whether this is the right approach or not. Unfortunately Erik Bonde is a dead loss with respect to advice on this subject.

We are in the process of selecting a new chairman for this department and again I am on the committee to find the chairman. I am very hesitant to suggest your name again, because I was so unsuccessful in my efforts for your chairmanship at CSU. However, I mention the fact just in the small event that you care to have your name proposed.

I haven't forgotten the forty bucks I owe you. The only problem is that the University forgot to pay me last month, and I've been hurting for scratch. The money will be forthcoming. Thanks for all the help.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

29 July 1969

Dr. C. H. Hendershott  
Division of Horticulture  
College of Agriculture  
University of Georgia  
Athens, Georgia 30601

Dear Dr. Hendershott:

In response to your letter of July 18, I can certainly understand the questions in your mind with respect to my participation in the AID contract for Manihot studies. I will try to give you what I know about this work. Let it be said that I, too, am somewhat confused about the nature of the overall project, and would be happy if you could send me whatever information is available so that I can see the scope and how our efforts can be most meaningfully integrated.

My first contact with respect to this problem came last March when Dr. Robinson was a visitor on our campus. I told him of my interest in Manihot and desire to continue studies of it. I did not know that he was at that time in contact with Dr. Long of AID, nor did I know that AID was concerned with problems of this crop. Dr. Robinson was kind enough to tell me of the coming contract to make an independent study wherein the potential of the crop would be examined to see whether AID should become more deeply involved in assistance to research and development studies.

Dr. Robinson recommended that I visit Dr. Long to tell him of my concern for, interest in, and knowledge of Manihot. In May I had the opportunity to talk to Dr. Long, Dr. Van Haeften, and several other officers of the AID research branch. At that time I told Dr. Long of my long-time involvement in the study of the basic biological problems of the crop, particularly with respect to the classification of the varieties and the relationship of the cultivated species to the wild species. I have been engaged in this work since 1953, and have progressed to the point where a classification now exists. I am in the final stages of writing up this classification for publication, but have no specific deadline for its appearance.

Along with my interest in the basic botanical study, I became aware of the really fundamental significance which this crop has to millions of tropical lowland people, and as a result began to gather all the kinds of information which has been published concerning agricultural and economic problems. I suspect it was the result of the fact that I have gone to considerable lengths to bring together all of these published data that Dr. Van Haeften considered that I, with my assistant Mr. Appan, could produce more rapidly and at less expense the literature survey which had to be done as a part of

29 July 1969

the contract at the University of Georgia. I think therefore in answer to your most immediate question: What can we do? is that we can indeed more rapidly survey the literature or make a preliminary review with considerably more dispatch than would be the case if you had to contract the work to the USDA.

From the above I believe we can indicate that we can provide this service. However, before we begin we need to integrate this work into the overall AID contract with you. We need to know the depth required of this review and how you want the information structured. I am sure that we can provide the services when Mr. Appan and I have had the opportunity to visit you and settle these problems. Hopefully, we can begin this no later than September and perhaps sooner, given your instructions.

I am in the process of having my reference cards duplicated, and hope that this can be completed within the week. As soon as they are completed, I will have them shipped off to you. With respect to the computer printout, as you might expect, there are some bugs in the computer program that drives the machine which I had thought had been corrected, but when we tried to run the listing, we found the bugs and do not yet have the printout.

Mr. S. G. Appan, an Indian student, spent eight years as farm manager of the Root Crops Experiment Station in Trivandrum before coming here, and has, therefore, the most intimate knowledge of cassava. Since coming here, he has completed a systematic study of the wild species of Manihot in Mexico and Central America, the region of origin of the cultivated species. His thesis is in the final stages of preparation at the moment.

I trust that this explanation provides you with the information you need, but if I have missed the mark, I trust that you will let me know what other information you need. I will also be happy to see the available information from you about the overall contract. I am eager to cooperate, for this crop is my major research interest, and I am happy to have the opportunity to work on it.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

29 July 1969

Dr. Gilbert S. Daniels  
Hunt Botanical Library  
Carnegie-Mellon University  
Schenley Park  
Pittsburgh, Pennsylvania 15213

Dear Gil:

I am sending you a copy of the grant instrument which requests funds to mount the data of the University of Colorado Museum. I recall that I promised this back in last December when I visited you. Believe it or not, the final grant request did not get completed until earlier this month.

I have sent this to the Office of Scientific Services<sup>Information</sup>, NSF, and it now is in the hands of Special Projects<sup>1</sup>, the program director of which is Dr. Edward C. Weiss. If, after reading this proposal, you feel that it is a worthy endeavor, I would appreciate it if you could tell Ed. Weiss your reaction to it. It would be much appreciated by all of us.

I hope we will see you at the Botanical Congress Meeting in Seattle.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gms

28 July 1969

Dr. Howard L. Mills  
Department of Biological Sciences  
Marshall University  
Huntington, West Virginia 25701

Dear Howard:

I am assuming that you will follow the same consulting fee arrangement as we have in the past, and have therefore included herewith an invoice for consulting services for two days at our usual rate.

We look forward to running your full study and hopefully producing the results you have waited for. It was good to see you.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm  
Enc.

25 July 1969

Dr. John R. Reeder  
Editor-in-Chief, BRITTONIA  
Department of Botany  
University of Wyoming  
Laramie, Wyoming 82070

Dear John:

At long last I've gotten to Grady Webster's paper on  
Phyllanthus. I think the comments speak for themselves.  
He has done quite a job.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:GM

July 23, 1968

Dr. Robert Johnson  
Dean of Research  
Florida State University  
Tallahassee, Florida 32302

Dear Bob:

This letter is a sort of news bulletin, if you will (but not necessarily good news). Reception of our information management proposal in the Sea Grants office was less than joyous. The reason, as I got it from a Mr. Goodwin, is that a \$100,000.00 Sea Grant project proposal from FSU, at a time when Sea Grant is going to have to deal with a Sea Grant Program from FSU, only confuses the picture. Considering the possibility of doing damage to the overall program, we decided not to submit the project proposal to Sea Grant, but rather, try to go through Biological Oceanography in the Environmental and Systematic Section of BMS, with a proposal signed by Manziez, contracting the work to the Taximetrics Lab.

We have pared the budget to the bone, to the point that we can barely scrape by - as a matter of fact, this is going to cost us money - if it is funded at all. Our real problem is to convince the scientific community that information is expensive, and that dealing with it after collecting it is no less so. But we hope to show that dealing with information the way we do is the least expensive of all possible ways.

This is one way to do. We've thought of another, and that is to submit a project proposal to Sea Grants from here, stressing the economics of information management in oceanography, using Manziez's (and others there) data as a test case. Another potential route would be through NIH. In that case, we'd have to have some medically-oriented data base. Do you have any oceanographer (a pharmacognosist type, for example) interested in toxins, or medicines from the sea? We could then hit NIH, and I think we've got a good friend in Ileen Stewart there. Please let me have your reactions to these ideas, and any other suggestions to get us off the ground..

We hope that during your visit to Colorado in August you can look in on the system we're working up with our Office of Research Services. If you can make it, the man to contact is Tom Stewart (U. of Colo. Ext. 6221) whose office is on the third floor of Willard Hall, next door to Regent Hall. I hope you will also notify Gil Hersh, on my staff (Ext. 6712, Armory 101) who can tell you more about the total system than can Stewart. Hersh is our operations research specialist, who worries about the overall efficiency and effectiveness of systems. He's really good at explaining

things, and he can show you the whole operation. At the time of your proposed visit, I, with most of the rest of the team, will be in Spokane, Washington, demonstrating our TAXIR system to the American Phytopathological Society. Sorry I'll have to miss you unless you could possibly make it a week or a few days earlier than the 18th. If you can come earlier, please let me know and we'll roll out the red carpet.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

23 July 1969

Dr. Robert J. Menzies  
Department of Oceanography  
Florida State University  
Tallahassee, Florida 32302

Dear Bob:

Here is another go. Herein is the guts of a grand proposal to Biological Oceanography of which Chen is the program director at the moment. We have in this one stressed very heavily the biological aspects you originally had and played down anything to do with the economics of an information management system. According to our ideas you submit this proposal as project leader or principal investigator, and contract the work to us.

We have intentionally made a bare bones budget in this thing. What it really amounts to is philanthropy on our part. Please note: There are some points in this budget for whacking down on things even more. These are noted by Gil Hersh and you can either include the points of reduction, or exclude them if you so desire. That's your decision. I simply cannot cut any more out of our own hide. Also note that we have cut your input operators from four to two. I frankly do not think you need more than that for the bank we want to do on this reduced budget.

I believe that everything except your own descriptive appendices (personnel, bibliography, etc.) are here. Good luck!

We have another possible route to go with this thing; that is, let us submit from Boulder, Colorado, a project proposal to Sea Grant in which the major emphasis would be economics of information management for oceanography and we only employ your data banks for test cases. In that case, we contract to you the business of supplying data. Such a proposal is almost ready as a result of the effort just before this one. Still another potential would be NIH if one of the oceanographers (or a phasmognosist interested in oceans) has a project. Clearly we need a medically oriented data basis to hit NIH. Let me know if such a potential exists.

I am writing a news bulleting to Richard Johnson to keep him abreast of all these machinations.

Regards,

David J. Rogers  
Professor of Biology

DJR:gm

file

7/22/69

To: Dr. Rogers

From: G. Hersh

RE: Revised Budget FSU Oceanography Proposal

Enclosed are the revised budgets according to your suggestions.

The total requested from NSF ranges between 45,620 and 38,300.

This is a barebone request- further cuts are not suggested.

At the lower figure the work can be done well- but on a shoe-string.

NO CUTS can be made in our consultation contract.

Possible reductions could be made in Overhead paid to FSU if they desire to do so.

The balance budget to NSF indicating cost sharing will easily cover the mandatory 5% if this goes to the regular panel. If for Sea Grants, overhead reduction must be done by FSU.

7/22/69

## F|S|U| Budget Requested

<u>A. Personnel</u>		<u>20,400.</u>
1 Data Systems Manager, full time, 12 months	7,000.	20,400.
1 systems input operator, full time, 12 mo.	4,200.	
1 graduate student, 1/2 time, AY	2,800.	
1 graduate student full time, summer	1,800.	
1 graduate student 1/2 time, AY	2,800.	
1 graduate student full time, summer	1,800.	
<u>B. Personnel Benefits</u>		<u>1,800.</u>
9% of items 1 and 2 in <u>Personnel</u>	1,010.	
<u>C. Computing Center Costs</u>		<u>2,000.</u>
Testing TAXIR on FSU CDC 6400	500.	
Running Project Data (approximate)	1,500.	
<u>D. Consumable Equipment and Supplies</u>		<u>300.</u>
6 9 channel, 1800' magnetic tapes at 30.	180.	
other supplies, cards, etc.	120.	
<u>E. Other Costs</u>		<u>12,730.</u>
rental, 12 months, IBM 026 keypunch (1) at 720. -72./year	650.	
rental, 12 months, IBM 026 keypunch (1) at 720. -72./year	650.	
Consultants, Taximetrics Laboratory, University of Colorado for Data Management Systems	11,430.	
(see attached)		
<u>F. Overhead payable to F S U  computed at 45% of <u>Personnel</u></u>	9,180.	<u>9,180.</u>

7/22/69

Possible Budget Deletions, FSU Budget:

The following list indicates those budget items which can be deleted from the Grant Request Budget without seriously effecting the project.

They are listed in priority order from the Taximetries Laboratory view point, that is as far as the system is concerned,

If lower salaries can be paid, this would result in an effective savings to the Budget, but lower salaries should not be anticipated if quality and dependibility of personnel are lost.

The column to the far right shows the Budget (total cost) figure after these cuts are made.

<u>proposed cut</u>	<u>cost-savings</u>	<u>total request</u>
1 1 graduate student, full time, summer	2,610.	43,010.
1 graduate student, 1/2 time, AY	4,060.	38,950.
1 IBM 026 Key punch	650.	38,300. <i>11A</i>

7/22/69

## Budget- Contract for Consultation with the

Taximetrics Laboratory  
University of Colorado

<u>A. Personnel</u>		<u>6,000.</u>
1 Systems Biologist, 1 mathematician, 1 Operations Systems Analyst, 1 Systems Programmer.		
20 days each at FSU (80 man-days) at 75.00/ day	6,000.	
<u>B. Personnel Benefits</u>		<u>420.</u>
7% of the Personnel Costs	420.	
<u>C. Travel and Communications</u>		<u>3,830.</u>
10 Y-air-fare, Boulder-Tallahassee-Boulder at 225.00	2,225.	
80 days per diem at 16./day	1,280.	
Surface Transport (airport-campus, motel-campus, etc.)	150.	
Telephone (long distance, Colorado-Florida)	125.	
Mailing Costs ( various computer runs)	50.	
<u>D. Computer Center Costs (C U )</u>		<u>480.</u>
Approximately 1 hour CPU and 2 hours PPU on CDC 6400	480.	
<u>E. Consumable Equipment and Supplies</u>		<u>100.</u>
Tapes, Cards and office Supplies	100.	
<u>F. Overhead Payable to University of Colorado</u>		<u>600.</u>
computed at 10% of Personnel Costs	600.	
<u>G  Total Requested from F S B </u>		
as shown above		<u>11,430.</u>

/ 7/22/69

TO: Ralph Stilson, Chief accountant, ORS

From: David J. Rogers

RE: attached check from the University of California, 7/3/69,  
number 2-8]728.

Please deposit this to our account 1708-48.

\$75.00 should be credited against BOOKS, account number 5-544;  
and \$]25.00 should be credited to account 5.5]5 Tel and Tel.

Thank you..

8 July 1969

Internal Revenue Service  
Denver Office

Gentlemen:

Fran Bisby has been a graduate student under my supervision for the past six months. The course of studies he followed were necessary for his doctorate to be awarded by Oxford University, England.

The project he carried out here was solely for his benefit in pursuing his degree and did not directly benefit the Taximetrics Laboratory. The stipend paid to him was to support him in his work and was not remuneration for services rendered.

Mr. Bisby will need clearance from your office before he will be allowed to leave the United States. Could you please provide what ever is necessary?

Thank you for your time and cooperation.

Sincerely,

David J. Rogers  
Professor of Biology, and  
Director

DJR:gh  
CC: Dr. Love  
Mr. Bisby

Endorsed 8 July 1969

Asbell Love,  
Professor of Biology and  
Chairman of the Department

2 July 1969

Dr. C. H. Hendershott  
Head, Department of Horticulture  
University of Georgia  
Athens, Georgia 30601

Dear Dr. Hendershott:

I have gone over the various contents of my collection of information on Manihot and have the following comments. I have about 800 individual references on 3x5 cards. About 30% of these are on the cultivated species and 10% refer to wild species in the genus Manihot. Actually I have duplicated each of the index references - the first set arranged alphabetically by authors; the second arranged under eight subject headings. I would ask which of these two you would like to have copies of. Clearly, I do not care to send this unique file through the mail. It represents too much of an investment of my time to chance its loss. I unfortunately do not have sufficient funds in my budget to pay for duplicating which will run to about \$20-\$25.

In addition to the above subject and author index, I also have about 300 reprints in my files, most of which deal with Manihot esculenta. Clearly these reprints are a unique collection as well and under no circumstances can I permit their being removed from here. I have, however, a computer listing of these which can give usesome sort of idea of the contents of these reprints. I will have a copy of this made available to your

Please let me know your pleasure with respect to these various items.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

2 July 1969

Dr. C. H. Hendershott  
Head, Department of Horticulture  
University of Georgia  
Athens, Georgia 30601

Dear Dr. Hendershott:

With respect to your phone call concerning the method of payment ~~of~~ funds for my post-doctoral student, I would suggest that the quarterly basis which your group would prefer is satisfactory for us. We would be happy if it would be possible to make the payments in advance; thus, making it possible to meet monthly expenses and bills.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

2 July 1969

Mr. Robert Westdyke  
Boulder Department of Public Works  
Municipal Building  
Boulder, Colorado 80302

Dear Mr. Westdyke:

According to the meeting of Tuesday Afternoon it is our understanding that we will provide the following services in connection with the rubbish disposal questionnaire:

1. Consultation necessary to set up the Define Items from the questionnaire.
2. To record the data found on the questionnaires on magnetic tape in TAXIR Define Item Format.
3. To verify the data once on tape against the data on the questionnaires.
4. To build an Accessioner with the given data.
5. To instruct your personnel in the querying of the system, and run a sufficient number of queries to get the feel of the TAXIR system, and to get essential information from the raw data.
6. To provide a cost analysis of the project.

We further understand that there should be 900 questionnaires to process and that we should have the verified data on tape within four weeks. The cost of all consulting and training services are to be provided as per the attached memorandum and the necessary computer time will be billed to you on a direct use basis. A list of descriptors to be used is included.

If you have any questions you may contact either Mr. Estabrook or me.

The Taxometrics Laboratory has the right to use information about this project. Hopefully we will be able to cooperate on any publications concerning this collaboration.

If you are in agreement with this understanding of the project, please sign and return the enclosed copy as it will serve as a memorandum of agreement.

Sincerely yours,

Gilbert N. Hersh  
Assistant to the Director

GNH:gm

22 August 1969

Dr. M. L. Magood  
Director, C.T.C.R.I.  
Trivandrum, Kerala, India

Dear Dr. Magoon:

We have recently seen reviews of your recent articles on Manihot. We would very much appreciate receiving copies of "Male sterile cassava" which appeared in Nucleus, Vol. 11, No. 1 (1968), and "Radiation-Induced mutations in Cassava" in Indian Journal of Horticulture, Vol. 24, No. 1/2, (1967).

Thank you for your courtesy.

Sincerely yours,

David J. Rogers  
Professor of Biology

DJR:gm

19 August 1969

Mr. Larry Blick, Assistant City Manager  
Municipal Building  
Broadway at Canyon Boulevard  
Boulder, Colorado, 80302

Dear Larry:

Attached is the first set of answered queries on the Wind  
Damage Survey.

There are two folders. The first contains the control vocabulary;  
the second, which is in two parts, contains the defined items and  
the answers to your queries.

Please note that descriptor number 1 is the item number.

We hope these are satisfactory. If you wish to run more  
queries, please contact Mr. Estabrook next week.

Mr. Hersh will prepare a complete cost/effectiveness report  
for you within the next two weeks.

We thank you for your patience.

Sincerely,

David J. Rogers  
Director, Taximetrics Laboratory

DJR:H:gm

MEMO TO: Mr. Donald Schwartz, Purchasing Agent, Regent 122  
FROM: David J. Rogers  
SUBJECT: Taximetrics Lab. equipment  
DATE: August 18, 1969

I suspect that your vacation period will end before I return from my trip to scientific meetings. A matter has come up with our Honeywell 700 Keypunch machines which we would like to discuss with you. We would also like to discuss with you the purchase of some Ampex tapes for which the vendor has not yet been paid.

I will ask my assistant, Mr. C. W. Stage, to tell you the details of the problem, and I will be happy if you can suggest to him appropriate means for a solution.

Thank you in advance for your helping with this problem.

U  
A  
C

MEMO TO: Mr. Donald Schwartz, Purchasing Agent, Regent 1Q2  
FROM: David J. Rogers  
SUBJECT: Honeywell 700 Keypape machines  
DATE: 15 August 1969

I suspect that your vacation period will end before I return from my scientific trip. A matter has come up with our Honeywell 700 Keypape machines which we would like to discuss with you. I will ask my assistant, Mr. G. W. Stage, to tell you the details of the problem, and I will be happy if you can suggest to him appropriate means for solution.

Thank you in advance for your helping with this problem.

12 August 1969

Armory 101

Dr. Burton W. Adkinson  
Head, Office of Science Information Service  
National Science Foundation  
Washington, D. C. 20550

Dear Burt:

Since we have accomplished our objectives for development of a computerized data retrieval system for biology which were clearly defined two years ago, I am faced with the eternal question, "Quo Vadis?" and I wonder if you have any thoughts you could share with me on this question. There now exists a good, even outstanding, set of programs, collectively known as TAXIR, for TAXonomic Information Retrieval. As you are well aware, these results are not the same as those of other outputs from scientific endeavor - a book, or a set of publications in various journals. The only results that are meaningful are the application of these programs in the areas they were meant to serve - a wide range of data types in a wide range of biological application. We know that many different types of biologists want data retrieval systems, but cannot, by themselves, install one. We also know that our programs must be constantly maintained, updated, and slightly modified for different applications. Even if our system were so generally applicable that no modifications were necessary, we still need a crew to keep the bugs out of the programs (a fact of life in any computing milieu).

The question that now faces me is "how can we maintain ourselves so that we can aid with the installation of the system where it is wanted?" The university of Colorado must consider its own needs first, and those of other organizations. Second. Under these conditions, the University feels that they cannot support us while we go out to the scientific community - anywhere, because of their own impressive needs to teach the students here. I know that we desperately need to have a community of action in the biological realm to accomplish this, and I believe we are working toward that goal. That we do not have the unanimity of the physicists, the chemists, or the psychologists, is evident, but are we to wait until unanimity before certain groups choose one system and put their money on the line for that system?

I think I know the objectives and directives in OSIS, and I am not questioning the validity of these at all. I think, from what I can see, you and your staff are doing an outstanding job in an extremely difficult area. I have deep personal friendship with some of the people in various departments there. But I would like to know what, if anything, is being

done with the software packages you have supported. How do other developers help in the application of their systems? Are there not some groups of knowledgeable men who have found ways to support themselves while they bring their software to bear on problems other than their own in-house?

Last February I brought in a draft proposal which would have kept my team going while we worked to install the system in several different biological areas. That idea was shot down before I submitted it. Not the least of the problem, of course, was (and still is) the stricture on funds you have to dispense. Since then, we have busily engaged in getting several collaborators to go in with requests to other parts of NSF, but these only partly support us, with the greater portion going to the group with the data to be put into the system. You saw one of these which we're attempting through the Sea-Grant program. We have now another proposal in Ed Weiss's hands which we originally intended for the systematics panel in BMS. Other applications have been made to NIH, to OEO, etc.

I could go with these problems, but I think I've said enough. I do hope you can share with me any ideas which may have generated there with respect to similar problems.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

14 August 1969

Dr. George W. Fischer, Executive Director  
XI International Botanical Congress  
University of Washington  
3917 15 Ave. N.E. #D  
Seattle, Washington, 98105

Dear Dr. Fishner:

Is it possible at this late date to cancel registration and housing accomodations for the Botanical Congress because of illness?

Mr. Henry S. Fleming of our laboratory is hospitalized with a heart condition and will be unable to get to Seattle.

Could the refund be made to the Taximetrics Laboratory, University of Colorado?

Sincerely yours,

David J. Rogers  
Professor of Biology  
Director of Taximetrics Laboratory

DJR:GM

14 August 1969

Dr. Richard F. Johnston  
Program Director for Systematic Biology  
National Science Foundation  
Washington, D. C. 20550

Dear Dick:

I am very pleased to have your decision to submit your name as candidate for the ~~chair~~ of the Biology Department here. I will personally support your candidacy with pleasure.

It will be helpful to the selection committee if you will submit your curriculum vitae by some time in September. At the same time, I know that we all would appreciate it if you could ask three (or more, if you care to) well-known people to support your candidacy by sending letters of recommendation to Dr. Charles Norris, Department of Biology, University of Colorado, Boulder, Colorado 80302.

We look forward to receiving your papers.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

ext 6264

MEMO TO: John A. Pilkington  
FROM: Gilbert N. Hersh, Assistant to the Director  
SUBJECT: IBM Keypunch machines  
DATE: 5 August 1969

This is to summarize our conversation of this morning with respect to the IBM Keypunches.

IBM Keypunch 026, #73117 is to be billed to the Museum account. This machine should cost \$60 per month, less 20% educational discount, and is to be available through June 1970.

IBM Keypunch 026, #83876 (K keyboard) is to have an alternator attached and is to be billed to the Biology Department, Account No. 1708-01. This machine is to cost \$63 per month less a 10% educational discount. It is to be available through June 1970.

order  
You have a purchase for the latter. A purchase order for the former will be sent within the next few days.

Both machines are to be located in the Armory Building Room 15, until further notice.

GNH:gm  
CC: Elizabeth Owen  
Dorothy Stauber

13 August 1969

Dr. C. H. Hendershott  
Division of Horticulture  
College of Agriculture  
University of Georgia  
Athens, Georgia 30601

Dear Dr. Hendershott:

Enclosed is an invoice for the photocopying of the  
Manihot bibliography cards. 1560

Is there a more exact title for the account than the  
one used?

Sincerely yours,

David J. Rogers  
Professor of Biology

DJR:gm  
Enc.

August 1, 1969

Dr. C. H. Hendershott  
Division of Horticulture  
College of Agriculture  
University of Georgia  
Athens, Georgia 30601

Dear Dr. Hendershott:

The copy of my subject index of references for Manihot esculenta are being sent to you in a separate envelope. I trust they arrive in short order. We will send an invoice to cover payment as soon as we have the bill ourselves.

Sincerely yours,

David J. Rogers  
Professor of Biology

12 August 1969

Mr. Frank White, Curator  
Forest Herbarium  
Department of Forestry  
University of Oxford OXI 3RB  
United Kingdom

Dear Frank:

I have received the copy of your letter to Dr. Manning, and very deeply appreciate the good words you said therein. I hope that this will be the needed statement but I cannot be sure yet.

I also have your letter asking how many offprints we would like to have. We would like to have two hundred (200) offprints of the article, "A Taximetrics Study ... Chrysobalanaceae."

I look forward to seeing the paper.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

12 August 1969

Dr. Richard F. Johnston  
Program Director for Systematic Biology  
National Science Foundation  
Washington, D. C. 20550

Dear Dick:

I am pleased to know of your interest in the chairmanship.  
I will get in touch with you when we need your curriculum vitae.

Thanks very much for the good support you gave to our museum  
grant proposal.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

12 August 1969

Dr. Robert R. Schaal  
Department of Biological Sciences  
State University of New York  
Stony Brook, N. Y. 11790

Dear Bob:

The time has slipped by since I first intended to respond to your memorandum. Sorry, but here are my comments.

First, thanks for all your efforts in getting the NAB going. Secondly, with respect to a meeting, I agree that a spring meeting in some place just of the Mississippi should be held. If in the early spring, somewhere about New Orleans would be ideal, even though I suspect there are relatively few members actually from that city. But whatever city is chosen, I will be happy to support.

I have one suggestion for consideration of this Society. We need desperately to support theoretical and practical research in the various disciplines of classification, separate from those now supposedly doing this work. Yet our support does not come for overall theoretical work, but from ad hoc grants on this or that effort. I have seen how you have to continually seek this or that agency's support for something interesting particularly to them, and that you have to bend your words to that agency's particular way of saying things. We have to do the same, and then by some chance, hope to have enough funds to do that which we know needs to be done, in addition.

It seems to me important to throw the whole weight of the Society behind some proposal to establish a couple of centers where continuity of theoretical efforts could be expected, much as there is a National Center for Atmospheric Research, we need national centers for classification, in its broadest sense. Such centers could provide the services you and I provide to a large numbers of workers already, without any particular credit for it. But their main function would be research and teaching.

I would be happy to see such a proposal considered.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

6 August 1969

Mrs. Rosemary Smolker  
Quarterly Review of Biology  
Department of Biological Sciences  
State University of New York  
Stony Brook, New York 11790

Dear Mrs. Smolker:

I have received Rektory's Survey of Applicable Mathematics. I would be pleased to further receive a reprint of your book review section, in order that I might familiarize myself with it.

Thank you,

George F. Estabrook

GFE:gm

August 5, 1969

MEMO TO: Mrs. Betty Pritschau  
FROM: Gil Hersh

Attached is a copy of the interim funding request from us to Dean Crowe. He has a copy of the report which is mentioned in the request. If you have any questions, please call me. Your assistance in expediting this is greatly appreciated.

5 August 1969

Dean Lawson Crowe:  
Graduate School  
Regent Hall 201  
University of Colorado

Dear Lawson:

Since at our last conversation it was indicated that you would provide interim funding for the Taximetrics Laboratory on a month to month basis, I submit the following request for the period September 1 - 30. For this period funds will only be needed to cover the following salaries. Other expenses can be assumed by the Taximetrics Laboratory.

Henry S. Fleming, Research Botanist III	\$1335.00
George P. Estabrook, Research Mathematician III	1105.00
Robert C. Brill, Computer Systems Analyst II	1050.00
Gilbert N. Hersh, Economics Systems Analyst II	885.00
William B. Carson, Computer Systems Analyst II	835.00
C. W. Stage, Research Analyst	550.00
Genevra B. Metcalf, Secretary II	303.00
	<hr/>
	\$6063.00

Can these funds be deposited to the Taximetrics Laboratory Account No. 1708-48, or is it necessary to set up a new account?

I am enclosing a report on our activities to date. Other information can be obtained from the proposal which you have.

An early reply will be appreciated.

Sincerely,

David J. Rogers  
Director of the Taximetrics Laboratory  
Professor of Biology

DJR:GHN:gm  
CC: Dean Jay Kopelman  
Mrs. Betty Pritschau

4 August 1969

Dean Lawson Crowe  
Graduate School  
University of Colorado

Dear Lawson:

This is an informal account, or report, from the Taximetrics Laboratory, which serves, hopefully, to keep you abreast of our activities.

First, I have reduced the Taximetrics staff to its bare bones, dropping off all but the very core of the group which we need to operate at all. In addition, our secretary is now working only half time. (Incidentally, I tried without success to get Dean Briggs to pick up a piece of the secretary's salary because she does indeed serve the Department of Biology for that segment called Population Studies, which is also housed here in the Armory, and for which there is no secretary now.)

With respect to funding, we have been very active in attempts to carry on support from outside agencies. The biggest single grant request is the joint one with the Museum, with a total budget over \$500,000. This now is in the hands of Dr. Ed. Weiss, Office of Science Information Service, NSF. We have had to play some behind-the-scenes politics to get them to accept this grant, and now it seems that we have been successful with the politics, keeping our proposal in an active category with them, rather than having it rejected out-of-hand. If you could give Ed Weiss a call (phone 202/ 632-5818), this would be very helpful. Word coming from the University itself is very significant, and I trust that you are willing to support our efforts. We have it directly from the head of OSIS that only about eight percent of new grants are now being funded, so that the competition is extremely tough. It is obvious from this figure that people all over the country, no matter how good they are, find NSF support drying up.

Another joint proposal is now in the works in NSF with Roger Barry of INSTAAR and we hope to get joint support for studies of climate and environment of the Front Range.

We have been working with the City of Boulder on two interesting applications of the TAXIR information management system, collaborating with Assistant City Manager Larry Blick. In these applications, Mr. Blick chose our system over any other available system because the TAXIR system offers him the best opportunity to retrieve a wealth of information regarding various problems of interest to the city's operations.

You are aware, I'm sure, of the activities with the ORS, developing a potential information management system and working with Jay Kopelman, Howard Roark, and Tom Stewart. We have worked very hard getting the necessary parts for management of the information on grants proposed and grants funded. A

sample of the information now resides on tape, ready for processing, and you should have a chance to see the powers of the system demonstrated shortly. We hope that Dr. Manning will also want to see how TAXIR and the Taximetrics Laboratory serve a vital function in the University.

Outside the University, we are now submitting a joint proposal to the Sea-Grants Program, NSF, with Florida State University for management of oceanographic information. There is a good prospect for funding this proposal, due very largely to the efforts of Dr. Robert Johnson, Dean of Research at FSU, who has been pounding on the door and desk of the Director of the Sea-Grants Program, apparently with some success. The University of Colorado portion of this one-year program is about \$52,000.

Another outside project, with Dr. George Nace, of the University of Michigan, has been submitted to NIH, in which we will establish an information management system for the Amphibian Facility of the University of Michigan, at the rate of \$30,000 per year for five years. Dr. Nace chose our system because our procedures more closely meet his needs than anything his own computing center could provide. The problem with this grant request is that the first possibility of funding comes next May, at the very earliest.

You should have received a letter from Dr. William Walden, Director of the Computing Center at Washington State University. Dr. Walden indicated to me that he had written you about his determination of the value of our system to various operations there. I wish that we could get the same sort of endorsement from our computing center director, but we've tried, and have not been at all successful in getting his attention long enough to offer our programs to him for general use on this campus. I find this situation to be unfortunate. Is our own computing center threatened by us? That seems strange, but I can offer no reason why our computing center director does not endeavor to know what sorts of resources are available to him here in his own back yard.

The only success story I can report in funds actually in hand is a contract to us from the University of Georgia, with funds given to them for an AID contract. This relates specifically to my own long term botanical research interests on the very important tropical crop, cassava. We have \$12,000 which is not a princely sum, but keeps certain aspects of our job going.

We are busily investigating several other potential fund sources, some of which seem very promising at the moment, but whether they turn out or not is too early to say. I will be as happy as anyone to get back in the black.

I close with a very disheartening report that has just come to me. My long-time and very valued assistant, Mr. Henry Fleming, is in the hospital for the second time this summer, a victim of a heart attack. I do not yet know with any certainty what the problem is, but I can be certain that Mr. Fleming's condition is not aided by the knowledge that his livelihood hangs in the balance, because I have not been successful in ~~supporting him~~ <sup>obtaining support</sup>.

Sincerely,

David J. Rogers  
Professor of Biology

5 August 1969

Mr. Ralph Rivera  
Colorado Migrant Council  
Denver, Colorado

Dear Mr. Rivera:

Enclosed is a revised operating budget. The format has been changed to make it easier to read.

There is one substantial change: Personnel benefits for all staff of the Colorado Migrant Council has been computed at 12% instead of 7%.

Please replace pages 26, 28, 27, 28 and 29 of your current proposal with the enclosed pages 25-29a.

Sincerely yours,

Gilbert N. Hersh  
Assistant to the Director

GNH:gm

August 1, 1969

Dr. Jerry Brown  
Box 345  
Hanover, N. H. 03755

Dear Dr. Brown:

I have recently received your questionnaire on potential Tundra Biome Participants, and am responding with this letter, rather than filling out the questionnaire, for reasons that I think will become obvious later.

For the past two years my office and lab have been right across the hall from Jack Ives, Director of INSTAAR, and during this period my staff and I have had opportunity to collaborate with Ives and some of his colleagues on various computer methods which my team has developed. I suppose that it was through Dr. Ives' efforts that my name appears on your mailing list, and it is with his encouragement that I offer my support for a data management system for the Tundra Biome project.

The major effort of the Taximetrics Lab is the development of efficient and elegant computer programs to aid the substantive scientist in a number of different directions. Our latest effort has been the production of a set of programs for information management and retrieval, now an operational system. The system is very flexible, with a number of different ways to handle quantitative and qualitative data, and perhaps its most significant aspect is its user orientation. The system, which we refer to as TAXIR, was designed to let the individual user describe his own data to the system in terms most meaningful to him, and does not demand that the individual code his data according to some a priori demands of a computing center. While the individual has the above facilities available to him through TAXIR, the system also has the capacity to act in higher echelons to manage data from diverse sources to meet objectives of an overall project, such as the Tundra Biome.

Because of the development of TAXIR, and my general interest in the objectives of IBP, I would like to make the system available to the individual participants in the Tundra Biome, with the hope that the system can be integrated into both the individual and overall projects. "Making the system available" means that my team and I would aid and instruct the project leaders, and the central office of the Tundra Biome, in the application of TAXIR, perhaps as a contact to us from you.

If you find this idea meritorious, I will be glad to furnish you with further information about the TAXIR system, about the Taximetrics Lab. staff and function, and any other information you might need for evaluation. I look forward to hearing from you.

Sincerely yours,

DAVID J. ROGER, PROJECT DIRECTOR AND

Taximetrics Laboratory

30 September 1969

Armory 101

Dr. M. T. Hall, Director  
Morton Arboretum  
Lisle, Ill. 60532

Dear Truf:

Here's a copy of the proposal I mentioned over the phone -  
there are many ideas in it which can have applications in other  
than museum settings.

D. J. Rogers

Taximetrics Laboratory  
Taximetrics  
Armory 101

30 September 1969

Dr. Arnold G. Kluge  
Museum of Zoology  
The University of Michigan  
Ann Arbor, Michigan 48104

Dear Arnold:

I've read your letter to Gil Hersh on the salamander books. With respect to the corrections needed, this can be done easily, given the correct information. What happened was that we did make some corrections before sending them to you, but in some cases we had to make interpretations of the handwriting, and these are probably the areas where the errors occurred. The only way to be assured that the spellings are correct is for you to review the books, make the corrections, return to us, and we can incorporate them.

In a sense we are down (as a unit within the University of Colorado) but we are still together as a team, privately, so that we can still function in your behalf, given the proper amount of funds. What we did with the salamanders was essentially a "sales pitch" and can't go any further until you and Nelson have found some way to support continuation. Since George Nace is putting some funds on the line, there may be some side activities which he will support that get your data into the machine. That has to be worked out with him, obviously, and to date, our efforts with him have been entirely with the amphibiana facility. We can do for Nelson the same thing we did for George - provide a statement of needs from the data processing angle, and indicate needs for input operators, machine time, program conversion to your hardware, et al., and let him use that for scrounging funds, either locally or federally.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

Taximetrics Laboratory

9/19/69

Dr. Arnold Kluge  
Curator,  
Museum of Zoology  
University of Michigan  
Ann Arbor, Michigan 48104

Dear Arnold:

I know we were slow in getting your BOOKS to you- but please some word of your reaction. We await your evaluation on ~~taster~~books.

Actually Dr. Nace said you were pleased- what else?

Do you think you will have the resources to put up the rest of the Salamanders? You know that all th entires in those catalogs could be put up as they occurs- it would not be necessary to put up only salamanders. If you had a key punch and even a sometimes operators (even some students) this could be done. It might be slow but it would go up.

If Nace's grant from NIH does come through- your amphibians will go up- but should you bank on that?

Please write and tell all.

It looks, bye the bye that we may survive yet. Although it is too early to be entirely optimistic. The deans and dons here are considering breathing some life into our account.

We are still looking for other places in which we can do business, though.

Please be well and regards to Nelson.

Warmly,

Gil Hersh

Also to: CU, DU, KSU, USDA Den., Tech. Res. Lib. Cong

Taximetrics Laboratory

26 September 1969

Armory 101

Assistant Librarian, Agricultural Science  
Library 117  
Colorado State University  
Fort Collins, Colorado 80521

Dear Sir:

We are doing detailed research concerning mammalian livestock feeding for commercial purposes in the United States. We are looking for information concerning livestock on feed by states and within each state by counties (or other regional distribution) over the past 20 years. Can you suggest sources for the intra-state information? Do you have any of this at C.E.W. and may we borrow it?

We are also looking for information concerning effects of climate on livestock weight growth and breeding. Have you any suggestion of where we might look for a bibliography on this subject.

Sincerely yours,

David J. Rogers  
Professor of Biology

DJR:gm

USDA

Ag Econ

Ag Statistician SRP

Crop + Livestock Reporting SRP

Western Livestock Marketing Info Project

Research

Livestock Div  
Market News

Look for the Red  
E47 and 48

Department of Agriculture  
Washington, D.C.

Division of Livestock and Poultry Inspection

10/15/50

attached on this subject.

and the information of source as stated look for a further  
of course the information which should be obtained. These  
is the only source for information concerning effects

to the state and other states. It is not the only source for  
and also another source for the information. Information  
for other states. Information about the state in which  
state. It is the only source for information concerning the  
information which is contained in the state

10/15/50

for Collins, Colorado, 10/15/50  
Colorado State University  
Ft. Collins, CO  
Information regarding the state of Colorado

10/15/50

Information regarding the state of Colorado

also for: on the 12th day of the month of October, 1950, the following

30 September 1950

Taximetrics Laboratory

25 September 1969

Armory 101

Mr. Ron Dutton  
Computer Center  
Washington State University  
Pullman, Washington 99163

Dear Ron:

Thanks for returning our Manihot data tape.

We don't need the bean data bank at this time,  
so I'm returning that tape to you. Thanks.

Regards to all our friends at Pullman.

Robert C. Brill

RCB:gm

Taximetrics Laboratory

24 September 1969

Armory 101

TO: David J. Rogers

FROM: G. N. Hersh

RE: Monthly operating costs for the Taximetrics Laboratory

As per your request, the following is a projected budget of monthly costs for the normal operations of the Taximetrics Laboratory. "Personnel Salaries" and "Personnel Benefits" are exact costs. The others are estimated on the experience of past months.

<u>Personnel Salaries</u>	Henry S. Fleming Research Botanish III	\$1335.00
	George F. Estabrook Research Mathematician III	1105.00
	Robert C. Brill Computer Systems Analyst II	1050.00
	Gilbert N. Hersh, Economics Systems Analyst II	885.00
	William B. Carson Computer Systems Analyst II	835.00
	C. W. Stage, Research Analyst	550.00
	Genevra Metcalf, Secretary II (60%)	505.00
	Total Salaries per Month	\$6,063.00
<u>Personnel Benefits</u>	PERA at 7% of Salaries	
	Total Benefits per month	425.00
<u>Consumable Supplies</u>	for office operation; computer tab cards; tapes, reprints, journals, books, and publication costs including Quick Copy etc.	
	Total Supplies per Month	45.00
<u>Equipment Rental</u>	Computing Center costs, including charges for the use of the CDC 6400 complex and tape storage	500.00
	1 IBM Selectric typewriter from University Equipment Pool	12.00
	Total Rental per Month	512.00

24 September 1969

Armory 101

Dr. Grady L. Webster  
Arboretum, Department of Botany  
University of California  
Davis, California 95616

Dear Grady:

Last things first - with respect to Gary Breckon, my graduate student working with me on Manihot has prepared some very nice distribution maps and requests for information about Manihot. If Gary goes anywhere near the areas with which we are concerned to get more material, I think the enclosures are self explanatory.

We haven't very much to say about data construction in print because we feel that each set of data probably requires its own formatting and therefore it is difficult to generalize about what you ought to do with your data as you prepare it for machine storage and retrieval. With respect to this, if you could tell us the objectives you have for collecting the data and you could give us some actual example of the data you are and will be collecting, we could give you better notions of how to prepare it tailored to your needs.

Regarding the eventual work on the whole family Euphorbiaceae I would love to do a systems analysis approach so that we could plan the work and division of labor in a more modern method than has been the usual case for such undertakings. This, of course, includes the use of various computer programs we have, and can as well give use some measure of stepwise procedures, time and needs for assistants as well as a very precise measure of costs. I believe that if we do this in advance, the opportunity to actually get the work going will have a better chance of survival with granting agencies. Naturally this is not unrelated to the actual information from the family that we need to know.

I will sometime not too far off begin to expand these ideas so that you can see what I mean.

Sorry you missed our paper on Sunday afternoon. I believe that what we had to say made more sense than most of the rest of them. That is a completely unbiased remark, of course.

Best regards,

David J. Rogers  
Professor of Biology

DJR:gm

*file*

## COMPUTER RUNS - WIND DAMAGE

Date	Run No.	Time in Seconds		Comment	
		CP	PP		
9/18	669	348	285	<sup>1</sup> Charge	\$68.00
9/16	662	116	71	Charge	2.50
9/04	661	558	347	Charge	100.50
9/03	657	193	177	NC	
8/25	643	104	107	Charge	20.00
8/14	632	135	179	NC	
8/12	629	217	207	NC	
8/11	627	196	248	NC	
8/08	622	137	128	NC	
8/05	619	136	186	NC	
8/04	617	23	475	NC	
7/13	505	18	60	NC	
7/11	502	86	106	NC	
Total Charges					\$191.00
Budgeted					70.00
(Balance due					121.00)

## 1. The dollar cost is computed as follows:

CP Billed at \$0.125/second

PP billed at \$0.025/second

External (printing and paper) approximated at 30% of the PP and CP dollar cost, rounded to nearest \$0.50.

file with date

SEP 24 1969

COMPUTER RUNS - WASTE DISPOSAL

Date	Run No.	Time in Seconds		Comment
		CP	PP	
8/11	626	50	107	Charge 12.00
8/08	624	61	97	Charge 17.00
8/05	618	43	105	Charge 10.00
8/01	613	43	90	NC
9/31	606	113	142	NC
7/30	600	30	15	Charge 5.00

\$ 39.00

Am't Budget 70.00

Balance \$ 31.00

Communications

Use of WATS line for long distance  
telephoning, and mail costs

Total Communications per month

30.00

TOTAL Operating Costs per Month

\$7,015.00

Travel

during the next six months two round trips  
to the East Coast are requested to assist  
in raising funds for the group's support.

2 - Air fare \$160.00; living expense \$100

Total Travel

\$520.00

Toxicology Laboratory

Armory 101

23 September 1969

Dr. C. H. Hendershott  
Division of Horticulture  
College of Agriculture  
University of Georgia  
Athens, Georgia 30601

Dear Dr. Hendershott:

Enclosed are the current set of expense statements, etc. necessary to cover the paper work. I believe they are all in order, but if not, I trust you will let me know what additional needs to be done.

I am also enclosing a duplicate of the bill for the copying of our reference list. You should be receiving in a few days a bill for the next three months for Appan's stipend.

Please be certain that all checks are mailed directly to me, rather than to the accounting office of the university, to save confusion.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm  
Enc.

23 September 1969

Dr. Alan Beetle  
Department of Agronomy  
University of Wyoming  
Laramie, Wyoming 82070

Dear Dr. Beetle:

Again this year, my student Allan Hale (who you will remember from his preliminary examination here at C.U.) would like to sample some of the wheat which you have there at Laramie. He is interested in using a wider population of these plants in our Taximetrics Program. He is prepared to collect as many specimens as it is possible to obtain from you. If any samples are in short supply, he will return them by the end of the first term. Mr. Hale will be glad to travel to Laramie to tell you more specifically the details of his needs and to take care of physical arrangements for borrowing and obtaining these specimens.

Naturally we do not expect that you would release material which is of particular significance for your purposes. Mr. Hale can be depended on to take care of any specimens which he borrows, and I am sure that his work will be helpful both to him in learning more about the problems of such work and in the general area of new insights in the classification of wheats.

Thank you for your time and consideration on his behalf. I am sure that this project of his in the use of computer techniques will be a most useful tool to him in his further efforts.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

Taximetrics Laboratory

September 23, 1969

Professor Morris Garnsey  
Department of Economics  
University of Colorado  
Boulder, Colorado 80302

Dear Morris:

As you know Gil Hersh has been working with me as an economic systems analyst for the past 14 months (as a full time staff member for the past 6 months). I have asked him to stay on for an indefinite period of time.

I know he is interested in studying aspects of biology as applied to man/environment relationships as well as to continue work in his field of operations research. My staff and I will be more than willing to work with Gil in both of these areas to further his education.

In the area of biology, I personally will work with him on an informal basis as he states rigorous basis.

Thank you for your attention on this matter.

Sincerely,

David J. Rogers  
Professor of Biology  
and Director

DJR:gn

884 Ithaca Drive  
Boulder, Colorado 80303

21 September 1969

The Chairman, and  
Professor Morris Garnsey, advisor  
Department of Economics  
University of Colorado  
Boulder, Colorado 80302

Gentlemen:

I seek permission from the economics department for a 12 months' leave of absence as a graduate student in the Ph.D. program.

For the past 14 months I have been working in the Taximetrics Laboratory directed by Professor David J. Rogers in the Biology department. For six of those months I have been a full time staff economic systems analyst.

Dr. Rogers has asked that I remain on his staff for an indefinite period ( 12 months and on). This allows me an ideal opportunity to informally but rigorously continue my studies in two areas of interest (both of which or in combination I would like to present as fields of interest for my degree). The first is in the area of systems analysis and operations research especially applied to the economics and management of information; the second, the biological aspects of human/environmental-ecological studies.

Professor Rogers has agreed to assist me in these areas over the next 12 months.

I consider the opportunity to be unique and thus would like to hold off other formal aspects of my studies.

If there is other information you may need, please let me know. Thank you for your time and kind attention.

Sincerely,

Gilbert N. Hersh

Taximetrics Laboratory

Armory 101

22 September 1969

Dr. Jerry Brown  
Earth Sciences Branch  
U. S. A. Cold Regions Research  
Hanover, New Hampshire 03755'

Dear Jerry:

Thanks for your letter of 11 September. I'll  
keep in touch with Jack Ives for scheduling, and  
will talk about the information management system  
which we call TAXIR.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

22 September 1969

MEMO TO: President Fred. Thieme

I've thought that in the selection of administrators it is very difficult to find those positive individuals who have the spark to aid the University's advance. I would like to mention one man in the present administration with whom we have had the most cordial and useful relationship: this is Mr. Don Schwartz, Head of Purchasing. We have been well pleased with his general attitude which is expressed by his usual method of answering any problem: "Can I help you?"

In a milieu where almost all other administrators have had the attitude "Don't bother me", this man stands out as a shining example. It would seem that his attitude and capacities recommend him highly for a position of greater importance in the University.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

*Air Letter*

22 September 1969

Dr. Frans Stafley  
International Association for Plant Taxonomy  
Lange Nieustraat 106  
Utrecht  
Netherlands

Dear Frans:

I am sorry that we had no more time to talk in Seattle, but I recognize that you were very, very busy there. I had wanted to ask you if you had any date when you expected the article "Taximetric Methods for Delimiting Biological Species" which I left with you when I visited last spring would appear in Taxon. People are already asking me for reprints based on the presentation we made in Seattle.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:qm

Taximetrics Laboratory

Armory 101

22 September 1969

Dr. Amy Jean Gilmartin  
FNA Secretariat, Museum of Natural History  
10th and Constitution Ave. N. W.  
Washington, D. C. 20560

Dear Dr. Gilmartin:

Thank you for your letter about our paper, "Taximetric Methods for Delimiting Biological Species." Unfortunately no extra copies of the manuscript are available at the moment and the article should be appearing fairly shortly in Taxon.

I will keep your request for a copy and send one as soon as reprints are available.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

An Letter

22 September 1969

Dr. Peter J. Greenway  
East African Herbarium  
East African Agricultural and Forestry Research Org.  
Nairobi, Kenya

Dear Dr. Greenway:

EM a recent conversation with Dr. Purseglove I was informed that you could probably best tell me the present status of the breeding for resistance to mosaic virus ~~breeding~~ program for Manihot esculenta started by Dr. Storey. As a student of the species M. esculenta I have admired the work done there with respect to the selection of crosses between M. esculenta and M. glaziovii. Dr. Purseglove thought that you would be able to tell me if there exists any documentary herbarium specimens of the parents used in these crosses and some of the offspring. It would be interesting to me as a taxonomist to see the morphological expression of the hybrids if these are available.

I would be pleased if you could also tell me the present status of the work, if any has continued. I will appreciate your response.

Sincerely yours,

David J. Rogers  
Professor of Biology

DJR:gm

Taximetrics Laboratory

22 September 1969

Armory 101

Dr. Charles Heiser  
Department of Botany  
University of Indiana  
Bloomington, Ind. 47401

Dear Charley:

Thanks for sending the reprints from your various activities. I meant to tell you when I saw you in Seattle about something I think you will be interested to hear. Quite by accident and purely by chance, a Helianthus annulus grew in my little courtyard this summer. It has been a joy and pleasure to see this many-flowered plant grow and develop its extremely joyful flowers. Many's the time that I have thought about <sup>you</sup> as a result of this plant. I am not doing anything scientific with it, just enjoying it.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:qgm

18 September 1969

Mr. Gay Milbrandt  
Aries Mid West  
(hand delivery)

Dear Mr. Milbrandt:

Enclosed are some notes on the interviews held by my staff with the City of Boulder top management.

They are Brief, but, I hope, useful. Much of the information garnered from these interviews will be related to your operations personnel when they arrive in Boulder.

If you should need additional information before then, please call (303 - 443-2211, X 6712).

We look forward to working closely with you on this project - and fully expect that we shall produce a successful grant instrument.

Sincerely,

David J. Rogers  
Professor and Director

DJR:GH/qm  
CC: Mr. L. Blick  
Encl.

17 September 1969

Armory 101

Mr. Theodore W. Hurst  
Worthington, Hurst and Associates  
333 N. Michigan Avenue  
Chicago, Illinois 60601

Dear Ted:

Quite a bit has happened to us since we last were in contact, some good, much not so good. The worst first: all our efforts to continue the Taximetrics Lab via the grant route have come to naught. No matter how we have tried, we can't strike NSF (or other Federal agency) for a sufficiently large grant to continue our present activities. Having finished the development of a really hot information management/retrieval system, we had hoped to get funds to help establish the system in a number of useful areas in biology. NSF did not buy this service function, saying it's up to us to sell the package on the open market, and to get our funds from the users. I can see why NSF has this policy, even though I had had an initial reading that they would support us while we helped install our system in various significant biological endeavors. However, they couldn't go along with the idea because of the very deep cuts they received in their own budget.

We've tried, unsuccessfully, to get the University of Colorado to fund us on an interim basis until we did strike it rich again. The University is itself under somewhat heavy restrictions on funds and they have other questionable reasons which prevent them from keeping us around, even though we do support the work of a segment of the university students and faculty. I guess our PR isn't too good.

To try to keep body and soul together, we've put together a small corporation - called the Carex Corporation, in keeping with our botanical origins - by which we offer ourselves as rather special information management experts, with ability to provide software in certain areas. However, we know there are many software houses about, and for this reason, we do not intend to compete with all of them. In those areas where syntheses of information are called for, we believe we can provide good techniques with the supporting software, and more than this, we can provide cost/effectiveness analyses to measure the effect of using our systems as compared with other systems.

17 September 1969

To give us the capacity for doing a well-rounded job, we've added a couple more people to our staff that I do not think you've met. One is a very sharp economist with specialties in operations research; the other is a young lawyer who has turned his talents to working in our group, giving us expertise in an area certainly not covered by George, Henry, Bob or me. With this additional talent, we have every confidence that we can hack it in the world outside academe, but we would still like to work with, among other things, certain problems in academe.

We are evidently new to the game, and need all the expert advice we can get, and one of our first thoughts is to turn to you for some good and useful ideas about where and how our services can be applied. If you are amenable to talking about such things, I'd be very appreciative. We expect to be passing that way wither late in this month or early in October, and hope that we can catch you in for some period of time. Let me know if you are willing, and when you are expecting to be there.

One other favor, if I may ask it. One of our possible alternatives to our present very tenuous connections with the Universtiy of Colorado is through a very old and good friend of mine, Dr. M. T. Hall, who now directs the Morton Arboretum, just to the west of Chicago, in Lisle. He has hopes for adding us to his staff to build up their program, which is now rather minimal. Would you mind if I gave him your name as a reference, so that you could respond to a phone call from him, in the event he wishes to check up on us? It might be interesting to him to hear an evaluation from you. I won't say anything to him until you give me the okay to give him your name and phone number.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

15 September 1969

Armory 101

Dr. Richard F. Johnston  
Museum of Natural History  
The University of Kansas  
Lawrence, Kansas 66044

Dear ~~Wick~~ ~~Johnson~~:

Thanks for sending in your CV. I will put it into the mill with Dr. Charles Norris, chairman of the selection committee.

Did I ask before that you invite three "Objective reviewers" to write letters to either me or Dr. Norris concerning your "suitability" as chairman. It would be nice to have them stress your various roles as capable administrator, as well as your capacity as substantive scientist.

At the moment we have a very bleak picture for the continued existence of the Taximetrics Laboratory on campus. All our grant funds are gone and the University so far has proved unwilling to pick up the salaries of my team. This is a very grim period for us and I feel very unhappy that we have not make our presence sufficiently felt to make it possible to support these very fine people. I really do not know how much longer we will survive. I am the only tenured faculty member of the group - the others are research staff with no tenure. At least my own skin is protected, but I will be a very much diminished producer without the support of my team.

Sorry to end on such a pessimistic vein. There's lots of work to be done and I would love to get on with it.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

Taximetrics Laboratory

12 September 1969

Armory 101

Dr. L. David Swinell  
Forestry Sciences Laboratory  
Carlton Street  
Athens, Georgia 30601

Dear Dave:

Thanks for your letter of the 3rd. I hope the TAXIR demonstration was meaningful to those who saw it. I would like to know how the company (was it American Cyanamid?) got to "sponsor" that demonstration, because they sure didn't lay down any scratch, but I'd be happy if they would.

I hope that my team, which developed the TAXIR system, will still be around in November, but right now there is some doubt that we will be. The reason for this is that the University of Colorado does not pay for any of the team except me, and the mathematicians, programmers, systems analysts and economist are all paid from Federal grants. At the moment all of our grant money has dried up, and there doesn't seem to be anything coming in which will keep us going more than a couple of months. So I don't really know what is going to happen to our system.

I think you can find us still sitting here, but I can't promise anything right now. I'd like to see the system put to work, if possible, for Phytopath, but how it can be done still remains to be seen. As you are aware, the system for Phytopath will not spring into existence without considerable labor and money, even given a well-designed computer package. Even if interface with BioAbstracts (or BIOSIS) is available, there is still the in-depth description above what they produce which will be wanted by the individual pathologists. Where do you draw the line? I believe that our team's systems analysis, which operates on a cost/effectiveness basis, could be very useful in deciding where to draw the line, and even on how to manage the funding of the effort. But until we can get some sort of agreement by your committee, we can't even begin.

Let me know when you plan to visit us, and I'll see what can be arranged. Just give me a couple of week's notice.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

12 September 1969

Armory 101

Dr. Reed C. Rollins, Director  
 Gray Herbarium of Harvard University  
 22 Divinity Avenue  
 Cambridge, Mass. 02138

Dear Reed:

= We have done most of the work on the monograph of the North American species of Manihot and now need to verify type material. We would like to have on loan the following types: (Gray Herbarium):

P. Goldsmith 120 ✓ Holotype of Manihot mexicana I. M. Johnston  
 E. Palmer 224 ✓ Holotype of Manihot rubricaulis I. M. Johnston

Holotypes and/or isotypes of the following, if available:

C. G. Pringle 3588 ✓ Manihot Pringlei Watson  
 C. G. Pringle 13938 ✓ Manihot intermedia Weatherby  
 Uhde 1176 † Manihot offersiana Pax  
 Kerber 185 ✓ Manihot crassisejala Pax and Hoffman

From the Arnold Arboretum Herbarium:

E. Matudy 1665 ✓ Holotype of Manihot parvicocca Croizat  
 R. S. Ferris 6140 ✓ Holotype of Manihot colimensis Croizat  
 E. J. Walker  
 (H. B. Parks) s.n.\* ✓ Holotype of Manihot Walkerae Croizat

Holotypes and/or isotypes of the following if available:

C. G. Pringle 3558 Manihot Pringlei Watson  
 C. G. Pringle 13983 Manihot intermedia Weatherby  
 Uhde 1176 Manihot offersiana Pax  
 Kerber 185 Manihot crassisejala Pax & Hoffman

\* We do have two Arnold Arboretum sheets of H. B. Parks s.n., neither one annotated as Holotype. Are there other annotated sheets?

Sincerely,

David J. Rogers  
 Professor of Biology

DJR:gm

12 September 1969

Armory 101

Dean Robert M. Johnson  
Graduate School  
The Florida State University  
Tallahassee, Florida 32306

Dear Bob:

We are sending off today the printout of the Office of Research Services information for your perusal. Sorry we have not picked up on this as fast as we might have. We all are eager to supply you with the program and facilities for your own banks at F.S.U. and suggest that when you are ready we send down preferably two or three of our people to get the system going for you.

One of the reasons for the delay is that we have been very busy trying to find resources to keep ourselves alive. Our effort to become a separate administrative unit here on this campus (some sort of an institute) failed. The Graduate School here simply had too many irons in the fire and not enough budget. I suspected that this would happen but I didn't recognize that we would be chopped off so precipitiously (end of this month). I appealed yesterday to Vice-President Manning and hope that he can find some way to keep us alive at least through December. There is no sure word yet that even this much will become available.

In the meantime in our search for survival an old friend of mine, M. T. Hall, who is the director of the Morton Arboretum in Lisle, Illinois, has expressed an interest in us as a team and we are dickering with him to see if he can find the scratch (after all, there's Morton Salt money there) to move us there as a group. Frankly, the idea of going to the vicinity of Chicago is less than desirable in my eyes. I would very much rather be working at a university with larger numbers of problems and people. But beggars can't be choosers and that's the unfortunate plight that I presently find myself in. I hope we can stay glued together long enough to get going on your application. I think we can, by pulling in our belts and living off of private income for a couple or three months. It is a measure of this team's loyalty and concern for continuing that they are willing to do this.

I thought that you ought to be informed of these various potentials so that you would not be surprised when you heard about them.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

11 September 1969

Armory 101

Dean Robert M. Johnson  
Graduate School  
The Florida State University  
Tallahassee, Florida 32306

Dear Bob:

We are sending off today the printout of the Office of Research Services information for your perusal. Sorry we have not picked up on this as fast as we might have. We all are eager to supply you with the program and facilities for your own banks at F.S.U. and suggest that when you have ready we send down preferably two or three to get the system going for you.

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I thought that you ought to be informed of these various potentials so that you would not be surprised when you heard about them.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

8 September 1969

Dr. Robert Menzies  
Department of Oceanography  
Florida State University  
Tallahassee, Florida 32306

Dear Bob:

Thanks for the bundle of August 19. Any word from Sea Grants? Please don't forget that we wish to be contractors on the grant, and not principal submitters.

A few favors: Could you have a copy or two of the General Announcement of courses and faculty offered and present at F.S.U. sent to us? We are interested in both undergraduate and graduate listings.

Also could you find out everything you can about the Department of Economics and send a brief little expose when you get a chance. You see, we may all be interested in F.S.U. - hopefully we'll see you when it gets cold here.

Warmly,

Gil Hersh

GH:gm

5 September 1969

Dr. Robert C. Johnson  
Dean of Research  
Florida State University  
Tallahassee, Florida 32306

Dear Bob:

I am sorry that I could not meet with you when you were here. However, I understand that the meeting went well. To review:

1. You would be interested in studying the possibility of having a TAXIR based administrative information system installed for research administration at F.S.U.
2. In order to start the procedures necessary to do this, you would invite members of our staff to F.S.U. to explain to interested persons the approach needed to install the system and the University of Colorado Office of Research Services project.

We would be very interested in sending at least two of our staff to F.S.U. to make a presentation and if possible a cursory examination of the present research administration.

Due to our current financial position, we would not be able to fund the airfare to Tallahassee. If you could afford this expense, we could visit you as soon as possible after September 15.

We are sending under separate cover copies of the O.R.S. Books and Queries which you saw while you were here. Enclosed is a brief description of our team. If you require more information, please write or call.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm  
Enc.

5 September 1969

MEMO TO: Dr. Robert C. Johnson

In the interests of our continuing communications with your office, we wish to present a brief descriptive history of the Taximetrics Laboratory and its approach to the generation and evaluative implementation of information systems, both in research and in the development of operational components of information subsystems.

The Laboratory personnel consists of a research and development core as follows:

Supervisor of Systems Design	Robert Brill
Research Mathematician	George Estabrook
Economic Systems Analyst	Gil Hersh
Operations Systems Analyst	Bill Stage
Systems Programmer	Bill Carson

with appropriate supporting personnel.

The core group functions closely as an integrated team developing and maintaining a recycling analytical program developed through complex data management and systems design, implementation and evaluation. The purposes of the Taximetrics Laboratory are to develop, through systems analysis techniques, systems for the management of unwieldy quantities of data, and through this management to produce specific subsystems for the generation, or synthesis, of particular information germane to the user of the data bank in question. Further, the Laboratory maintains a tripartite goal in its own operations: the direction of research, particularly in areas hitherto ineffectively dealt with by traditional methods, the production of systems and subsystems for user-oriented tasks and investigations, and finally the teaching, dissemination and installation of resulting systems and procedures in order to make them available to a wide variety of future users and collaborators.

The Laboratory has operated under grants to the Director, David J. Rogers, as principal investigator, from the Office of Naval Research, from the National Institute of General Medicine, and from the National Science Foundation's Office of Science Information Service, totalling nearly \$450,000 over the past nine years. "Taximetrics", a name derived from the Greek, taxi- meaning order or form, and metric, measure, indicates the historical development of our research techniques from the data-based discipline of taxonomy in the biological sciences, to a modern operational automated procedure utilizing the recent progress of a specialized field of mathematics known as Combinatorics.

5 September 1969

Currently operational, for example, although of course continually under reevaluation and development, is an algorithm-based Information Retrieval technique which is known as TAXIR, an integrated information management system. This system, which has been used for plant classification, city surveys, and most recently, the University of Colorado's Office of Research Services executive grant management which we discussed during your visit, is a particularly flexible technique in several ways. It is both transferrable in operation to various hardware facilities, and in applicability, in its compatibility with widely varying data bases and permissible descriptor states. In addition, its development and application to each particular research effort revolves within user-determined cost/effectiveness parameters at each stage of information flow within the system, thus providing in effect a completely user-directed depth of investigation. TAXIR is not the only approach utilized by the Taximetrics Laboratory, but it exemplifies the laboratory's capacity to develop systems for management and analysis in widely divergent areas of needed data synthesis and assimilation.

Taximetrics Laboratory  
Current Operating Cost Needs

Breakdown

Yearly

1. Personnel

a. Names and Titles

D. J. Rogers, Director  
R. C. Brill, Supervisor of Systems  
W. B. Carson, Systems programmer  
S. F. Estabrook, Mathematician  
H. E. Fleming, Systems Biologist  
G. N. Hersh, Economics Operations Analyst  
W. C. Stage, Operations Analyst

Technical Writer

Secretary

b. Aggregate cost, monthly: \$9,895 \$118,740.00

2. Personnel Benefits

at 8% of salaries - including social security and  
85%~~85%~~ cost of health-life coverage 9,500.00

3. Space Requirements and Utility Cost

a. Explanation

In general, working space should be conducive to an informal atmosphere, amenable to alteration, and adequate for impromptu meetings. Parking for nine cars would be needed. Specifically the space needs are as follows:

1 suite of offices for the director and secretary  
1 office for each staff member  
1 semi-formal conference room  
1 general purpose lab/classroom  
1 room for library and herbarium (12 cases)  
1 room for computer input/output equipment

b. Square footage - approximately 2,000 square feet  
c. needed, at \$2.50 per square foot 5,000  
c. Utility costs, including heat, light and water  
approximated at \$50 per month 600

4. Equipment

a. Rental and Lease

1 Selectric typewriter  
1 standard electric typewriter  
1 photocopy machine  
1 printing calculator \$65 per month 780  
1 IBM 026 keypunch  
1 TWX for on-line hookup \$125 per month 1,500  
Computer time rental, approx. 1,000 per month 12,000

- |    |   |         |
|----|---|---------|
| 4. | b. Equipment purchase   |         |
|    | Office equipment, general, for staff of 9,<br>plus storage equipment and 12 herbarium cases   |         |
|    | One-time cost, approximately \$6,500  |         |
| 5. | Consumable supplies   |         |
|    | a. including operating supplies, office mail costs, photo-<br>copy costs  | \$1,200 |
|    | b. Laboratory costs   | 420     |
| 6. | Communication   |         |
|    | a. Domestic Travel, air fares and per diem  | 4,000   |
|    | b. Telephone, telegraph: Phones - extension in<br>each office with intercom facility, long<br>distance (WATS) and data line connections | 1,020   |
| 7. | Contingencies (for publications, special equipment, etc.)   | 1,500   |

SUMMARY (12 month year)

Personnel	\$118,740
Personnel Benefits	9,500
Space requirements	5,600
Equipment Rental and Purchase	20,780
Consumable supplies	1,620
Communication	5,020
Contingencies (Director's Fund)	1,500
<b>Total Cost</b>	<b>\$162,700</b>

Notes:

- Salaries are based on University of Colorado salary schedule. These do not reflect competitive salaries in the Chicago area.
- All shown costs are based on the past two years operation and are not adjusted for the Chicago area.
- A contract to the parallel group would be based on these figures.

5 September 1969

Dear Truf:

These budget figures are only ball-park estimates. Since we have little to base our estimates on with respect to costs in the Chicago area, nor any guide-lines which tell us what restraints your organization imposes on budgets, we've based this on current operating expenses here. The two sets of figures, one for the total group as now constituted, and the other, the "core group", are not really minimum-maximum, because even if only the core group comes, we would still need the services of the remainder. What we thought might be a possibility is that we come as the core group, and then for whatever needs we have for the services of the remaining staff be contracted to our little corporation, the Carex Corporation. The members of the present staff who would constitute the Carex Corporation are the economics operations analyst, Gil Hersh; the systems programmer, W. Carson; and the operations analyst, W. C. Stage.

Contracts to the Corporation would be based on the same budget items as is given in the enclosed "current operating cost needs," minus the costs of the core group.

Since these budgets are only starting points for discussions, and clearly not final agreements, I hope you can use them as they are intended. We aren't anxious to make a fast buck off of you, and by the same token, we don't believe you are thinking that way about us. I should point out that the figures on salaries are probably lower than you could get for a comparable group outside a university structure.

One more item of costs not mentioned here is that of the costs of moving - both the necessary equipment, books, files, etc. we already have here, but also personal costs of family and furniture. We'd have to look closely at these costs, because I am certain that we could not duplicate our present houses ~~these~~ for the same costs that we have here.

I am sure that you are not unaware of these types of expenses, and we can make the necessary agreements.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

5 September 1969

Miss Maureen Mahon, Science Editor  
The Natural History Press  
Central Park West at 79th Street  
New York, N. Y. 10024

Dear Miss Mahon:

My delay in answering your letter of August 18 is due to the fact that I was out of town until early this week. In regard to the proposed manuscript on economic botany, entitled "For the Life of Man," I have pondered what should be done, and let me share some of my problems and questions with you. I have already submitted one draft of the manuscript some time ago. This draft had been approved by Dr. Klein as being suitable for the series. I had said what I wanted to say in the book, and recognized that it would need some editorial assistance to make it publishable. However, whoever did the editing was so drastic in requests for revision and in demanding additional material that I became very discouraged about resubmitting. Since then I have written wone more chapter which Dr. Klein has read and approved, but I have not again submitted the manuscript to you because I felt that I had said all I could say, and did not feel that there was any justification in the previous editorial comment which required a longer book. I was unimpressed with the argument that the length of the book was significant.

I understand that there has been a change in editorial activities and I would like to return to you the present manuscript with the additional chapter and illustrations, and ask for a review once again. Since Dr. Klein has indeed put his stamp of approval on it, and he is one of the editors of the series, I would think that his decision would have some weight with Natural History Press.

I have not retyped most of the manuscript which was badly marked up by the previous editor. Would you accept it as is? I do believe that I have something good and useful to say in that book and realize that I need help with some of the less graceful writing in it. But to ask me to change my concept of what more is needed is not the field of some editor when I am the knowledge substantive person on the subject.

I hope you will be willing to review what has been done, and I will await your reply.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

4 September 1969

Mr. Harry Lubrecht  
Hafner Publishing Co.  
31 East 10th Street  
New York, N. Y. 10003

Dear Harry:

We would like to know the format for publication in the series *Flora Neotropica*. How do we submit the paper? We intend to publish our monographic studies in the genus Manihot in two series: 1) the Mexican and Central American segment of the genus, and 2) the South American segment.

I would appreciate having detailed information about the format requirements.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

4 September 1969

Dr. M. T. Hall  
Morton Arboretum  
Lisle, Illinois 60532

Dear Truf:

You asked me to provide two things: a statement of our objectives, activities, etc., and a financial statement of needs.

The name we use, taximetrics, was coined to indicate our concern for the old discipline in biology, taxonomy. But the concern is rather special, inasmuch as we felt that the thinking processes in taxonomy, if properly exposed and reworded, would provide a powerful tool in many areas of man's activities. We thought we could find out what an individual taxonomist thinks as he puts together his old, dry, and sometimes confusing classifications of plants or animals, and thus have an excellent set of procedures for integrating knowledge from many different sources for many different purposes. We also recognized that the computing machine, properly employed, would be very useful in many varieties of biological endeavor, particularly if we developed programs to drive the computing machine which were reflections of the thought processes of the taxonomist. The various computer programs which we have developed indicate that we have succeeded very well.

One basic reason for our success to date is the employment of the team approach, with biological taxonomists, mathematician, computer system developers, and an operations specialist. Working as a team, we are able to keep our eye on the basic objectives, and at the same time each contributes significantly to the overall results.

You know something about our programs which aid the taxonomist/ecologist in studying the complexities of relationships between species and between populations of species. These programs, called "Graph" and "Charanal" are the ones which I think you want to use for your own data, as well as Dr. Fogq's. You saw in Seattle that our information retrieval system (TAXIR) has great potentials in the study of plants. These programs (whose costs, including our salaries, comes to nearly half a million dollars) now are ready to aid in various ways in an arboretum. The information system can immediately be used to keep a flexible, in-depth, record of the Arboretum's living plant collection, such that you gain more valuable knowledge for use in whatever manner is desirable. Question-answering is very easy, rapid, and economical with this system. We have in mind to extend the powers of the information retrieval system to be able to handle literature retrieval, to give the combined capacity for handling both raw data and that already published.

4 September 1969

You may have noted that I mentioned that one member of the team is an operations research specialist. The power that he brings to the group is in economical and efficient planning of programs (not only computer programs, but others, such as overall directions to achieve research goals). I believe that this capacity would be useful to the Morton Arboretum as it develops projects in line with the objectives of the Arboretum. To make planning and development real, the operations researcher employs the computer programs available in ways that are quite intriguing.

An example of this work can be seen in the enclosure of a recent proposal to O.E.O. made jointly by us and the Migrant Council of Colorado.

If we move to Lisle, I personally would like to continue to pursue work with Manihot. We have, for example, a project in economic/biological areas which we would like to submit to the NSF panel on economics, and wonder if you find this sort of proposal something that we could, or should do from the Morton Arboretum. I have a small subcontract from A.I.D. to work on feasibility of a large research program on cassava, and have a post-doc from India whose salary is guaranteed for one year.

I sense that you have moved the Morton Arboretum towards a program where that organization commits its efforts, resources, and capabilities to involvement in some necessary modern-day programs. Further, I sense that you do not intend that your organization be a private province of the special-privileged groups most frequently found in other botanical gardens. If these are true, then we would like to play some useful role in these directions. I do not suggest that we have any magic solutions in our black box. But we can, I believe, provide some expertise in working out programs backed up by modern data management systems. I believe that we have objectives in common with yours, and that what we have already done can be of immediate service to the Arboretum.

To further supply details of our work, history, personnel, there are a number of enclosures.

I should like to point out that the nucleus of the team (myself, Fleming, Estabrook and Brill) have been together since 1964, when we first worked together at the N.Y.B.G. We therefore have some continuity, and 20 man-years of experience in the computer work. This does not include my own involvement with computing machines, which extends back to 1957.

You understand, I hope, that we want to pursue negotiations very soon. We can come to Lisle as a group (or some subset) for interviews as early as September 15, provided this isn't too much of a rush for you.

Sincerely,

David J. Rogers  
Professor of Biology

DJR:gm

Statement of financial needs, possibilities, etc. follows next.

3 September 1969

Lore Henlein  
American Elsevier Publishing Co.  
52 Vanderbilt Avenue  
New York, N. Y. 10017

Dear Mr. Henlein:

We regret the delay in the return of these galley proofs. To respond to the editor's queries on the bibliography, it was necessary for the University Libraries to call back from circulation the volumes in question.

We will order no reprints, other than the 50 complimentary, at this time.

Thank you,

George F. Estabrook

GFE:gm

3 September 1969

I N V O I C E

Mr. Larry Bliick  
Municipal Building  
Boulder, Colorado 80302

As per our memo of agreement with respect to the wind  
damage survey, dated 6 June 1969, please pay at your earliest  
convenience \$750.00 to the Taximetrics Laboratory.

David J. Rogers  
Director

DJR:gm  
Enc

3 September 1969

I N V O I C E

Mr. Robert Westdyke  
Department of Public Works  
Municipal Building  
Boulder, Colorado 80302

As per memo of agreement of 2 July 1969 and the attached  
memo, please pay at your earliest convenience the sum of  
\$650.00 to the Taximetrics Laboratory.

David J. Rogers  
Director

DJR:gm  
Enc.