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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.

- Taxonomy Laboratory

March 2, 1966

Dr. Ernest R. Sohns
Head, Science Information Coordination Section
National Science Foundation
Washington, D. C. 20550

Dear Ernie:

As I promised, I am sending you copies of two papers from this laboratory which describe some very exciting methodologies for computer classification. The paper by Wirth, Estabrook, and Rogers will appear in the March issue of SYSTEMATIC ZOOLOGY. The paper by Estabrook will appear sometime later this year in THE JOURNAL OF THEORETICAL BIOLOGY. Both papers are now in the hands of the printers. I hope that these are useful to you.

Sincerely,

David J. Rogers
Professor of Botany

DJR/pam

Enclosures

- Taxonomy Laboratory

February 25, 1966

Dr. Ernest R. Sohns
Head, Science Information
Coordination Section
National Science Foundation
Washington, D. C. 20550

Dear Ernie:

It was indeed a pleasure to discuss, under such very fine circumstances, the problems of information retrieval for biological sciences. Please tell your wife how much I appreciate the very fine lunch we had.

The next day I went over to the Smithsonian and talked for awhile to Sid Galler and to his new programmer, a man by the name of Suszynski. I did not have an opportunity to talk to the biologist most interested in this program, a fellow by the name of Don Squires, who was in the Antarctic. I understand that Squires is the one who would be most likely to head up any group at the Smithsonian interested in these projects. He is a systematic zoologist I believe, in the invertebrates. I also had a chance to go to the U. S. National Herbarium and there talked for awhile to Dave Lellinger. Dave strikes me as being the most knowledgeable (in the botanical group, at any rate) about retrieval programs. He, himself, apparently is not willing to devote full time to such a project but definitely should be kept at the top of the list as far as advisors on the program is concerned.

One of the things I emphasized with Sid Galler was the absolute requirement of collaboration between the biologists and the programmers. It's well that this emphasis was made because when I talked to the programmer I found that he was far from clear about what he should be doing, through no fault

of his own, of course. I also emphasized that one of the best ways to work would be with the collaboration of Biological Abstracts and I hope that they will take this advice to heart.

As I told you, we do not wish to take on the responsibility here, indeed we could not for a retrieval system for nomenclature in biology. However, we feel that there are several levels of retrieval systems and would like to try to investigate some of the newer programming techniques that we know to be available for the various parts of a retrieval activity. For example, there are several institutions whose collections are of about the same size as Colorado State University's. That is, they have herbaria with one, two, or three hundred thousand sheets in them and they have one, two, or three botanists interested in the systematic procedures. We could probably put together a decent project set up as a pilot program. If we can make a good information retrieval program for a small collection this may have some use across the country. Whatever program that we had would obviously have to be tied in closely with the nomenclatorial project at the top. However, the method of handling specimens, of collections, of names on specimen sheets, and so forth, we could also incorporate because of my interest in the monographic work with the genus *Manihot*. I have several ideas that I wish to get going just in terms of how to retrieve data from specimens which would probably be quite useful for others in getting rid of some of the hard and tedious jobs involved in preparing monographic treatments.

Would you be interested in a proposal along these lines? If so, we'll try to firm up our ideas and make a relatively straight forward project out of it.

Once again, thanks for your fine hospitality. I certainly enjoyed myself. Looking forward to seeing you again.

Sincerely,

David J. Rogers
Professor of Botany

DJR/pam

- Taxonomy Laboratory

January 28, 1966

Dr. Ernest R. Sohns
Head, Science Information
Coordination Section
National Science Foundation
Washington, D. C. 20550

Dear Dr. Sohns:

I have to be in Washington for a one day meeting on Monday, February 21st. I wonder if it would be profitable to step in and see you on the day following. I recognize that that is Washington's birthday, but I am not certain whether this is a holiday for you or not. Please let me know if you are interested and available sometime on the 22nd.

Sincerely,

David J. Rogers
Professor of Botany

DJR/pam

JAN 26 1966

NATIONAL SCIENCE FOUNDATION

WASHINGTON, D.C. 20550

Office of Science Information Service

January 21, 1966

VIA AIR MAIL

Dr. David J. Rogers
Professor of Botany
Department of Botany and Plant Pathology
Colorado State University
Fort Collins, Colorado 80521

Dear Dr. Rogers:

Thank you for your letter dated January 12, 1966 to Dr. Adkinson concerning the support of procedures in which machine methods may be used in the biological sciences. I am particularly glad to see your suggestion about the necessity for team effort in the use of data processing for taxonomy, or for that matter handling other biological data. We believe that the International Plant Index project would have been far more acceptable if it had had a team such as you suggest.

The International Plant Index project is now in its terminal stages. I am particularly interested in having discussions with biologists in order to determine what are the next practical steps in the use of machine methods in biology. We are planning to discuss this problem with interested biologists and we would be grateful if you could participate. I will keep you informed of our progress in developing plans in this field.

Sincerely,



Ernest R. Sohns
Head, Science Information
Coordination Section

FEB 14 1966

NATIONAL SCIENCE FOUNDATION

WASHINGTON, D.C. 20550

Office of Science Information Service

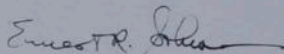
February 10, 1966

Dr. David J. Rogers
Colorado State University
Fort Collins, Colorado 80521

Dear Dr. Rogers:

February 22 is a Government agency holiday. Nevertheless, I would be glad to meet you at some time convenient on that date. Please call me at home (356-1318) or at the office on February 21 (343-7882) and we can arrange a suitable time and place.

Sincerely,



Ernest R. Sohns
Head, Science Information
Coordination Section



SMITHSONIAN INSTITUTION

Washington, D.C. 20560
U.S.A.

2:45 2/23

Dear Sid:

Sorry we didn't have more time, because I would like to review what I talked about with Mr. Suszynski, and later with Dave Sellinger.

Briefly, I fear that Suszynski is somewhat confused about the needs and requirements (through no fault of his, but because the biologists are confused). I also hear that there will be no taxonomist (including Squires) who will be willing to spend full time on this important task.



SMITHSONIAN INSTITUTION

Washington, D.C. 20560
U.S.A.

-2-

We will have to have some working time to get any info. retrieval program working. We have to discover 1) the exact requirements of the output 2) the parameters of the various tasks) 3) type of personnel to be involved. 4) the nature and method of collaboration with sister institutions, 5) the funding processes, and others @

Then we have to decide what computer system will best carry the load, and the programming for it. I have some ideas on both these aspects and hope that we can get together on them -
Sincerely, Dave

- Taxonomy Laboratory

January 13, 1966

Dr. Sidney R. Galler
Assistant Secretary for Science
Smithsonian Institution
United States National Museum
Washington, D. C. 20560

Dear Sid:

I talked to Burt Atkinson Wednesday morning, and was relieved to find that he had already made a decision about the project for nomenclature since my conversation with him at Berkeley, and that I was not required to write a history of that effort. What he wanted instead was to have some suggestions for guidelines in dictating their policy in support of various data retrieval projects in systematic biology.

I have written down for his benefit some very general principles which seem to me critical for the development of an adequate program. Essentially, I said that the most important element in the whole operation is the selection of the personnel to work on the job. In this respect, I suggested that it must be a team operation, where appropriately trained biologists are put in contact with appropriately trained computer experts. I also suggested that taxonomists are the last hold-out for prima-donna studies and that it is difficult to find the taxonomist who was willing to bare his chest before a non-taxonomist. Furthermore, the programs to be put into operation first are retrieval systems for biological nomenclature because, even if one is interested mainly in cataloging museum collections, inevitably the problem gets to the point where nomenclature becomes primary.

For any such program, I suggested that it have a real connection with a group outside the institution where the project is carried out, much in the same way that Biological Abstracts has a real tie to many biologists. I suggested that librarians and other information retrieval types be at least on a part-time basis with the working staff.

I made one or two points about the general problems in getting nomenclature into some sort of retrieval system, suggesting that the hardware aspects be thoroughly investigated before setting up any system. Being certain of an adequate system is critical, and this is tough because all the manufacturers and their salesmen indicate that their hardware is best. But the hardware should still remain secondary to the business of appropriate algorithms and programs.

As you suggested, I told Dr. Atkinson that you had invited me to consult on the project you outlined, but I didn't make much of a point of it. Nor did I say anything about a meeting with him. I leave such as that up to you. All that really interests me is that the project be undertaken. I am happy that you are forging ahead with some procedure, because it is most appropriate at the Smithsonian. Actually, I had been toying around with a small pilot system here, but would not be as happy about it as I would with one at an institution that has the size and scope that you do. Just let me know if there is any way I can help.

Sincerely yours,

David J. Rogers

DJR/pam

53-4
JAN 27 1966

UNITED STATES NATIONAL MUSEUM
MUSEUM OF NATURAL HISTORY
MUSEUM OF HISTORY AND TECHNOLOGY
ASTROPHYSICAL OBSERVATORY
CANAL ZONE BIOLOGICAL AREA
NATIONAL ZOOLOGICAL PARK
RADIATION BIOLOGY LABORATORY
NATIONAL AIR AND SPACE MUSEUM



SMITHSONIAN INSTITUTION
Washington, D.C. 20560
U.S.A.

NATIONAL GALLERY OF ART
NATIONAL COLLECTION OF FINE ARTS
FREER GALLERY OF ART
JOHN F. KENNEDY CENTER FOR
THE PERFORMING ARTS
NATIONAL PORTRAIT GALLERY
INTERNATIONAL EXCHANGE SERVICE
SCIENCE INFORMATION EXCHANGE

January 24, 1966

Dr. David J. Rogers
Taxonomy Laboratory
Department of Botany and
Plant Pathology
Colorado State University
Fort Collins, Colorado 80521

Dear Dave:

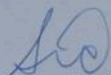
As I answer your letter of January 13, I want to underline how much your interest in various data retrieval projects in systematic biology at the Smithsonian is appreciated.

As was indicated in our telephone conversation, we would like to call upon you for advice and appraisals at an appropriate future time concerning research in this field. We are now arranging to follow up on the discussion with Burt Adkinson to insure that the NSF will have an opportunity to share in the Smithsonian's program. I will keep you posted on how these affairs progress.

I was delighted to read that you are getting along so well. The next time you are in Washington, I hope you will have an opportunity to visit us. It is always pleasant to talk with you.

Kindest regards.

Sincerely yours,


Sidney R. Galler
Assistant Secretary
(Science)

December 8, 1964

Dr. S. R. Galler
Head, Biology Branch
Office of Naval Research
Washington, D. C. 20360

Dear Sid:

We are sorry that Bob Menzies could not get support at this time, but recognize that there must be something going on which prevented it at the moment. Under these circumstances we are more than glad to help out not only because I think Bob Menzies is a good guy and his work is important, but because in the real sense this is a part of our operation. We appreciate your continued support of our work.

In that respect we are going great guns now and have a completely new model which comes closer to satisfying the needs of taxonomy than anything we have done before. Our staff is just about the right size to carry on the kinds of work this sort of endeavor requires. There is just one more requirement that I am looking forward to filling, and that is having a programmer in our shop, not one that belongs to somebody else. I do not wish to use the time of our botanists or our mathematician as programmers because their proper roles do not include the business of the actual specific instructions to one or another computer. It does not seem likely that The New York Botanical Garden will ever be able to support its own computer. For that reason we need a man who is very flexible and can prepare instructions for a whole set of different pieces of hardware.

Best wishes for the coming season.

Sincerely

David J. Rogers
Curator of Quantitative Taxonomy

DJR:MDF
Enclosure

December 8, 1964

Dr. Robert J. Menzies, Director
Oceanographic Program
Duke University Marine Laboratory
Beaufort, North Carolina

Dear Bob:

Sid was kind enough to send us a copy of his letter to you. We are sorry the proposal did not get off the ground at this time, but I see absolutely no reason why it shouldn't go again. In the meantime, we are very anxious to work with you and will, if you like, do the Termatrex punching and support the cards that would be needed just to get the project under way. It may not work quite so rapidly this way, but we will try to manage it, and I think we can do so to our mutual advantage.

The only problem likely is that data preparation at your place is not going to be as fast as you would like it. As soon as you have had a chance, if you can, go ahead with some slave labor (there must be an eager graduate student around).

We will be glad to supply the necessary instructions for data recording and preparation to be punched into the Termatrex. We might, for example, in case of need make a trip to see you rather than to have the expenditure of funds from your place for a trip to New York to take care of this preparation.

We leave it to you to set up your own operations on whatever basis you can. We will be glad to go along supporting whatever we can.

Sincerely

DJR:MDF

CC: Dr. Sidney Galler

ONR:446:SRG:hc
3 December 1964

Kindest personal regards and a Merry Christmas and Happy New Year.

Sincerely yours,

S. R. GALLER
Head, Biology Branch

Copy to:
Dr. Rogers
ONR/New York

P. S. Dear Dave: Here is my long delayed response to Bob Menzies and I hope sincerely that it will be possible for you to develop a scientific collaboration with him in terms of your on-going ONR sponsored project. As you know, we have recommended the extension of your project for the period 1 December 1964 to 30 November 1965. The necessary administrative processing for the extension should be completed in the near future. Best wishes for a Merry Christmas and a Happy New Year.

Same for Penny -

SG



DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
WASHINGTON, D. C. 20360

ONR:1145:SRG:hc
3 December 1964

Dr. Robert J. Menzies
Director,
Oceanographic Program
Duke University Marine Laboratory
Beaufort, North Carolina

Dear Bob:

I regret sincerely the delay in responding to your letter in which you express an interest in cooperating with Drs. Rogers and Fleming at the New York Botanical Garden. However, we could not present you with any decisive information because of a series of budgetary perambulations which until very recently handicapped our research planning. At this time there is small hope that we could provide the necessary financial assistance to enable you to collaborate with these gentlemen. However, it is my sincere hope that Dave Rogers might find a mechanism for collaborating with you within the framework of his existing Office of Naval Research project. Pending on the results of such a collaboration, it might be possible to encourage other agencies (as well as ONR) to participate financially in the project which you propose. Of course, such participation would have to occur after 1 July 1965, unless other agencies have uncommitted funds remaining in their budgets.

I regret sincerely that we cannot provide any more positive expressions of interest at this time. I do hope, however, that you will not misconstrue this letter as discouraging collaboration between yourself and Dr. Rogers. On the contrary, I hope sincerely that you can work out a collaborative effort, one which is temporarily supported within the framework of his existing ONR project.

cc: KM Wilbur
R. Ely
D. Rogers

August 26, 1964

Dr. S. R. Galler
Department of the Navy
Office of Naval Research
Washington, D. C.

Dear Dr. Galler:

I have been in contact with Dr. David J. Rogers and Henry Fleming at the New York Botanical Garden and have learned about their interesting capabilities in the processing of biological data and its treatment in systematic zoology.

For the past 10 years I have engaged in a spare time work on the genera of the marine isopods of the world. In this I have assembled the original descriptions (2/3 complete now) preparatory to a study on each type species (over 300) in which I had hoped to provide some day the information basic to the stabilization of isopod nomenclature at a generic level. The time is now ripe for the commencement of this study and the thought that this information could be stored and retrieved using the methods known to Rogers and Fleming and under their guidance at an enormous saving of time and expense is exhilarating.

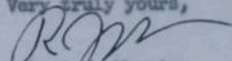
I should like to make a proposal jointly with Rogers and Fleming to accomplish this work and I wonder whether this is the kind of work that ONR might support.

I have all of the equipment and space for such a study. The project will require procurement of certain type specimens, study and processing of their characteristics (attributes) and a coding of this information. The project will require here the assistance of a scientific illustrator (part time), a technician, and someone to help with photography of descriptions, as well as some miscellaneous state-side travel and expendable supplies. These should not exceed \$10,000 per year, inclusive of overhead.

This project would be fed data from one other project that will be underway. This is an NSF study on Antarctic deep-sea isopods by myself and Dr. George Schultz. The two projects will surely complement each other in a most effective way.

I will appreciate your kind advice regarding any interest ONR might have in such a proposal at this time.

Very truly yours,


Robert S. Mansie
Director

Oceanographic Program