



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.

Date: Sun, 3 Dec 1995 14:58:40 -0500 (EST)
From: "Alfred Traverse" <traverse@ems.psu.edu>
To: hleo@yalevm.ycc.yale.edu
Cc:
Bcc:
Subject: Bob Booth
X-NUPop-Charset: IBM 8-Bit

Leo Hickey

Hi, Leo!

It's Sunday, and Bob Booth is in the microscope lab putting finishing touches on his Arctic Canada counts (reminds me that you haven't answered my simpleminded query about identity of the samples, but Bob says it's not a major problem).

Bob asked me to contact you about whether you'd be willing to receive him and his data in N. H., per a previous suggestion of yours.

In view of recent history, you're probably thinking "once burned, twice learned," or some such. However, I emphasize that this person is the exact opposite of my last sendee--all productivity and almost too little mouth. Great lab man, etc.

Please let me hear from you. Best. Al T.

Date: Wed, 25 Oct 1995 15:26:29 -0500 (EST)
From: "Alfred Traverse" <traverse@ems.psu.edu>
To: Hleo@yalevm.ycc.yale.edu
Cc:
Bcc:
Subject: sample numbers
X-NUPop-Charset: IBM 8-Bit

Hickey

Hi, Leo:

Bob Booth just asked me about the sample numbers for the famous fifteen samples with which he has been working. There appear to be two 'sets' of sample numbers...CS and ECS. What is the difference between the two and which way do the sequences run through the Strand Fiord formation? I guess I should clarify a bit more: in your letter of 31 March, 1993, you mention samples "13-23, 26, 24, 28, and 4." These are also the numbers in DKC's thesis (did I tell you that Betty and I are going to visit the Chois in Seoul next May?), cf. Fig. 14. But our sample residues and slides all have the CS and ECS numbers (such as "ECS 62"), not the abovementioned 13-4 series. Can you convert them for us? Bob continues to do very detailed and very good work, but the dinoflagellates are frustrating--sparse and poorly preserved and only present at all in some of the samples.

Bob is interested in the idea of possibly visiting you at or near the end of the semester--whenever is agreeable for you. He is probably going to Georgia Southern for the beginning of his graduate work. One of our former students, Fred Rich, is head of the geology department. Bob is a biology major and has a substantial deficit in geology to make up. Fred can arrange all of that at GS, and it thus has advantages for Bob. Anyway, it is probably not too early to begin coming up with an approximate date for the visit. I think it would be beneficial for Bob.

All the best. Al T.

Bob Booth is a very good man and a very interesting fellow too. Among other things, he is a talented impressionist painter. He gave me an oil of pilings in Myrtle Beach that we love, and it hangs in our living room with others by professional artists. He could probably make a living as a painter. I'm having him work as lab assistant this semester on the Trilobite project, and unofficially he is helping with the labs for the paleontology course. He is also busy with the Arctic slides.

We'll keep you informed about Bob's progress.

Thanks for writing.

Very truly,

Alfred Traverse

Yale University

Peabody Museum of Natural History
Division of Paleobotany
170 Whitney Avenue
New Haven, Connecticut 06520-8118

THE PENNSYLVANIA STATE UNIVERSITY
DEPARTMENT OF GEOSCIENCES
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6 Sept., 1995

25 August 1995

Dr. Leo J. Hickey
Peabody Museum of Natural History
Division of Paleobotany
Yale University
170 Whitney Ave.
New Haven, CT 06520-8118

Dear Leo:

What a nice letter yours of 25 Aug. was.

Other faculty members here who worked with her have been completely supportive of me in my VCW problem. Almost all the graduate students (especially the five from whom she also lifted literature) also have come by to tell me that they understood. I suspect, however, that some disgruntled student who didn't agree with what I did is the car vandalizer. We are parking in a secret location for the duration. It's actually not without advantage, as we get 15 mins. walk in each direction!

Bob Booth is a very good man and a very interesting fellow too. Among other things, he is a talented impressionist painter. He gave me an oil of pilings in Myrtle Beach that we love, and it hangs in our living room with others by professional artists. He could probably make a living as a painter. I'm having him work as lab assistant this semester on the Triassic project, and unofficially he is helping with the labs for the palynology course. He is also busy with the Arctic slides.

We'll keep you informed about Bob's progress.

Thanks for writing.

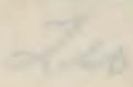
Yours very truly,

Alfred Traverse

Yale University

Peabody Museum of Natural History
Division of Paleobotany
170 Whitney Avenue
P.O. Box 208118
New Haven, Connecticut 06520-8118

Telephone: 203 432-5006
Fax: 203 432-3134
Email: LJH@GEORGE.PEABODY.YALE.EDU

Sincerely,

Leo J. Hickey
25 August 1995

Dr. Alfred Traverse
The Pennsylvania State University
Department of Geosciences
Palynological Laboratories
435 Deike Building
University Park, PA 16802

Dear Al,

Your letter of May 21 reached me at the end of the semester as I was finishing up the last of my academic business, in the throes of copy editing a book, and getting ready to go to the field. I took it with me to Montana, meaning to answer it but it got buried during the course of my field work and teaching. I am very sorry to have delayed so long in answering you, especially in light of the disturbing news that you imparted.

First, I would like to reassure you that I concur completely in your judgement of Vicki Weintraub and her potential to complete the task that we had in mind for her, that is a reinvestigation of the palynological correlation of the Eureka Sound Group. I had already begun to feel a bit uneasy with her as she gradually changed focus from the palynological correlation of the unit and an effort to discern preservational differences among the various components of the pollen assemblage to get at the problem of reworking to one which would look almost exclusively at optical density of grains with little or no effort to identify what they were. Without careful determinations of the identities of the grains, I could not see how we would resolve the critical problem of reworking. I now realize that the change in her proposed research focus was part of her backing away from palynology that occurred last autumn. Quite frankly, I feel that I have probably had a narrow escape from a potentially unpleasant situation and am sorry you have had to take the "heat" on this.

Vicki has now sent back the samples that I lent her and I have hired one of my former Ph.D. students to finish up what we can on the Arctic grant. In this regard, I am most interested in

the results of Bob Booth's term project and would appreciate a copy of his results. I am really anxious to finish up my part of this star-crossed project by the end of January 1986.

In the meantime, I hope that things have now improved for you and for Betty, especially with regard to the car. You should know that you have my heartfelt respect and friendship.

30 July, Sincerely,

Leo J. Hickey

Professor Leo J. Hickey
Peabody Museum of Natural History
Yale University
P. O. Box 3666
New Haven, CT 06511

LJH:bw

Dear Leo:

Mail, e-mail and phone-messages did no good, so I'll have a go at snail mail before giving up.

As you know if you read the above-mentioned missives, Bob Booth worked in the Spring Semester on the Hickey-project slides from several years ago, on which you got only a general, preliminary report from me. This is a very talented undergraduate. He submitted a narrative report on his work, including several hundred photomicrographs, etc. I enclose a xerox of his abstract for your info.

Bob is returning here in a few days, and I have funding from a Triassic project to pay him to process samples until beginning of Fall Semester (classes begin 23 Aug.). In the Fall Semester he is signed up for a special project to study the Hickey Arctic samples more intensively--counts, and attempts to identify the dinoflagellate cases among other things.

After I leave, I have money from my Honduras project to pay Bob a taxicab to work in the lab, and my plan is without changing the lab. To get his work on your samples, because I am taking up to date on the samples from Copan.

Bar Mather, the organic geochemist who originally brought you here came by the other day to say that when she transferred to paleontology a few months after arriving he already knew there was a disability problem with her plan to do a doctorate here and he was not displeased that she moved to my lab. Hmm. She still hasn't returned to me a doctoral thesis she took when she left, but with the help of Marrie Robbins I got the rest of my stuff back.

I became aware of it on 18 June and immediately learned about the down side of it--no dental insurance. I developed a problem with a molar that cost \$1500 by 18 July. On 25 June I had been

announced tentatively 1994.
Betty and I are going to Korea next May. I
guess I told you that he has for years
worked on trilobites.
I just got her Ph. D. at the family
family festivities.
I just close here, especially as may be an on-person, in which
case this is a waste of time.

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E-Mail: traverse@ems.psu.edu

30 July, 1995

Professor Leo J. Hickey
Peabody Museum of Natural History
Yale University
P. O. Box 6666
New Haven, CT 06511

Alfred Traversa
Dear Leo:

Well, e-mail and phone-messages did no good, so I'll have a go at snail mail before giving up.

As you know if you read the above-mentioned missives, Bob Booth worked in the Spring Semester on the Hickey-project slides from several years ago, on which you got only a general, preliminary report from me. This is a very talented undergraduate. He submitted a massive report on his work, including several hundred photomicrographs, etc. I enclose a xerox of his abstract for your info.

Bob is returning here in a few days, and I have funding from a Triassic project to pay him to process samples until beginning of Fall Semester (classes begin 23 Aug.). In the Fall Semester he is signed up for a special project to study the Hickey Arctic samples more intensively--counts, and attempts to identify the dinocyst taxa among other things.

After 1 Sept. I have money from my Honduras project to pay Bob a little to work in the lab, and my plan is without showcasing the fact, to let him work on your samples, because I am really up to date on the samples from Copan.

Pat Hatcher, the organic geochemist who originally brought VCW here came by the other day to say that when she transferred to palynology a few months after arriving he already knew there was a sizable problem with her plan to do a doctorate here and he was not displeased that she moved to my lab. Hmmm. She still hasn't returned to me a doctoral thesis she took when she left, but with the help of Norrie Robbins I got the rest of my stuff back.

I became emeritus on 30 June and immediately learned about the down side of it--no dental insurance. I developed a problem with a molar that cost \$1500 by 18 July. On 25 June I had been

pronounced dentally 100%.

Betty and I are going to visit Duck Choi in Korea next May. I guess I told you that he gave up palynology and has for years worked on trilobites.

Betty got her Ph. D. at the May Commencement, as planned. Big family festivities.

Best close here, especially as I may be an un-person, in which case this is a waste of time.

Yours very truly,

Alfred Traverse

encl.: xerox of Booth abstract for his
3-vol. report

Leo Hickey

Date: Thu, 27 Apr 1995 14:27:56 -0500 (EST)
From: "Alfred Traverse" <traverse@ems.psu.edu>
To: hleo@yalevm.ycc.yale.edu
Cc:
Bcc:
Subject: Bob Booth
X-NUPop-Charset: IBM 8-Bit

Dear Leo:

I believe I wrote you a while back about the senior student mentioned above, who is almost through with a term project based on the slides prepared from the fifteen samples I processed and cursorily studied for you a couple of years ago. He has done a remarkably thorough job, and I will be sharing at least parts of his report with you. He concentrated on learning the total flora, and therefore has not had time to do counts of the slides, which would be the next logical step. This is a very good and very industrious student. Do you have any interest and the possibility of encouraging him to continue this work? He has a job back home as a bus driver for the summer. He plans to take another study project with me in the Fall Semester (his last semester at PSU) and will take up the counting on these slides at that time, if nothing further comes up. This is just to keep you posted and to give you a chance for input, if it seems desirable.

Best wishes, as ever. I gave my last lecture in paleobotany this a. m. The kids had their lab final yesterday and did super. The field trip was to Archaeopteris localities along the Susquehanna. We had a great time. Now there will be nobody in this great university teaching plant anatomy and morphology, as paleobotany was the last pocket of resistance to DNA-dominance.

Yours, Al

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27 March, 1995

Dr. Leo J. Hickey
Peabody Museum of Natural History
Yale University
170 Whitney Ave.
P. O. Box 6666
New Haven, CT 06511

Dear Leo:

Just wanted to report in about developments. First, there have been continuing problems about my big VW mistake. She took a large chunk of my library to DC and I have still not got it all back. She called the other day to lecture me about not discussing her with others (I had appealed to my former Ph. D. student, Norrie Robbins, for help in getting back my books and equipment). Her attitude infuriated me, and I hung up on her. Only second time in my life I've done that.

More important: the guy who finished at the top of the palynology class last semester (along with a pre-med girl) has been working on the slides from the previous LH/AT project and making marvellous progress. (He was one reason I needed my lit. back!) Name Bob Booth. He has photographed most of the major types and is well along on counting. He is very interested in the project and would like to keep at it if it were possible. He's a junior but will need to get some sort of employment for the summer.

Betty is practicing with State College Choral Society for a big concert (it's now Mon. evening), but I must go meet her soon. So, will close this with observation that there may be a nice turn in the road ahead.

Best wishes as always.

Yours very truly,

Alfred Traverse

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E-Mail: traverse@ems.psu.edu

31 January, 1995

Dr. Leo J. Hickey
Peabody Museum of Natural History
Yale University
170 Whitney Ave.
P. O. Box 6666
New Haven, CT 06511

Dear Leo:

I just received my copy of Lee Kump's letter to you of 24 Jan., long after the fact. It is clear that VCW was manipulating him to make it appear that I am some sort of ogre who maligned her, in order to establish herself independently with you.

The record should be set straight. Despite the good face that this letter seems to put on the situation, the fact remains that she came 13th out of a class of 16 in palynology (14th out of 16 on the final). The star of the ice hockey team did much better. That is obviously unacceptable for a graduate student in palynology. How she got "palynology problems" last year before she had had elementary palynology, which is a prerequisite for the problems course, I am still trying to figure out. I certainly don't recall her doing any work for that course. I am also still trying to find out who signed for the "thesis research" last semester. I don't recall doing so. The audit in coal petrology came about because she was doing so poorly that the prof advised her to drop back to audit (Al Davis). The record will also show that she several times cancelled out of a candidacy exam which I had strongly urged should take place to see if she could make it. The report Dr. Kump provides is also evidence that in this age of grade inflation, graduate student evaluations can hardly depend on GPA numbers. They mean very little. The good students all have 4.0. Ms. Weintraub's 3.6 is based on a courtesy A in the paleobotany course and an overly generous B in the palynology course, both from me, and very little else. The As in supervised teaching As are like A in phys. ed.

My retirement is not an issue. A specific part of the package was that I could continue to have graduate students if any appeared and I wanted to have them.

Yours very truly,

Received: from YaleVM.CIS.Yale.Edu (yalevm.ycc.yale.edu) by pangaea.ems.psu.edu
(4.1/PSU_ESSC/GEOSC-2.02) id AA05621; Tue, 17 Jan 95 17:40:33 EST

Message-Id: <9501172240.AA05621@pangaea.ems.psu.edu>

Received: from YALEVM.CIS.YALE.EDU by YaleVM.CIS.Yale.Edu (IBM VM SMTP V2R2)
with BSMTMP id 2376; Tue, 17 Jan 95 17:40:08 EST

Received: from YaleVM.CIS.Yale.edu (NJE origin HLEO@YALEVM) by YALEVM.CIS.YALE.E
Date: Tue, 17 Jan 95 17:25:49 EST

From: Leo Hickey <HLEO@yalevm.ycc.yale.edu>

Organization: Yale University

Subject: Re: making contact

To: Al Traverse <traverse@ems.psu.edu>

In-Reply-To: Your message of Tue, 17 Jan 1995 10:15:57 -0500 (EST)

Dear Al;

Redundant or not, I got your message. About the Director of Undergraduate studies thing, we really don't have anyone who isn't doing research full-tilt and the senior faculty tries to protect the junior faculty from that sort of thing. It wasn't so bad a few years ago when we only had 14 majors but now we are up to 63. The bad parts only come in the first two weeks of each semester when I have to look over their programs and sign their schedules.

I have a furious day tomorrow, with a faculty meeting and a job candidate in our senior-level search for a vertebrate paleontologist. I am chairman of that committee, so we will be taking him to dinner tomorrow night. Thursday and Friday are better or call me at home (203-785-8668). I am really sorry to hear of your retirement. That new gymnosperm from Australia has been hyped a bit as I told John Wilford of the NYTimes. It is very similar to *Agathis jurassica* which is known from several sites in southeastern Australia. It looks like a new species of *Agathis* to me and I haven't yet read anything that would change my mind on that.

Regards, Leo

I've been expecting the phone to ring about your samples. Unfortunately, because of a series of family and professional distractions, I still haven't got the job done. Please don't give up! Currently I'm finishing up two MSs with Bruce Tiffany (that was totally unexpected, but an emergency situation), then I have to get ready for a conference on the Triassic of Fundy Basin with Sarah Powell, and have the conference. Meanwhile, the paleontology course is over-subscribed and steaming along, etc. But I will get to the Arctic project as soon as possible! The slides are sitting on the microscope table, waiting for me.

Love very truly,

Alfred Traverse

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27 August, 1993

1111

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Mr. Leo J. Hickey
Peabody Museum of Natural History
Yale University
170 Whitney Ave.
New Haven, CT 06511

27 August, 1993

Dear Leo:
Professor Leo J. Hickey
Peabody Museum of Natural History
Yale University
170 Whitney Ave.
New Haven, CT 06511

Dear Leo:

I've been expecting the phone to ring any minute about your samples. Unfortunately, because of a series of family and professional distractions, I still haven't got the job done. Please don't give up! Currently I'm finishing up two MSS with Bruce Tiffney (that was totally unexpected, but an emergency situation), then I have to get ready for a conference on the Triassic of Fundy Basin with Sarah Fowell, and have the conference. Meanwhile, the palynology course is oversubscribed and steaming along, etc. But I WILL get to the Arctic project as soon as possible! The slides are sitting on the microscope table, goading me.

Yours very truly,

Alfred Traverse

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11 June, 1993

Dr. Leo J. Hickey
Peabody Museum of Natural History
Yale University
170 Whitney Ave.
New Haven, CT 06511

Dear Leo:

Just a quick report. The young woman on whom I was so high came a cropper on us. Her boy friend showed up one day, and that was the end of that. Betty had to start the samples over. She now has them finished, and I can begin to study them. I had forgotten that Duck had trouble--1. there is massive organic matter in the samples--interesting palynofacies; 2. the samples seem to have been a bit weathered, and the palynomorphs aren't in the best of condition. Hence, they are difficult to process, which discouraged our little helper.

Best.

Yours very truly,

Alfred Traverse

Yale University

Yale University Museum of Natural History
170 Whitney Avenue
New Haven, Connecticut 06511-3043

TO AT

DATE 27. IV. 89 TIME 3 p.m.

WHILE YOU WERE OUT))

M. Leo Hickey

Of ~~YFSO~~

Phone 203-432-5006

TELEPHONED PLEASE RETURN CALL

CALLED TO SEE YOU WILL CALL AGAIN

RETURNED YOUR CALL RUSH

MESSAGE 1) Loves Paleopal. -
would be happy to receive
2) has very interesting
new data re heterochronality
in arctic. ^{sp?}

Signed BT

The Standard Register Company

Yale University

Peabody Museum of Natural History
170 Whitney Avenue
P.O. Box 6666
New Haven, Connecticut 06511-8161

Telephone:
203 432-3750

October 16, 1987

Dr. Alfred Traverse
Deika Building
Pennsylvania State University
University Park, PA 16802

Dear Al,

Many thanks for the reprints that you recently sent. I found the summary of the Triassic rift basin biostatigraphy especially useful as I am trying to make some sense out of the early literature on the megaplants for the Compendium Index here.

We must talk very soon about the heterochroneity paper for Scientific American.

All the best,

Leo

Leo J. Hickey

LJH/jth

Yale University

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General address:
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303-474-7100

7147

March 13, 1985

11 June, 1987

Dr. Alfred Traverse
Palynological Laboratories
Department of Geosciences
College of Earth and Mineral Sciences

Dr. Leo J. Hickey
Peabody Museum of Natural History
Yale University
P.O. Box 6666
New Haven, CT 06511

Dear Leo: It was very good to talk to you again and, despite it sounds as if you had a very fine time in New Orleans. Here are the sample numbers of the concentrates that I would like you to send to Dr. Charles E. Becklin at Dartmouth

Thanks for copy of your letter to SA. As you noted to Mr. Piel (I wonder if he's a son of the original SA head, G. Piel? I knew G.P. at Harvard). I'll be gone almost constantly until 1 September. Even end September will be rough. However, let me know what to do, and I'll have at it.

Had lunch with Eric Barron the other day, and he asked questions about the Arctic work and commented on contacts the two of you have had.

Best. I had Naughton Astrobleme on Devon Island, Mary Dawson called me with some additional palynological results from Cathy who is running our samples for me. It seems that the samples that I gave you only included the arborescent pollen without the herbaceous component. Thus, in the revised lists all samples have Sabagnum, Graminaceae, and Lycopodium. In addition, a very low number of Compositae and Graminaceae grains are found in several of our samples and these do not appear to have been reworked. I do not as yet know if the pollen are spinose or not but I am having Mary check with Cathy about this. So it seems as if the samples most likely fall in the Miocene. In addition, we also picked up Dryopteris, cf. Cyperaceae, cf. Chenopodiaceae, cf. Cyperaceae pollen along the non-arborescent in this area. To secure a good size fruit and seed flora from these beds which also have cones, pine needles and cones, Sassafras, some scales and a number of others including possible sedge seeds. Just the kind of country you would expect a rhinoceros to be wandering about in, and incidentally, all of these samples appear to contain a low admixture of badly reworked, reworked Cretaceous spores and pollen. Once again, Naughton Astrobleme

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

Yale University

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Peabody Museum of Natural History
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170 Whitney Avenue
Telephone:
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4747

March 13, 1985

Dr. Alfred Traverse
Palynological Laboratories
Department of Geosciences
College of Earth and Mineral Sciences
The Pennsylvania State University
Deike Building
College Park, Pennsylvania 16802

z-c

Dear Al:

It was very good to talk to you again and, despite everything, it sounds as if you had a very fine time in New Orleans. Here are the sample numbers of the concentrates that I would like you to send to Dr. Charles E. Daghljan at Dartmouth (address at end of letter): Sample 794, 7916, 7917a, 7918, 7919, 7921, 7922, 7923a,b,; 7968a,b. These should provide him with a suite of Pistillipollenites macgregorii from throughout its temperal range in the Eureka Sound Formation. I am very much looking forward to his results on this very interesting and somewhat problematical form.

Just after I spoke to you about our pollen results from the lake beds in Haughton Astrobleme on Devon Island, Mary Dawson called me with some additional palynological results from Cathy Brownoski, who is running our samples for us. It seems that the samples that I gave you only included the arborescent pollen without the herbaceous component. Thus, in the revised lists all samples have Sphagnum, Osmunda, and Lycopodium. In addition, a very low number of Compositae and Graminae grains are found in several of our samples and these do not appear to have been reworked. I do not as yet know whether the Compositae pollen are spinous or not but I am having Mary check with Cathy about this. So it seems as if the samples most likely fall in the Miocene. In addition, we also picked up Dryopteris, cf. Cruciferae, cf. Chenopodiaceae, cf. Cyperaceae, and Pteridium pollen among the non-arborescents in this assemblage. We were also able to secure a very nice fruit and seed flora from these beds which include Alnus cones, pine needles and cones, Picea, cone scales and seeds and a number of others including possible sedge seeds. Just the kind of country you would expect a rhinoceros to be wandering about in, eh? Incidentally, all of these samples appear to contain a low admixture of badly erroded, reworked Cretaceous spores and pollen. Once again, Haughton Astrobleme

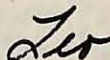
Dr. Alfred Traverse
March 13, 1985
Page 2

lies in the northwest portion of Devon Island which is the next island south of Ellesmere at about 75 degrees 35 minutes north latitude. Everytime I work with the paleobotanical remains of the Arctic I feel like the first European to stumble into China; a different world indeed.

More later; thanks for the info on your preparation rates; we will write if we need a formal quote from Travespore. Thanks also for the abstract that arrived today.

One late breaking note, we appear to have part of a composite head in our fruit and seed assemblage from Haughton.

Sincerely,



Leo J. Hickey
Professor and Director

LJH:paw

Address:

Dr. Charles P. Daghljan
Director
Dartmouth Electron Microscope Facility
Dartmouth Medical School
Hanover, New Hampshire 03756

Yale University *New Haven, Connecticut 06520*

PEABODY MUSEUM OF NATURAL HISTORY
Office of the Director

Tel. 203-432-4044

*file
Leo
Hikey*

January 18, 1985

Dr. Alfred Traverse
Palynological Laboratories
Department of Geosciences
College of Earth and Mineral Sciences
Penn. State University
Deike Building
College Park, PA 16802

Dear Dr. Traverse:

I am sending under separate cover the eight slides that Leo borrowed from you to have duplicated. I apologize for the delay, but the Christmas holidays seem to have slowed everything down.

We certainly appreciate your lending the slides to us. If there are any questions, please do not hesitate to contact me.

Sincerely, .

Linda Klise

Linda Klise
Research Assistant

5
16 November, 1984

Dr. Leo J. Hickey
Peabody Museum of Natural History
Yale University
P.O. Box 6666
New Haven, CT 06511

Dear Leo:

Goodness, I am finally settling down to the task of reading literally a month's worth of mail. Just came to yours of 12 October. You must have thought it strange that I didn't comment on this letter at Petersham. I now have read it, and can.

As I said at Petersham, the "reworked dinoflagellates" are still the problem. If they're ^{not} reworked, then another explanation than that offered by Sweet must be found.

As you know, the Choi thesis was a very low budget job[There simply are no extra copies (and I don't let mine out of this room). However, I'm looking into getting a couple more xerox copies made, so Art Sweet could have one. I'll be in touch with him.

There is not at the moment an unoccupied graduate student who could do the new ES samples as a thesis or research project, and (as we discussed-- in DC?) these things do have to be financed. Is there a chance we could undertake this as a consulting project--I believe I mentioned this to you. It costs about \$75/sample at the moment.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

12 November, 1984

Dr. Leo J. Hickey
Peabody Museum of Natural History
Yale University
P.O. Box 6666
New Haven, CT 06511

Dear Leo:

Good to see you at NEPBC. That's a fun meeting, but the accommodations are too spartan for my tastes--the monastery I used to frequent for retreats was luxurious in comparison!

This is to remind you about the slides--I sent you the originals because there wasn't time to have copies made. I need them for my lectures. If you'll return them, I'll have copies made for you and send them off to you post haste.

Thanks.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

Yale University *New Haven, Connecticut 06520*

PEABODY MUSEUM OF NATURAL HISTORY

Office of the Director

Tel. 203-432-4044

October 12, 1984

Dr. Alfred Traverse
Palynological Laboratories
Department of Geosciences
College of Earth and Mineral Sciences
The Pennsylvania State University
Deike Building
College Park, Pennsylvania 16802

Dear Al:

Thank you very much for sending me the slides. They arrived in time and I used several at the talk to the Canadian Paleontological Society last Saturday. I will try to have them duplicated as soon as possible and return them to you.

Our paper elicited some comment but there were very few palynologists or paleobotanists at the meeting. One question raised that was of some interest to me was by Art Sweet of the Canadian Survey. Art asked whether the Zone I flora at the base of the Eureka Sound Formation might not be Campanian in Age based on the appearance of several of the pollen grains that I illustrated. He thought that the age disparity might then be explained as the result of the missing section within the lower Eureka Sound Formation rather than a true heterochrony. Much of his argument rested on the ranges of individual species which I am certainly not qualified to comment on but I would like to know what you think. Would it be possible to lend Art a copy of Duck's thesis so that he might examine the ranges and the individual assemblages firsthand?

One thing that I forgot to ask you when we talked by phone a week or so ago: during the past summer I collected a great number of pollen samples, perhaps as many as one hundred to one

hundred fifty, many of these from carefully measured stratigraphic sections. I know that the Arctic grant has now expired but I wonder if you would have a student who might be interested in looking at these. This might just be going over the same ground but if you thought it was valuable I would be happy to send them to you.

Once again, thanks for your promptness in sending off the slides and for absorbing the postage cost.

Sincerely yours,

Leo J. Hickey

Leo J. Hickey
Professor

LJH:paw

27 September, 1984

Dr. Leo J. Hickey
Peabody Museum of Natural History
Yale University
170 Whitney Ave.
New Haven, CT 06511

Dear Leo:

Slides went off to you immediately via Federal Express. Don't worry about the postage--that's a natural part of the expenses of this sort of operation. I do need the slides back, however.

Best.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

26 March, 1984

Dr. Leo J. Hickey
Peabody Museum of Natural History
Yale University
170 Whitney Ave.
New Haven, CT 06511

Dear Leo:

It seems to me you made the best sort of response to the criticism of your and Duck's Science paper. I am not convinced you won't turn out yet to be right--time will tell. After all, Norris' insistence that the Arctic dinos are reworked is based on the assumption that heterochroneity is impossible. They have to be reworked because mixed with Paleogene pollen! Minor gremlin--plant family names when rendered to adjectives are not capitalized (i.e., tiliaceous).

Enclosed is copy of proposal produced as soon as I got your helpful letter.

All the best.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

encl: copy of proposal to NSF

Yale University *New Haven, Connecticut 06520*

PEABODY MUSEUM OF NATURAL HISTORY
Office of the Director
Tel. 203-432-4044


March 8, 1984

Dr. Alfred Traverse
Palynological Laboratory
College of Earth and Mineral Sciences
435 Dieike Building
Penn. State University
University Park, Pennsylvania 16802

Dear Al:

Enclosed is a copy of the reply by West, Dawson,
and myself to the Technical Comments by Kent
et al. and Norris and Miall. Thanks for your
help with this.

Sincerely yours,


Leo J. Hickey
Professor

LJH:paw
Enclosure

4a

Yale University *New Haven, Connecticut 06520*

PEABODY MUSEUM OF NATURAL HISTORY

Office of the Director

Tel. 203-432-4044

March 2, 1984

Professor Alfred Traverse
Palynological Laboratory
College of Earth & Mineral
Sciences
435 Dieike Building
Penn. State University
University Park, Pennsylvania 16802

Dear Al:

I have now reread John Bebout's thesis on the Palynology of the Golden Valley Formation and want to give you my enthusiastic recommendation that this be published. I think the work is sound taxonomically, as well as stratigraphically, and represents an extremely detailed look at a section that is of critical interest both from its geographic and its temporal location.

My reasons for this recommendation are several, and I will go into some detail below. First, it is all too seldom that the results of palynology and megafloral studies are integrated as they are in this work. I feel that John's work gains tremendously in value from having been based on a previously established megafloral and stratigraphic framework of the Golden Valley Formation. Second, John has examined the palynological changes across the Paleocene-Eocene boundary at closely spaced intervals over a considerable geographic area. Analyses at such a fine level of resolution are all too rare in palynology. Third, although it has been nearly six years since John's thesis was written, it has gained in value because of the quality of the work and because interest in the placement of the Paleocene-Eocene boundary in the northern Rocky Mountains and Great Plains has increased over the intervening years. John's thesis contains data that will be crucial in evaluating various alternatives for the placement of this boundary. I am thinking especially of his careful documentation of the appearance of the genus Platycarya. The nearly simultaneous appearance of this form in Europe and North America appears to correlate very closely with the recognition of the Paleocene-Eocene boundary based on planktonic fossils. For this reason alone the work is of major importance from a biostratigraphic standpoint. Fourth, because the Golden Valley Formation occupies a position intermediate between the Rocky Mountain basins and the Mississippi embayment its palynoflora has elements from both areas within it. This provides an excellent opportunity to integrate the biostratigraphy of these two widely separated regions that lay in different floristic provinces.

Professor Alfred Traverse

-2-

March 2, 1984

I suppose that in these days of stringent finances it is not enough that a work merely be of excellent quality to warrant publication. However, I think that the quality of John's work, together with the stratigraphic and geographic location of the study make it especially worthy of publication. If I can be of assistance in helping you to find such funds or in recommending John's work to a potential source of funding, please do not hesitate to call on me.

Sincerely yours,

Leo

Leo J. Hickey
Professor and Director

LJH:SM

22 February, 1984

Dr. Leo J. Hickey
Peabody Museum of Natural History
170 Whitney Ave
New Haven, CT 06511

Dear Leo:

Another reminder re the blurb justifying publication of Bebout's thesis. I'm really pulling out all stops to get this accomplished.

Best.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

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14 November, 1983

Dr. Leo J. Mickey
Peabody Museum of Natural History
Yale University
P.O. Box 6666
New Haven, CT 06511

Dear Leo:

John Bebout and I are going over his thesis with the idea of getting it ready for Paleontological Institute, as we've already discussed.

Major problem: pp. 51-68 were the basis some years ago of a paper by John and me, submitted to Palynology. It was axed by Jack Wolfe because of:

1. insufficiency of the meteorological data.
2. incorrectness of the distribution information in China
3. that the number of taxa is too small for the breadth of conclusion."

Our response was:

1. data came from PSU meteo professors
2. distribution information was best we could find
- q 3. we were under constraints imposed by the material (e.g., pollen must be 100% sure identifications).

John now wonders what should be done about this section. Will you read pp. 51-68 carefully and write John (Division of Geology & Mineral Resources (690), B.L.M., 18th & C Sts. NW, DC 20240) about your opinion of whether it could be used "warts and all", or if not, what could be done fairly easily to shape it up? I'd appreciate a copy of your letter.

Doubtless there'll be more missives about the GV pollen!

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

P.S. If you could red-pencil a xerox of offending pages within this context, it would be very helpful to John.

cc: J. Bebout

* * * G E O S C I E N C E S C O L L O Q U I U M * * *

"PALEONTOLOGIC PERSPECTIVE ON THE
TERMINAL CRETACEOUS EVENT"

LEO J. HICKEY
PEABODY MUSEUM
YALE UNIVERSITY

TUESDAY
OCTOBER 18, 1983
22 DEIKE BUILDING
3:45 P.M.

COFFEE: 3:30

TO AT

DATE 10/17/83 TIME 10:30 a.m.

WHILE YOU WERE OUT

M. Leo Hickey

of _____

Phone _____

TELEPHONED PLEASE RETURN CALL

CALLED TO SEE YOU WILL CALL AGAIN

RETURNED YOUR CALL RUSH 18X

MESSAGE will arrive State Col.

12:05 Tues. - pls. meet.

(Leaves Wed. 7:30 a.m.)

changed to Hunterdon

by train ca. 8:00 a.m.

Signed BT

The Standard Register Company

15 September, 1983

Dr. Leo J. Hickey
Peabody Museum of Natural History
Yale University
170 Whitney Ave.
New Haven, CT 06511

Dear Leo:

Thanks for the nice letter of 30 August. Glad you liked the thesis. You're right--Betty packed it. Scary that Duck, Hyo-Sook, both kids and his parents were on 007 just a week before the fatal flight.

Science with the article has arrived, along with people from PSU Information Services who interviewed me about it (AP wire had picked it up) because Duck is no longer here.

It grieves me some that the fact is not even mentioned in the acknowledgement that Duck's contribution was supported by NSF Grant EAR-8119546, nor that he was aided and encouraged by one AT at all phases of the work. That sort of omission is not at all helpful with my mirror-arranging. In fact, if it happened repeatedly, I'd be dead.

We'll see you in October and are looking forward to it.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

Yale University *New Haven, Connecticut 06520*

PEABODY MUSEUM OF NATURAL HISTORY
Office of the Director
Tel. 203-432-4044

August 30, 1983

Dr. Alfred Traverse
Palynological Laboratories
College of Earth and Mineral Sciences
435 Deike Building
The Pennsylvania State University
University Park, Penna. 16802

Dear Al:

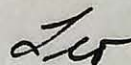
Just a short note to acknowledge the arrival of Duck Choi's magnificent thesis in mirabile dictu! only two days. I will read this with great interest as it is an important basis for the biostratigraphic conclusions concerning the Arctic floras and faunas.

Of course, I am grateful to receive this but even more for your support and cooperation throughout this project. We are going to take a good deal of flak on the correlation that we are proposing but I and my coauthors as well as the geophysicists that I have consulted are convinced that the magnetic correlation is essentially correct. The more I read and look at additional polar data, the more certain I am we have discovered an important phenomenon of terrestrial evolution during the majority of the Phanerozoic.

Last Friday, I spoke with John Lance at NSF and he expressed a great deal of interest in this project and its possible continuation. Right now, Mac, Mary, and I are discussing a possible field trip to the Arctic in '84 or '85. We envision a multidisciplinary approach looking at evidence from as many different paleontologic disciplines as possible as well as additional paleomagnetic sections. Let me know if you are interested; we can discuss this in more detail during my visit to Penn State in October.

Thanks also to Betty, who no doubt did the packaging; it arrived in perfect condition.

Sincerely yours,



Leo J. Hickey
Professor and Director

LJH/ejs

29 August, 1983

Dr. Leo J. Hickey
Peabody Museum of Natural History
Yale University
170 Whitney Ave., P.O. Box 6666
New Haven, CT 06511

Dear Leo:

Thanks for yours of 12 August. Glad you liked the slides.

Duck's address in Korea:

Dr. Duck K. Choi
K I E R
219-5 Garibong-dong
Gura-gu, Seoul
Korea

I never, as far as I can figure out, got your comments re the nascent NSF proposal--if you still have a draft of comments, please rush 'em here.

Best as ever.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

Yale University *New Haven, Connecticut 06520*

PEABODY MUSEUM OF NATURAL HISTORY

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August 12, 1983

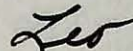
Professor Alfred Traverse
The Pennsylvania State University
Deike Building
University Park, Pennsylvania 16802

Dear Al:

One of the first things to greet me upon my return here were the marvelous slides of the Eureka Sound palynomorphs that you recently sent. They are magnificent and will help me very much in presentations that I will make concerning this formation and its unusual evolutionary implications. Thanks for your efforts with these.

I was glad to hear that Duck Choi had successfully completed his thesis defense; I hope that he has a successful career back in Korea. He certainly was a hard working individual. As soon as you know it, could you send me his address there? I seems that he asked for 50 reprints of our joint paper in Science Magazine. Well, that's it for now; I face a veritable tidal wave of correspondence that accumulated during the time I was in Montana and Wyoming. It looks as if I will be getting up to Penn State in the Fall and look forward to have an opportunity to discuss my Summer research as well as future plans with you.

Sincerely,



Leo J. Hickey
Director & Professor

LJH/ejs

1 August, 1983

Dr. Leo J. Hickey
Peabody Museum of Natural History
Yale University
170 Whitney Ave., P.O. Box 6666
New Haven, CT 06511

Dear Leo:

At long last, here is your set of the Eureka Sound palynofloral plates. This is a contribution of mine--I made the photos and the plates. Hope you like 'em.

Best as ever.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

P.S. Duck graduates on 20 August. His parents are already enroute here from Korea as I write these lines.

encl: 1. 2 x 2 transparencies
2. data sheet for above

1 June, 1983

Dr. Leo J. Hickey
Peabody Museum of Natural History
Yale University
170 Whitney Ave.
New Haven, CT 06511

Dear Leo:

Just to get something in writing about the numbers-for-Duck Choi's-samples problem. The number of slides involved will be ± 100 .

Best wishes.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

re Nat. Acad. Sci

May 25, 1983

Dear Al:

Your request for a reference arrived while I was in California and I have just gotten it off today. I will be waiting for that postcard.

Sincerely,

Leo

Leo J. Hickey

21 March, 1983

Dr. Leo J. Hickey
Peabody Museum of Natural History
Yale University
170 Whitney Ave.
New Haven, CT 06511

Dear Leo:

Will wonders never cease! The Brown Fellowship is at Yale.
In any event, I wish I were 30 again to take a crack at it. As it
is, I don't even have an eligible student.

Best.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

23 February, 1983

Dr. Leo J. Hickey, Director
Peabody Museum of Natural History
Yale University
New Haven, CT 06520

Dear Dr. Hickey:

350 palynomorph species were recorded from the Eureka Sound sediments on Axel Heiberg and Ellesmere Islands, of which 23 are acritarchs, 78 are dinoflagellate cysts, 37 are fungal spores, 61 are spores of bryophytes and pteridophytes, 38 are gymnosperm pollen, 94 are angiosperm pollen, 6 are chlorophycophytan algal fossils, and 13 are palynomorphs of uncertain botanical affinities.

Thank you.

Sincerely yours,

Duck K. Choi

DKC/et

cc: Dr. Traverse

9 February, 1983

Professor Leo J. Hickey
Director, Peabody Museum of Natural History
Yale University
New Haven, CT 06520

Dear Leo:

Yours of 26 January was on the top of the pile when we returned from our (almost) month in Germany. (Among other places, we resided for a week in the Senckenberg Museum in Frankfurt! It seems to be an invariable German custom for museums to have a guest room or rooms--rather spartan, but adequate.)

Duck has shown me the MS and tells me that he has sent you comments. If the whole deal is correct, it seems important in many ways, for example, in supporting an "Arctic-first" model for origin of at least some northern forest elements. That occurred to me immediately when the thing first came up. For me it took some getting used to.

I have had a phone call in to you during the past week, not about the Eureka Sound, etc., but about my new grad student, Martin Farley. We have been reading Scott Wing's, and other contributions about the possible sedimentary problem you suggested. Meanwhile we are also considering working with Hermann Pfefferkorn on his Orionocæ and/or Ganges Deltas research; we would work on recent sedimentation of palythamorphs. A call from you with more input about the proposition you have suggested would be helpful in the decision-making process.

VI-IPC would be a good place for presentation of the palynological data from ESF. However, Duck would be back in Korea by that time. Nevertheless, we should perhaps do it, as "Choi, Hickey and Traverse", or whatever, and you or I could present the paper for Duck. Did I tell you that the other ESF palynologist (Cynthia Kramer) will come here next September for her doctorate?

Best.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et
cc: D.K. Choi

Yale University *New Haven, Connecticut 06520*

PEABODY MUSEUM OF NATURAL HISTORY

Office of the Director

Tel. 203-432-4044

January 26, 1983

Dr. Alfred Traverse
Palynological Laboratories
College of Earth and Mineral Sciences
435 Deike Building
The Pennsylvania State University
University Park, PA 16802

Dear Al:

I hope the new year has been going well for you so far; mine has been extremely busy but I am getting some research done. A week and a half ago I sent the manuscript of a projected science paper on our Arctic findings to Duck Choi and hope to receive his comments soon. In the meantime, we have discovered some minor discrepancies with regard to the placement of the boundary between Pollen Zones III and IV on our original figures. This was the result of using some earlier elevational data mixed with the later corrected data. These discrepancies are relatively minor, but Duck will be receiving a revised copy of both figures shortly.

I recently received a circular for the Sixth International Palynological Conference to be held in Calgary in 1984. This might be a very good place to present the palynological findings of the Arctic work and I thought I would mention it in case you have not seen this yet. I don't imagine, however, that that's possible.

Sincerely yours,



Leo J. Hickey
Professor

LJH/jmv

22 November, 1982

Dr. Leo J. Hickey
Director, Peabody Museum of Natural History
Yale University
New Haven, CT 06520

Dear Dr. Hickey:

Thank you for your correlation charts and megafossil plant information. I have found some difficulties in interpreting the palynological data in your correlation scheme. The early extinction of some species in the Arctic area would be o.k. However, the first appearance of certain angiosperm pollen seems to us to be a more difficult problem. These occurrences are much earlier than would be expected, if your suggested correlations are correct. For instance, Paraalnipollenites alterniporus, which has been recorded from Maastrichtian to Eocene, would appear in Santonian time, according to your scheme, and Pistillipollenites mcgregorii, which has a narrow range from Late Paleocene to Eocene with a notable exception of Cenomanian occurrence (Hedlund, 1966), would also appear in middle Campanian. How can we explain these earlier first occurrences in the Arctic region? Dr. Traverse and I have discussed this matter and feel that early migration of these forms to the Arctic is much more difficult to explain than early extinction!

Enclosed is the stratigraphic distribution of 24 selected angiosperm pollen which appear to be stratigraphically important. Species No. 1-7 may represent the Cretaceous characteristic forms. Species No. 8-13 and 15-16 range from Maastrichtian to Tertiary, and No. 14 and 17-24 are mostly Tertiary forms. You may notice the frequent occurrence of Cretaceous forms in Zone II-LV in Strand Fiord and Strathcona Fiord sections. I have interpreted in my previous letter (26 August), that they are probably reworked from older sediments, partly because their abundance is extremely low and partly because other angiosperm pollen show rather younger age. I would like to hear your opinion about this interpretation. Species list is attached in separate sheets, along with their oldest known ages.

Best wishes.

Yours sincerely,

Duck K. Choi

DC/et
enclosures
cc: Dr. Traverse

	SAMPLE	SPECIES																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
STRAND FIORD SECTION, AXEL HEIBERG IS.	794				(Zone V)					C	F	FF				R	C	R	F	R				R	F
	7928		R	F	F	F		R	R	R		R	R						R						
	7924 C		R	F	F	F		F		R	R					R									(Zone IV)
	7924 A				R			R	R	R		R				F		F							
	7924 B							R	R	R		F				R		A	R						
	7926											F	R		R										
	7923 B					R		R				R		F	R	R	R	R	R	R	R				
	7923 A			R	R					R		R		F	R	R	R								
	7922							R		R		R		R				R	R						
	7921			R	R	R		R	R	R				R	R	R	R		R						
	7920 C							R				R													(Zone III)
	7920			R	R	R		R		R															
	7919					R				R				R				R							
	7918							R	R					R											
	7917 B							R	R							R	R								
	7917 A			R				R	R	R				R											
	7916				R				R	R				R											
	7915 C							R																	
	7915 B							R	R	R			R												R
	7915 A							R	R	R															(Zone II)
7914 C			R		R		R		R		R														
7914 B							F	F	F	R															
7914 A			R	R	R		R	R	R	R															
7913 B			R	A	A	R	F																	(Zone I)	
7913			F	R	F																				
FOSHEIM PENINSULA	7936																								
	7938										C	F	R	R	R									(Zone II)	
	7934			R							F	R	R	R	R										
	7932		F	R	R	R																		(Zone I)	
SOUTH BAY	796-29-1																								
	7948										F	A	R	R	R										
	7940 B										F	R	R	R	R	R	A							(Zone III)	
	7940 A										F	R	R		R	R									
STRATHCONA FIORD	7968 b									F	F	R	R	R	R	R	F								
	7968 a									F	R	R	R	R	R	R	R	R						(Zone IV)	
	7950																								
	7951					R				C	F	F	R				R	F	R	R	R				
	7966									C	F	F	R	R	C	R								(Zone II)	
	7967 g									A	F	R		R	R										
	7967 e				R					F	R		F												
	7971 e									A	F	R	R	R		R									
	7967 d			R						A	R	A	R	R	R			R		R					
	7971 d				R					A	F	R	R	R		R								(Zone II)	
7967 c				R	R				A	F	R		R										R		
7971 b									C	R	R		R			R	R								
7967 a				R	R				A	R	C					R									
7970									C	F	F	R	R				R								
STENKUL FIORD	7973 a									F	R	F	R	R	R	F									
	7973 d									F	R	R	R	R	F	R	F				R		R		
	7973 c									C	R	R	R	R	R	R	R							(Zone III)	
	7973 b									C	R	R	R	R	R	R	R								

R (rare): less than 1.0 percent
 F (few): 1.0 - 5.0 percent
 C (Common): 5.0 - 10.0 percent
 A (Abundant): more than 10.0 percent

Species List of Selected Angiosperm Pollen

1. Tricolpites n. sp. A: only present in 7932
2. Momipites microfoveolatus (Stanley 1965) Nichols 1973
(= Engelhardtia microfoveolata Stanley 1965): Early Campanian
(possibly Santonian) to Eocene (Frederiksen and Christopher,
1978).
3. "Oculata" group: includes Wodehouseia and Azonia. Santonian
to Paleocene (Wiggins, 1976)
4. Triprojectacites group: includes Aquilanollenites, Integricorpus,
Mancicorpus, and Triprojectus. Turonian to Danian (Stanley, 1970)
5. Expressipollis spp.: Santonian to Maastrichtian
6. Orbiculapollis globosus (Chlonova) Chlonova 1961 : Senonian to
Early Eocene (Samoilovich and Mchedlishvili, 1961)
7. Cercidiphyllites brevicolpatus Mchedlishvili 1961: Senonian
to Danian (Samoilovich and Mchedlishvili, 1961)
8. Trinoropollenites nullensis (Simpson) Rouse and Srivastava 1972
(= Corylus nullensis Simpson 1961): Maastrichtian to Paleocene
9. Paraalnipollenites alterniporus (Simpson) Srivastava 1975
(= Alnus alterniporus Simpson 1961); Maastrichtian to Eocene
10. Polyvestibulopollenites verus (Potonie 1931) Thomson and
Pflug 1953 (= Alnus type): Maastrichtian to Pliocene
11. Trivestibulopollenites claripites (Wodehouse) n. comb.
(= Betula claripites Wodehouse 1933): Maastrichtian to Miocene.
12. Caryapollenites spp. (= Carya type): Middle Campanian (Jarzen
and Norris 1975)
13. Tricopites? orientaliformis (Samoilovich) n. comb. (= Platanus
orientaliformis Samoilovich 1961): Cenomanian to Early Oligocene.
14. Distillipollenites norregorii Rouse 1962 : Paleocene to Eocene
with an exceptional occurrence of Cenomanian (Wedlund, 1966)
15. Ulnipollenites spp. (Ulnus type): Maastrichtian
16. Triprojectus sp. cf. T. echinatus Mchedlishvili 1961:
Maastrichtian to Danian (Samoilovich and Mchedlishvili, 1961).

17. Sparganiaceapollenites polygonalis Thiergart 1938: Paleocene to Miocene.
18. Tiliaceae/Bombacaceae : Maastrichtian(Wolfe, 1976)
19. Polyatriopollenites stellatus (Potonie) Pflug 1953 (Pterocarya type): Maastrichtian (Norton and Hall, 1969)
20. Ailanthipites berryi Wodehouse 1933: Maastrichtian to Eocene
21. Platycaryapollenites spp.(Platycarya type) : Late Paleocene (Frederiksen and Christopher, 1978).
22. Pandaniidites sp.: Maastrichtian to Eocene
23. Smilacipites sp. cf. S. echinatus Wodehouse 1933: Middle Eocene
24. New genus and species A of Triprojectacites group: only present in 794. Probably youngest form of Triprojectacites group.

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29 September, 1982

Dr. Leo J. Hickey
Peabody Museum of Natural History
Yale University
170 Whitney Ave., P.O. Box 6666
New Haven, CT 06511

Dear Leo:

Hope you're getting settled, both in your new job and in your new home and surroundings.

Back in central PA we're o.k., except I had a fall at a Triassic outcrop and messed up my right hand. The physical therapy, etc., have chewed up days of time, and no end in sight. It's not debilitating, just annoying and time-consuming.

You may recall that I mentioned last June that I have a new, very talented Ph.D. student looking for a project in the sedimentology/palynology interface. You said that you had an idea for such a project in the Ft. Union-Golden Valley vicinity, and I talked of visiting you to compare notes. Is that still a possibility? If so, more or less when? (The student, Martin Farley, should be getting started. I have some alternative ideas as well, but would like to explore this with you first.)

Duck Choi is steaming along. Despite a new baby girl (2 wks. old) and Mother-in-law in residence, he is making excellent progress and will doubtless defend next spring. We hope it will be possible for you to be here, of course.

All the best, as ever.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

12 July, 1982

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Just got back from the short course (hard work and very good). Duck says he called you and discussed his data needs. However, it is clear to me that he needs to see you and the data unter vier Augen, as they say. I have advised him to phone you on Monday, 19 July, and try to arrange a day (or two?) when he could see you and get the data problems ironed out. Presumably the various items that you were going to get copied for our project could be ready by that time, etc. I am aware, of course, of your present preoccupations, but I do hope you can spare Duck a couple of hours (perhaps over a two-day period) before you leave DC.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et
cc: Duck Choi

4 June, 1982

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Fran claims he was not annoyed with me re my SEM rudeness-- just busy of late. Anyway, I'll be in your bailiwick on Thursday, 24 June, to see him and get the specimens. I hope to be able to bend your ear a bit and get the data for Duck you mentioned, unless you have sent them directly to us by then.

See you in a little while.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

12 May, 1982

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Just a note to let you know that I was informed today that NSF has indeed finally funded the Eureka Sound project, so Duck and our work in that area will be taken care of, retroactive to 1 May. Had I known this last week when you called, I would have been able to tell you definitely to call off your other plan for support. However, now you can cancel that. Duck and I both appreciate all you have done to help us so far, and we will count on your continuing interest, even after you have gone off to the wilds of Connecticut.

Best wishes.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et



National Museum of Natural History • Smithsonian Institution

WASHINGTON, D.C. 20560 • TEL. 202-

April 20, 1982

Dr. Alfred Traverse
Palynological Laboratories
College of Earth & Mineral Sciences
435 Deike Building
The Pennsylvania State University
University Park, PA 16802

Dear Al:

Thanks for the copy of your memo of 15 April to Duck Choi. In answer to your note; yes, I decided to take the job at Yale.

Sincerely yours,

Leo J. Hickey
Curator
Division of Paleobotany

Yale University *New Haven, Connecticut 06520*

GRADUATE SCHOOL
Office of the Dean
320 York Street
Tel. (203) 436 2526

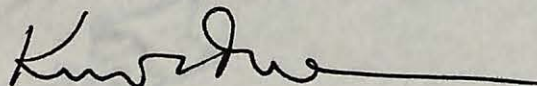
March 31, 1982

Dr. Alfred Traverse
Palynological Laboratories
College of Earth and Mineral
Sciences
435 Deike Building
The Pennsylvania State
University
University Park, PA 16802

Dear Dr. Traverse:

I am glad to say that Leo Hickey is now willing to accept an offer from Yale. I enclose a copy of his C.V. for your use in writing about him.

Yours truly,



Keith S. Thomson
Dean of the Graduate School
Professor of Biology

KST/cb

Enclosure

file Hickey

29 March, 1982

Dr. Keith S. Thomson, Dean
Graduate School, Yale University
320 York St.
New Haven, CT 06520

Dear Dr. Thomson:

It was interesting to hear that Leo Hickey is being considered for the position of Museum Director at Yale. I was with Leo in DC just a couple of days ago, and there were only some veiled hints of this matter, though I knew Leo had not been happy lately with certain confining aspects of the Smithsonian relationship, and had been negotiating for adjunct professorships at a couple of universities, to enable him to have a graduate program, among other things.

It's a good thing you don't want input on Leo's administrative talents, as I know almost nothing about them. However, I have been continually amazed that he managed to do scads of managerial tasks apparently very well in remarkably little time and yet continue to turn out very respectable volumes of research.

Dr. Hickey is an outstanding paleontologist. His ideas, such as the various aspects of the weedy nature of early angiosperms, are innovative and have caused much reexamination of older concepts. He is a terrific observer of detail--nobody even has had a grasp of Tertiary leaf morphology as good as Hickey's. He is broad--nothing from pollen studies to volcanism is beyond his interest in geology. He is especially good in working with others, as I well know from the two big projects my doctoral students have worked on with Leo and me (both projects were initiated by Hickey). He is infectiously enthusiastic and communicates this brilliantly--he has charisma that students pick up at once. He has a keen sense for what is important to science, and what is important to the man on the street. Last summer at Sydney, Australia, at the XIII International Botanical Congress Leo gave a lunchtime lecture on the terminal Cretaceous event (or non-event). 1500(!) people came with sandwiches to hear--it was scientifically AOK, but it was also great show biz. He would be a great, dynamic, charismatic teacher if opportunity presented. He will continue at Yale to draw attention of students and media as he has at the Smithsonian. He is still a young man, of course. I look for him to be the dominant figure on the geological side of paleobotany in North America for a couple of decades. He has many of the best characteristics of his mentor, Erling Dorf, whose style was quiet and strong. Leo has a much more dynamic and zestful approach to life--in that respect he reminds me a bit of Alfred Romer, and Leo also has the Romerian doggedness for detail.

Thomson, p. 2.

In summary, Leo J. Hickey is qualified to be a tenured professor anywhere. He would bring great credit to Yale. He is withal possessed of the sort of integrity such a position demands. Actually, the only reservations I have are about Yale--would Leo have enough elbow room to develop his marvellous talents in your midst? Would he be overwhelmed with administrative tasks? I have no idea. But I certainly recommend Leo most highly, if he wants to leave DC to join you all.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

24 March, 1982

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Thanks for yours of 4 March. The grapevine tells me (3 sources so far) that you are very preoccupied at the moment. I'll be watching the papers for news.

Re Duck Choi there have been two encouraging developments:

1. The Department somehow managed to rearrange the mirrors yet once more, and he has support through this term.
2. NSF called to say that there may yet be a chance for our proposal to be funded (as of end-April).

I did not tell Duck about your efforts on his behalf--because of the above info. It seems to me that you should not withdraw your request unless the NSF comes through. If it does materialize, however, what then?

Your suggestion of a possible dinner at Chez Hickey appeals. Sorry I was so slow in responding.* However, Wednesday is the only open night.

All the best.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

*(from et)--AT was even later than he thought--he wrote this last week, but I have just now discovered it in the pile.

March 24

Dear Dr. Traverse,

We are not yet sure that
Leo will come, but we have to
push ahead with our committee.
If you could reply before mid-April
it would be a great favour to
us.

Many thanks

Kent Thorne

Thomson

Yale University *New Haven, Connecticut 06520*

John Hickey

GRADUATE SCHOOL
Office of the Dean
320 York Street
Tel. (203) 436 2526

March 23, 1982

Dr. Alfred Traverse
Palynological Laboratories
College of Earth and Mineral Sciences
435 Deike Building
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Dr. Traverse:

The University is considering recommending the appointment of Dr. Leo J. Hickey, currently at the Department of Paleobiology, Smithsonian Institution, as Director of the Peabody Museum of Natural History. The position of Director of the Museum must automatically be accompanied by appointment to one or more of the teaching departments of the University, and in the case of Dr. Hickey we are considering him for a joint appointment to the Departments of Biology and Geology and Geophysics.

I am writing to you to ask if you could be so kind as to assist us in our review process by providing a detailed recommendation for Dr. Hickey, concentrating more on his qualifications as an independent scholar in the field of paleobiology than on his administrative talents. The question of administrative skills is being addressed in a different context. We would be grateful for your views of the achievements and promise of Dr. Hickey as a scholar and teacher, your specific characterizations of his past and likely future contributions, his standing in the profession at large, and in his field of interest, and in summary, his qualification for a tenured professorship at Yale.

Your response will be helpful not only to the professors of Biology and Geology and Geophysics, but also to the faculty committee on Senior Appointments and the Permanent Officers of the Faculty of Arts and Sciences in reviewing Dr. Hickey for appointment. On behalf of all of us, I thank you in advance for your assistance.

Sincerely yours,

Keith S. Thomson
Chairman of the Search Committee,
Peabody Museum of Natural History

Professor of Biology
Dean of the Graduate School

LEO J. HICKEY - CURRICULUM VITA

POSITIONS

1980 - present	Curator, Museum of Natural History, Smithsonian Inst.
1969 - 1980	Associate Curator, Museum of Natural History, Smithsonian Inst.
1977 - 79	Member, Smithsonian Tropical Botany Steering Committee
1976, 1978, 1980	Geology Field Instructor, Princeton Univ.-YBRA summer field course.
1973 - 75	Chairman, Museum of Natural History Exhibits Committee
1970	Instructor, Paleobotany course at Univ. of Maryland
1966 - 69	NRC-Smithsonian Postdoctoral Research Associate
1964 - 65	Teaching Assistant, Princeton University

FIELD WORK

1980, July, Aug.	Montana & Wyoming-Paleocene & Eocene plants & stratigraphy
1979 October	Virginia, Maryland - Potomac Fm. (Cretaceous)
June-July	Ellesmere, Axel Heiberg, Devon Is., NWT. - Eureka Sound Fm. (Cretaceous-Tertiary)
March	Panama - modern tropical plants
1978 August	New Mexico-Nacimiento, Kirtland, Fruitland Fms. (Cretaceous-Paleocene)
July-Aug.	Montana, Wyoming - Fort Union Fm. (Paleocene)
March	Panama - modern tropical plants
1977 February	Panama - modern tropical plants
1976 June-Aug.	Montana, Wyoming - Fort Union Fm.
1970-74 occ.	Virginia, Maryland, D.C. - Potomac Group
1974 July-Aug.	Montana, Wyoming - Fort Union Fm. and Hell Creek - Lance Fms. (Cretaceous)
Sept.	Kansas - Dakota Group (Upper Cretaceous)
1973 Sept.	Western Oregon - Yaquina Group (Oligocene)
1972 July-Aug.	Montana, Wyoming - Fort Union Fm.
April	Florida Keys, Puerto Rico - modern tropical plants
1971 July-Aug.	Montana, Wyoming - Fort Union Fm.
May	Central Utah - investigation of purported Jurassic palms
1969 August	Wyoming - Wind River and Teepee Trail Fms. (Eocene)
1968 July-Aug.	Montana, Wyoming - Fort Union Fm., Wind River and Teepee Trail Fms.
1963-67 summers	North Dakota - Golden Valley Fm. (Paleocene-Eocene)

SUPERVISION OF STUDENTS

Degree Committees

1980-present	Duck Choi, Pennsylvania State Univ., Ph.D.
1978-1981	Scott L. Wing, Yale University, Ph.D.
1978-1981	Garland Upchurch, University of Michigan, Ph.D.

10/1981

1979 W. John Hayden, University of Maryland, Ph.D.
1978 James U. McClammer, University of Maryland, Masters
1976-77 John Bibout, Pennsylvania State University, Ph.D.

Predoctoral and Postdoctoral Fellows

1981-82 Garland R. Upchurch, postdoctoral
1980 Scott L. Wing, predoctoral
1976-77 C. P. Sreemadhavan, predoctoral
1974-75 Edugardo J. Romero, U. of Buenos Aires, postdoctoral
1969-70 James A. Doyle, postdoctoral

HONORS AND GRANTS

8/77 The New York Botanical Garden Henry Allen Gleason
Award, jointly with James A. Doyle
1976 Nominated by the Botanical Society of America for the
Alan T. Waterman Medal of the NSF
7/75-6/76 Smithsonian Research Foundation Grant: Leaf ranking in
the dicotyledons
Smithsonian Research Foundation Grant: Systematic
survey of the distribution of leaf architectural
features in the dicotyledons
1972-74 Smithsonian Research Foundation Grants. Early Tertiary
Floras of the Rocky Mountains
1966-69 NAS-NRC Post Doctoral Research Associaship at the
Smithsonian Institution
1962-66 National Science Foundation Graduate Fellowship to
Princeton University. Danforth Foundation Graduate
Fellowship
1962 Bachelor of Science degree cum laude in Geology,
Villanova University
1958 Full four-year scholarship awarded by Villanova University

EDUCATION

1958-62 Villanova University, Geology, B.S. 1962
1962-66 Princeton University, Stratigraphy, Paleobotany, M.A.
1964; Ph.D. 1967
1963-65 Rutgers University, Botany

PROFESSIONAL AFFILIATIONS

The Geological Society of America
Botanical Society of America
Paleobotanical Section - Botanical Society of America
Torrey Botanical Club
American Association for the Advancement of Science
Paleontological Society of Washington - Secretary 5/1973-5/1974
The Paleontological Society

10/1981

LEO J. HICKEY - BIBLIOGRAPHY

- 1969, Hickey, L. J. Stratigraphy of the Golden Valley Formation of western North Dakota. Geol. Soc. Amer. Abs. with Programs for 1969, pt. 7, p. 100 (Abstract).
- 1971, _____ and Cooper, G. A. Nomination of R. W. Chaney for the Paleontological Society Medal. Jour. Paleontology 45:567-569
- 1971a, _____. A leaf architectural classification of the flowering plants. Amer. Jour. Botany 58 (5 part 2) :450 (Abstract).
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1972. _____ Stratigraphic summary of the Golden Valley Formation (Paleocene-Eocene) of western North Dakota. Guidebook, Coal Geology Division, Geol. Soc. America (11/10-11/72); North Dakota Geol. Survey, Misc. Series no. 50:105-122.
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- 1972, Hickey, L. J. and J. A. Doyle. Fossil evidence on evolution of angiosperm leaf venation. Amer. Jour. Botany 59(6 part 2):661 (Abstract).
- 1973, Hickey, L. J. Classification of the Architecture of dicotyledonous leaves. Amer. Jour. Botany 60(1):17-33.
- 1973, _____. Patterns of Cretaceous angiosperm differentiation. Geol. Soc. America. Abstracts with programs 5(7):669 (Abstract).
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- 1974, Hickey, L. J. Clasificacion de la arquitectura de las hojas de dicotiledoneas. *Boletin de la Sociedad Argentina de Botanica* 16(1-2):1-26.
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- 1975, _____ and Hodges, R. W. Lepidopteran leaf mine from the Early Eocene Wind River Formation of northwestern Wyoming. *Science* 189:718-720.
- 1975, _____ and Wolfe, J. A. The bases of angiosperm phylogeny: vegetative morphology. *Ann. Missouri Bot. Gard.* 62:538-589.
- 1975, _____ and Doyle, J. A. Early Cretaceous fossil evidence for angiosperm evolution. XII Int. Bot. Congress, Abstracts:95 (Abstract).
- 1976, Doyle, J. A. and L. J. Hickey. Pollen and leaves from the Mid-Cretaceous Potomac Group and their bearing on early angiosperm evolution in C. B. Beck, *Origin and early evolution of angiosperms*. Columbia University Press, New York, p. 139-206.
- 1976, Hickey, L. J. Paleocene-Eocene megafloral change in the northern Great Plains of the United States. *Bot. Soc. America, Abstracts of papers (1976)* p. 26 (Abstract).
- 1976, _____. Relationship of lithofacies to Cretaceous and Tertiary megafloral assemblages. *Bot. Soc. America, Abstracts of papers (1976)*, p. 26 (Abstract).
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- 1977a, Hickey, L. J. Stratigraphy and Paleobotany of the Golden Valley Formation (Early Tertiary) of western North Dakota. *Geol. Soc. America, Mem.* 150.
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National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 · TEL. 202-

March 4, 1982

Professor Alfred Traverse
Department of Geosciences
The Pennsylvania State University
University Park, PA 16802

Dear Al:

Today I submitted a request for what is called a Fluid Research Grant to Secretary Ripley in order to try to get at least some support for the Arctic Pollen and spore work. The maximum amount on these grants is \$2500 and I would hope that the contract route is acceptable. In any event I should know in a few weeks. A copy is enclosed. You might want to tell Duck that I have done this or keep it quiet unless the answer is favorable. I leave that decision up to you. I will try to get the stratigraphic data to you in the next few months unless you need it sooner.

If this doesn't work there is one other source that I might turn to, something called the Smithsonian Scholarly Research Program which funds cooperative research ventures. Our budget could be much larger for this but the applications are a good deal more complex, something on the order of a full dress NSF proposal. In the past the awards have been highly restrictive and have emphasized multidisciplinary research but as our plight has grown more desperate these strictures seem to have been relaxed somewhat.

Yes, I will be attending the regional GSA meeting and look forward to seeing you. How about coming to dinner one of those nights if you can. Joan Watson will be over from England and staying with us at that time.

Sincerely yours,

Leo

Leo J. Hickey
Curator
Division of Paleobotany

Enclosure

P.S. Got a letter from Duck today giving some preliminary calls for several treatises and am dying to get to my new data and stratigraphic correlation charts to see if they fit.

S. Dillon Ripley
Secretary

March 4, 1982

Leo J. Hickey, Curator
Division of Paleobotany

Request for Fluid Research Support for pollen analysis of the Eureka Sound Formation

During the summer of 1979, I was able to collect late Cretaceous and early Tertiary age fossil plants from ten sites in the Eureka Sound Formation in the northern Canadian Arctic. My participation in this expedition was at the invitation of Robert M. West, of the Milwaukee Public Museum and Mary Dawson, of the Carnegie Museum, who discovered the first Tertiary vertebrate remains within the Arctic Circle at Bay Fiord in 1975. The vertebrates provided the first independent means of dating the formation and its fossil plants but as they occur at only one site in the upper part of the formation, the dating throughout the rest of the unit is by often tenuous extrapolation. In contrast, Arctic fossil floras have been known for over one hundred years but their taxonomy is mainly in error and virtually nothing is known of their population structure, paleoecology, or temporal relationships.

My initial survey of the megafossil flora of the formation is nearing completion and the results have been surprising. First, floral diversity was less than half that of contemporaneous mid-latitude floras. Second, with one possible exception, the flora consisted of deciduous forms even though the evidence of the vertebrates - including alligators, giant land tortoises, and relatives of the Komodo dragon - and of oxygen isotope ratios indicate that climates there were warm and frost-free in the Eocene epoch. Mid-latitude floras associated with these same animals were from 40 to 70% evergreen and contained palms, absent in the High Arctic. A final, highly unusual aspect of the flora is leaf gigantism which I infer to be the result of continuous photoperiods during the growing season, an indication that the earth's axis was inclined as at present during the Early Tertiary.

I believe that these data suggest that during the Eocene thermal maximum High Arctic regions served as a refuge for deciduous plants, not because of seasonal cold, but because the polar night of from one to six months duration made the evergreen habit maladaptive.

I have now nearly completed the identification and census of the megafloora as well as the necessary stratigraphic work to place it in context. I am, however, in desperate need of the floristic and biostratigraphic data from the pollen floras. I made extensive pollen collections, and of these, 54 sites have proven to be productive. The flora is relatively rich, with nearly

250 species of land plant spores and pollen. In addition the 100 species of dinoflagellates and acritarchs will allow a detailed stratigraphic subdivision of the formation and the correlation of these zones with the international marine standard zonation. This would be the first such calibration of the Eureka Sound Formation and would allow me to relate vegetational changes to tectonic events in and around the basin of deposition.

However, preparation and identification of the palynoflora is a task for a qualified palynologist familiar with this time period. Dr. Alfred Traverse of the Pennsylvania State University Palynology Laboratory has agreed to provide this service on a contract basis at a cost of \$2500. The schedule of work would be as follows:

- | | |
|--|-----------------|
| 1. Sample preparation | 1 month |
| 2. Identification of spores and pollen | 2 months |
| 3. Grain counting and microphotography | 2 months |
| 4. Interpretation of data and preparation
of the final report | <u>3 months</u> |

Total 8 months

Preliminary observations have already demonstrated the potential of these samples to produce microfloral remains. The results of this analysis would be of major importance in establishing the temporal relationships within these late Cretaceous to early Tertiary sediments scattered over an area larger than the American Midwest. As I am in critical need of these data to complete my picture of Arctic plant communities in the Early Tertiary, I respectfully request your consideration of this proposal.

Enclosed is a copy of the first published results of my Arctic studies.

cc: David Challinor
Dick Fiske
Martin Buzas
Alfred Traverse

26 February, 1982

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Good to talk with you yesterday. (You will be amused to learn that the burglar-alarm went off today during the middle of the morning for no reason at all. Betty says, "I told you so.")

Just had a conference with Duck. He promises to write you in a few days. He says, as I remembered but wasn't sure, that his three samples rich in dinoflagellates are Campanian/Maastrichtian, with re-worked Rhaetian/Liassic. He feels that the spores/pollen will also permit good stratigraphic conclusions.

Best wishes.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et
cc: Duck Choi

18 February, 1982

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Duck and I had one of our periodic "progress" interviews yesterday. A xerox of his notes for the meeting is attached, as I thought it would interest you. He has a very nice and very large palynoflora. His financial problem remains acute.

Best wishes. See you at the DE @SA meeting?

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et
encl: Choi schedule

~~XXXXXX~~
863-3419

2 December, 1981

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Sorry you couldn't come for the comps, but we understand. Duck's problems are hardly "procedural"--there just isn't any money for an assistantship. If one has an assistantship, tuition is automatically paid. As he doesn't have an assistantship, he now must pay tuition personally, and the amount can be reduced \$1100 by getting past the comprehensive examination. I sure hope he passes! *

Best wishes.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

*Hello, Leo. I am typing this during Duck's exam. He didn't seem too nervous before he went in, but that doesn't mean anything--he's very inscrutable. Betty



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WASHINGTON, D.C. 20560 · TEL. 202-

November 23, 1981

Professor Alfred Traverse
Department of Geosciences
The Pennsylvania State University
University Park, PA 16802

Dear Al:

Very sorry to hear about Duck Choi's funding problems. I am particularly unhappy that a good project and a researcher seem to have been caught in what is largely a procedural bind.

I am sorry that I cannot come for his examination but I must be out of town from November 30th to December 3rd.

Sincerely yours,

Leo J. Hickey
Curator
Division of Paleobotany

P.S. Not the gas but maybe the asteroids, and then only at highly reduced levels of damage.

L

XXXXXX
new #! 863-3419

16 November, 1981

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

In connection with Choi's desperate funding plight, we have discovered that we can reduce his tuition from \$1300 to \$130 by getting him through the comprehensive exam before the beginning of classes for the Winter Term. It's a little irregular (too soon after candidacy), but we will therefore conduct that exam on Wednesday, 2 December, at 2:00 p.m. If he passes, it will save him \$1170, and make it marginally possible for him to survive the Winter Term. If you would like to be present, that would of course be nice, though it is not required. You are always welcome at our country home, if you would like to stay with us.

All the best. We just had Dave Dilcher here for a couple of days. He talked about the origin of the angiosperms without once mentioning the glossopterids!

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

XXXXX
new #:863-3419

11 November, 1981

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Many thanks for the slide! It will really be useful.

Re Duck Choi:

1. His written English is excellent. Always has puzzled me. He is actually very talented in linguistics--as evidence his all-A performance in Russian and German here (translating into English!). Spoken English is the problem.
2. By now you will know that, as always planned, you are being put on his Ph.D. committee.
3. The department has finally lowered the boom re support for him--no more. He is now only 9-10 months from finishing, and I must get around this somehow, but it is really worrying me (e.g. tuiti~~on~~ deadline day after tomorrow--who will pay?).

Thanks again. All the best. Dave Dilcher was here Monday to talk about flowers and mangrove theories and all that--very enjoyable.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et



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October 30, 1981

Professor Alfred Traverse
Department of Geosciences
The Pennsylvania State University
University Park, PA 16802

Dear Al:

I enclose an extra copy of that slide you wanted, that you can keep. The long paper on K/T extinctions that it is a part of should be appearing soon (I hope), Princeton Press has had it now for four years.

Thanks for the good news about Duck Choi. Will his English be good enough for him to clearly develop his ideas in his dissertation?

Sincerely,

Leo J. Hickey
Curator
Division of Paleobotany

Enclosure

20 October, 1981

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Just found a note to self from Sydney, "Ask Leo for copy of, or loan of to copy, diagram slide re Aquila- and Normapolles extinction". Was from your great public lecture on dinosaur extinction in that theater on campus. Can you oblige?

Thanks.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et



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WASHINGTON, D.C. 20560 · TEL. 202-

September 28, 1981

Professor Alfred Traverse
Department of Geosciences
The Pennsylvania State University
University Park, PA 16802

Dear Al:

I just returned from the last of my collecting trips in Australia and found your letter of September 1st waiting for me. I guess the most comprehensive summary of plant changes across the K/T boundary on a world-wide basis would be my letter in *Nature* for August 6, 1981 (282: 529-531) and the literature cited therein. My Princeton Press article (cited in this paper) gives a more extended survey of the megafloral changes in the Late Cretaceous and across the boundary but the last I heard this is not scheduled for publication until November.

It was very good to see you again in Sydney despite our hectic schedules while there. I will be in touch soon again to find out about Duck Choi's progress. In the meantime, all the best to you.

Yours truly,

Leo J. Hickey
Curator
Division of Paleobotany

14 August, 1981
(but held for signature until
1 Sept., because AT at IBC,
Sydney)

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

One of my colleagues in Zürich was Dr. Kathrin Perch-Nielsen (Geol. Inst., ETHZ, 5 Sonneggstrasse, CH-8092, Zürich). She is trying to pull together all of the data she can find on ~~shh~~ events connected with the K-Paleocene transision. I promised her I'd assist her to the extent of bothering old friends. Questions--

1. What publication would be the best for her to use and quote re fossil plants?

All the best, old friend.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

9 May, 1981

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560 USA

Dear Leo:

Thanks for yours of 20 April. It came while we were in Turkey, where I gave a few lectures and visited some marvellously interesting places--Ephesus, for example.

I am sorry Duck has (apparently) not been keeping in touch with you--he hasn't with me either. Today, we got a letter from his wife, saying Duck has bought a car--which I regard as very bad news. But I can't do anything about Duck until I'm back home--I think he'll persevere to a good study. Looks like we'll meet in Sydney to discuss it! You and I are back-to-back speakers on one program as you probably know.

All the best.

Yours very truly,

Alfred Traverse
Visiting Professor

AT/et

P.S. Please address future correspondence to me at home (PSU, that is).



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April 20, 1981

AIRMAIL

Dr. Alfred Traverse
Eidy. Technische Hochschule Zürich
Geologisches Institut
CH-8006 Zürich,
Sonneggstrasse 5
Switzerland

Dear Al:

Received your letter postmarked 3/31 on 4/17, just to give you a sample of how bad the international airmail service really is. The meetings and trip sound superb; I have been on a few European excursions where they really lay on the food and wine, sometimes to the detriment of the collecting. I will never forget rambling about in a Czech brown coal pit after a huge Bohemian lunch and about a litre of excellent beer.

If there is anything that I can do to help with our Arctic works, please let me know. I am very eager to have our cooperation on this and possibly other projects continue. As far as I could tell, my own advocacy for the research was considered perfectly proper over at NSF as long as I was not the PI. I have always had very good relations with both Systematic Biology and Earth Sciences, usually in doing things for them, so I did not feel bad asking them to look into the snags in our joint venture. I am planning to give some of the initial results of my megafloral works in the high Arctic so I would appreciate some word from Duck on his progress.

It looks as if I will be going to Australia for the Botanical Congress and will thus be in Washington through mid-August in order to get my three (!) talks together. Let me know when you will be getting back to the States and I will give you a call when the dust (non-Cosmic in origin) has settled a bit.

Dr. Traverse

-2-

April 20, 1981

Easter weekend was beautiful here with sunny days, highs in the 70's and 80's, and the azaleas nearing full bloom. My sister and her family came down from Philadelphia and we spent a very relaxed time at places like the National Arboretum well away from the tourist attractions. Another high point was a genuine high mass with real classical liturgical music -- no guitars for once, just organ, trumpets and other brass with kettle drums. It has been years since I sang "Victimae paschali laudes" and I must say I felt good to hear it again.

Yours truly,



Leo J. Hickey
Curator,
Division of Paleobotany

*P.S. New, and I fear not very attentive
clinical help.*

2.

31 March, 1981

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560 USA

Dear Leo:

Just got back from the annual meeting of the Arbeitskreis für Paläobotanik und Palynologie, where I believe I startled my German colleagues by speaking (however badly!) only German. It was very interesting, and you would have enjoyed much of it, if you understand German. (It was held, actually, in Alsace, France, jointly with APLF, so French was also spoken.) The field-excursions were very long on good French food and drink--the guides were Claude Sittler, Lea Grauvogel-Stamm and Monique Schuler, who did a fabulous job of laying on the camembert, etc. At one outcrop there was (no kidding), a white tablecloth with camembert and other cheeses, French bread, pickles, sausages, and gallons of marvellous Alsatian white wine, plus beer and (horrors) fruit juice. This tended to obscure the indifferent quality of the collecting.

Well, I am very grateful for what you have done re the funding problem. I know it is not your responsibility and also that you might even be criticized by some government person for saying anything. But from over here I could do nothing, so I hope it has been straightened out. The problem at PSU is that the Doctoral Dissertation program does not pay tuition for the candidate--a research-project assistantship does. That is the whole problem in a nutshell. It could well be that Dr. Burnham feels there is a 'dangerous precedent' business at stake too. Without 'indirect costs' money from NSF, and other sources, PSU is in BIG trouble!

However, I hear from Duck that he does have a job (equipment and stores manager) for Spring Term, so he won't starve at least. I wish he'd communicate more about his research results. None of my graduate students has really kept in touch, drat it!

Well, back to the 'scope. I really want to churn out some research before I get back to the committees, etc., drag!

All the best, and thanks again for your good offices.

Yours very truly,

Alfred Traverse
Visiting Professor



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March 26, 1981

Dr. Alfred Traverse
ETH Zürich
Geologisches Institut
ETH-Zentrum
CH-8092 Zürich, Switzerland

Dear Al:

I have been trying to get out an overdue opus on the leaf architecture of the Onagraceae and have been letting my correspondence slide. I have been in contact with NSF, however, and want to bring you up to date. It seems that they back our project, realize that it represents untouched ground in many ways and that they have a tremendous free start with the samples collected. Where they balk at is paying a large amount of indirect costs, not at giving Duck Choy what amounts to an assistantship. They would like to shift the project from a research award to their Doctoral Dissertation Research Program. Under this they are willing to provide in the neighborhood of eight thousand dollars but indicated that this program does not allow for indirect costs or make any provision for your salary for a part of that time.

John Lance has been negotiating with Wayne Burnham on this one but as yet they haven't been able to come to an agreement. The NSF seems quite firm on the issue of indirect costs but at the same time urged that we "come up with a budget they could live with" at the level I indicated. I have also gotten John to see if he can't shake some money out of the Arctic Division but he is not hopeful because of cost overruns in Antarctica.

Tom Wright will be calling Burnham during the middle of next week to see if he can't get some action on this. Is there anything more I can do, aside from keeping in touch with NSF here? I wish that I knew something about politics up at Penn State; I am at a considerable disadvantage not knowing the limits and requirements of your programs.

I really want to see this go ahead and envision an important three-authored contribution coming from our efforts.

Sorry that I have no time for more than the briefest inquiry about your health and the hope that your time in Switzerland has been happy and productive; but I want to get this into the Special Delivery Mail this afternoon. I found Kim Hsü's letter very interesting and will respond to him shortly.

-2-

As usual you have my warm regards and very best wishes.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Leo".

Leo J. Hickey
Curator
Division of Paleobotany

fue

7 February, 1981

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560 USA

Dear Leo:

This is not prompted by my copy of Ken Hsü's letter to you, but I did enjoy seeing same! Hope all is well with you. I am working very hard here, so far mostly on the course they loaded onto me--"Neogene Palynology". It has been so much labor that I intend to offer the course at PSU later. I will give a couple of lectures in German in a few weeks--ye gods!

This letter is about our continuing problem with the funding of the Ellesmere, etc. project (see enclosure). As I believe (but cannot recall 100%) you know, NSF decided in October '80 to fund the project. However, they sensed that the support required is mostly for an assistantship for Choi--I could probably "promote" everything else, including even SEM and computer time. Therefore, NSF proposed a deal which would not pay Duck's tuition, etc. To that my chairman and dean object more or less strenuously, as they feel a research assistantship is necessary--such assistantships pay tuition and fringe benefits. So it's an impasse, and from these environs I can't readily contact the responsible person, Tom Wright, Geology Program, NSF, to try to do something. Is there any chance you could phone him and find out informally what could be done, and then let me know, also perhaps "unofficially"? (If I phone him, the transatlantic call will be on me personally--probably \$50 or so, and I can't do it really. Just surviving in Zürich is difficult. Postage for this letter if I paid it: \$.75. Well, that's about it.

All the best.

Yours very truly,

Alfred Traverse
Visiting Professor

AT/et
encl: copy of letter to Tom Wright

P.S. There's an announcer on German TV (ARD-Baden-Baden) who is a dead ringer for you!

29 June, 1981

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Al asked me to send you a copy of the latest edition of the proposal to NSF to fund the Canadian Arctic work. Text is virtually identical to last year's edition, only additions being map of area and some updating of results so far. Changes (all requested by NSF) involve the budget and the elimination of direct reference to the specific graduate student involved in the work (although he is mentioned incidentally several times).

Duck is forging ahead very industriously.

Al sends his best regards (he is out of town).

Yours,

Elizabeth I. Traverse
Research Assistant, Palynology

encl: copy of new proposal to NSF

P.S. The proposal has just started its trip through the PSU mill, ~~ee~~ may be several weeks arriving at NSF. Have sent a copy to Tom Wright, NSF Geology Program so he'll know what's up.

8 June, 1981

Dr. Leo.J . Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

I took a 3-week "window" in my sabbatical to bring Betty home and to mend fences (figuratively) and mow fields (literally). Unfortunately, I came down with acute appendicitis less than 24 hours after our return and have spent the whole three weeks in and out of two hospitals (I had a bad abscess after surgery). Am better now.

However, I have spent an hour or two with Duck Choi and am happy to report that he has made excellent progress. He confesses that he hasn't written you--don't mind, he never wrote me either! I have been in touch with NSF and on their advice have rewritten the proposal and may get some \$\$ after all. This summer poor Duck has no support. As always with Paleogene floras, it amazes me how few (0?) genera of palynomorphs are extant forms, whereas you can identify all sorts of extant genera from megafossils. Hmm.

I go back to Zürich tomorrow (if my doctor clears me at 4 p.m. today). Back here in late July. Then to Australia.

All the best.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

23 October, 1980

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Just a word to let you know that Duck's paper went very well, considering his problems with the spoken English language (I drilled him numerous times here and in the motel!). The landscape slide(s) you were going to send us to enhance the presentation arrived today, so didn't help. Duck got along fine without them, so don't worry about it. You probably misunderstood about the date of the meeting. (I had asked Duck to phone you about the slides if they didn't show up in time for him ~~to~~ take them to Keystone, but he didn't do it--is very reluctant to ask for any help.) I had left on 1 October to do field work with Sid Ash and my student, Ron Litwin, so wasn't able to follow up on the slide request personally.) I haven't had time to look at them yet, but expect we will copy several so that we'll have them on hand in case we need them again.

At the convention, Duck and I had a conference with my old friend, Charlie Felix, who has published on Eureka Sound palynology some years back. He says he no longer intends to do anything further with the work and would be glad to give us his ±300 samples. We will take care of that sometime during the coming year. They are not from Ellesmere, but nevertheless might be an interesting adjunct to the project.

Best wishes.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et



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October 20, 1980

Dr. Alfred Traverse
Palynological Laboratories
College of Earth and Mineral Sciences
435 Deike Building
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

I am reminded that time is running out for me to send you those Arctic slides I promised. Enclosed are 22 slides giving maps, my tentative correlation of the sections of the formation that we visited, some shots of the lithology and sample sites, and a few for local color. There are far more than Duck can use but the others might be helpful for giving him more general background.

I suppose you have seen the Zaklinskaya paper on the Paleogene flora of the Novosiberski Islands in Pollen et Spores 22: 67-84.

Sincerely,

Leo J. Hickey
Curator
Division of Paleobotany

LJH:jh
Enclosures

17 September, 1980

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Just got yours of 11-IX (5 days is absurd, isn't it?). Too late on sending in the abstract (we were faced with a 31-VIII deadline, to "save a place"). However, we have sent in a revised abstract, and I am sure we can at least prevent the "F". (Sorry--it's a wonder I didn't put in "X." too!) And I am putting in an additional sentence re the new data. Thanks very much! However, I warn you that if dinoflagellate data turn out to disagree with mollusks, we go with the dinos--ha!

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et
encl: copy of revised abstract



National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 · TEL. 202- 357-2649

September 11, 1980

Dr. Alfred Traverse
Palynological Laboratories
College of Earth and Mineral Sciences
435 Deike Building
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

Just a few quick comments on the abstract before you send it off. First of all, my middle initial is J for Joseph, not F. Second, and far more important, we were able to find mollusks near the base of the formation on Fosheim Peninsula on Ellesmere Island that were dated as probable late Santonian to possible early Campanian by Erle Kauffman. The fossils we found were mollusks that Erle identified as follows:

Inoceramus pachtii

I. cardissoides

I. patootensiformis

I. m.f. lingua/patootensiformis

I. m.f. lingua/angustus.

So it appears the Eureka Sound deposition began in the late Santonian or early Campanian.

In central Ellesmere the Eureka Sound Formation consists of 4 distinct members, a basal unit consisting of mudstones interbedded with lenses of white arkosic sandstones (an apparently prograding deltaic sequence); an overlying cyclically bedded lignitic member; a marine to lacustrine lime-rich member; and finally an upper cyclically bedded lignitic member. The clams come from the lower part of the basal member. Pollen samples were hard to come by in the basal member but the closest one should be LJH 7932 which lies less than 50' higher.

Sample 7934 from 6 km west of 7932 lies at the base of the lower cyclically bedded lignitic member. Another sample from the basal member is 7970 located about 75 m above the contact of the Eureka Sound Formation with the Kanguk.

Dr. Alfred Traverse

Page 2

September 11, 1980

All of this makes me realize that I must get the more complete stratigraphic data to you and will do so as soon as possible. I am just about settled in my new office.

Your request for some Arctic slides just arrived. Yes, I will send some in a few days.

Sincerely yours,



Leo J. Hickey

8 September, 1980

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Could we borrow 2-3 (?) 35mm shots of Ellesmere--Axel
Heiberg for Duck's talk? We'll have them copied, post-Denver and,
of course, will return to you promptly.

Thanks.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

26 August, 1980

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Probably you recall my discussing with you my plan to request some funding for the Choi-Traverse efforts on the Eureka Sound Formation. A copy of the proposal is enclosed. The total amount of \$\$ surprised me, but when one gets into "overhead" and all that, "inflation" sets in.

I am rather worried about statements in several of the recent biblios (including IAAP) that imply that Dave Jarzen is working on the Eureka Sound, and have written Dave for clarification. He is a good friend and will try to be helpful, I'm sure!

All the best, as always.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et
encl: copy of proposal



National Museum of Natural History • Smithsonian Institution
WASHINGTON, D.C. 20560 • TEL. 202-

Red Lodge, Montana
August 6, 1980

Dear Al:

Yours of 27 July received. I just wanted to tell you that I ~~would~~ will not be back to the Museum until August 27th but will start getting the map and stratigraphic well data together for Deuker immediately upon my return. Given the circumstances this sounds mandatory.

I have been having a rather hasty summer here going back to the units of the Fort Union Formation in the Big Horn Basin where I haven't yet found megafossil plants in order to plug the few remaining gaps in my plant zonation of the Paleocene here. In most cases I am still not finding plants but I have to be sure.

Yours truly,

JW

29 July, 1980

Dr. Leo Hickey
c/o YBBA Camp
P.O. Box 638
Red Lodge, MT 59068

Dear Leo:

Thanks for yours of 25-VII from "Fossil, ~~GN~~", an address I would be sure you made up, except it rings a bell.

Duck has now finished all samples. I intend to urge him to get up a paper for a forthcoming meeting (this fall?) on his preliminary results. We'll seek your counsel on a draft, of course, before presenting anything. We look forward to xeroxes and "rough estimates" you indicate will be forthcoming.

It is discouraging that GN didn't contact you. I was with him a lot in Cambridge at 5-IPC, and he ~~was~~^{exuded} courtesy and assurances about it. However, my former student, now his (Cindy Kramer) is on Ellesmere now. Hmmm.

Thanks for the literature ref from DE, and for all your ongoing help!

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et
cc: Duck Choi



National Museum of Natural History • Smithsonian Institution

WASHINGTON, D.C. 20560 • TEL. 202-

Fossil, Oregon
July 25, 1980

Dr. Alfred I. Rosen
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

I received the preliminary report on the High Arctic pollen just as I was leaving for the field and was unable to respond before now. It looks like Ducho is off to an excellent start and I hope that things continue to go well. One question that I would have concerns the general diversity of the spectrum. I know this is only a very preliminary breakdown by category but I hope the diversity is sufficiently high to warrant continued investigation.

I hear that you received my field notes and that they were helpful. Upon my return to the Museum about August 26th I will get Xerox of the map and photo locations to you together with a rough estimate of the past stratigraphic position of the various localities in the Eschscholzia

Sound Formation.

One not so pleasant note, I was unable to reach Jeff Norris before I left nor did he try to call me, as far as I know. He will just have to see what happens and in the meantime work hard to get the results of this work out.

Should you want to reach me before August 25, I will be in or out of the YBBA research camp in Red Lodge, Montana. The address is:

P.O. Box 638

Red Lodge, Montana 59068

Tel. (406) 446-9978

In the meantime, best wishes for the summer and give my regards to Dutch Choir as well.

Finally, I pass on one reference that Dutch Eyde brought to my attention:

Kul'hora, I.A., 1971, Correlation of the Eocene flora of the Jan-Indigirka lowland with Cretaceous floras of the north hemisphere. J. Paleontol. 7: 43-47. (Flora from 70°N includes Nyssa, Araliacae, Cornus, Proteaceae, many others & looks like it approached sub-tropical.)

Yours truly,

L

file Leo Hickory

23 June, 1980

Mr. Arnold Powell
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Arnold:

Thanks for the xeroxed of the LFH field notes--they will be very helpful to us. Tell your leader that we are happy with them!

Thanks also for the good wishes for PSU's football season. They seem to be loaded again.

Best wishes.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et
cc: Duck Choi

9 June, 1980

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Enclosed is Duck and my very preliminary report on "our project." He is doing a good job and is a very able student. Let us have your reaction, if any.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

cc: Duck Choi

encl: preliminary report on Eureka Sound Formation palynology

29 May, 1980

Dr. Leo Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Yours of 21 May unaccountably took until just now to reach me. Thanks so much for the data, which look a lot like Duck's preliminary information, though Duck has by now somewhat more. I am turning these data over to Duck, and keeping a xerox for my files.

I believe that I said before, that the "Eureka Sound priority flap" should be discussed by Norris and Hickey, not by Traverse. I do hope the two of you will get on the horn together so that everybody's happy!

Best wishes.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et
cc: Duck Choi



National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 · TEL. 202-381-5954

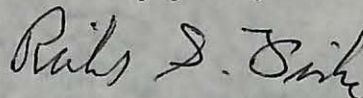
May 20, 1980

Dr. Alfred Traverse
Palynological Laboratories
435 Deike Building
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Dr. Traverse:

Thank you for your letter of May 15 concerning Dr. Leo J. Hickey. It arrived at precisely the right moment. Your comments will be helpful to our peer evaluation group and we very much appreciate your taking the time to respond.

Sincerely yours,



Richard S. Fiske
Director

19 May, 1980

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Geoff Norris promised to phone you re Eureka Sound work. He feels that no duplication is likely. I don't know. I do know that Duck has very good stuff--the Aquila- story is especially exciting at this point. We certainly have a big lead.

All the best. Keep us posted. I'll send you a
|| copy of Duck's preliminary report soon.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

15 May, 1980

Dr. Richard S. Fiske
Director, National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Dr. Fiske:

I am sorry that various trips and other matters have precluded my attending promptly to yours of 7 April re the proposed promotion of Dr. Leo F. Hickey. I do hope that this isn't too late to be of any use to you.

It is correct that I am well acquainted with Dr. Hickey's work and capabilities. I have known him for some years, have had him up here a few times to give lectures, and to assist at examinations of our Ph.D. students. He has stayed in our home and I have often visited him at the Smithsonian. Currently one of my students is working for his Ph.D. on a project in collaboration with Leo (palynostratigraphy of Ellesmere Island).

Leo's research is always first-rate, and his theoretical concepts always novel and worth considering. Withal he is a charming person, marvellous company, and an accomplished, well organized "politician" within our branch of science. He is generous with his time and counsel, and I can't think of anybody in American paleobotany today who is a better all around scientist. I gather that he is a very productive member of the Smithsonian team too; I was greatly impressed with the organizational work he has done this last year, in connection with your new exhibit on the origin of life on land. (Of course, it did give Leo a chance to "institutionalize" his controversial "riparian weed" theory on the origin of the Angiosperms!)

The only problem I have with your stipulations is that you say Leo is already at the level of a full professor--at a fairly young age. At Penn State that is as high as one can go, as to rank. There are a very few "distinguished professor-

Fiske, pg. 2

ships"--for example, the Evan Pugh Professorships. Of 30+ professors in Geosciences, not one is a distinguished professor, and if Leo Hickey were a professor here, he would not be. (William Spackman, our Professor of Paleobotany, is also head of our Coal Research Section and is at least as distinguished as Leo, and much older, but is not an Evan Pugh or distinguished University Professor). This is not meant to be negative at all; I am "bullish" on Hickey! But I don't understand your comparison. Leo will be deserving of whatever you can do for him.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et



National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 • TEL. 202-381-5954

April 7, 1980

Dr. Alfred Traverse
Palynological Laboratories
435 Deike Building
Pennsylvania State University
University Park, Pennsylvania 16802

Dear Dr. Traverse:

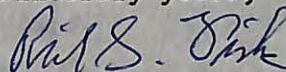
Your name has been suggested to me as one who knows the professional accomplishments of Dr. Leo J. Hickey. Our staff members are reviewed periodically by a committee of Smithsonian peers and Dr. Hickey's review is scheduled to take place in the near future. It may be helpful for you to know that he is presently at a grade which is considered to be roughly comparable to that of a full professor at a major university. In part, the review will be an evaluation of the continuing appropriateness of this grade. A promotion to the next grade would place Dr. Hickey at a level more comparable to that of a senior full professor.

We solicit your candid opinion of Dr. Hickey's work because, as one associated with his field of specialization, your evaluation will make possible a more knowledgeable appraisal by our committee. Our appraisal is based on the following four key aspects of his career, and we would greatly appreciate learning of your knowledge of any or all of these:

- 1) the significance of his research;
- 2) the scientific stature and overall contribution of Dr. Hickey in his field;
- 3) the originality and importance of his research to the general study of paleobotany and stratigraphy;
- 4) the significance of his non-research scholarly activities such as his contributions to the curation, growth, and use of the national collections; exhibition and educational activities; and public service functions, including his roles in scientific societies.

I assure you that your remarks will be most appreciated and will be held in confidence. However, if specifically requested by Dr. Hickey, we would make available to him the general content of letters of reference considered as part of his review. In this event, we would make every effort to preserve your anonymity if you so specify.

Sincerely yours,



Richard S. Fiske
Director

Enclosure--Curriculum Vita

POSITIONS

1969-present Associate Curator, Museum of Natural History, Smithsonian Institution

1979-81 Vice President, Yellowstone-Bighorn Research Association

1977-79 (YBRA) Member, Smithsonian Tropical Biology Steering Committee

1976 and 1978 Geology Field Instructor, Princeton University-YBRA summer field course

1973-79 Counselor, YBRA

1973-75 Chairman, Museum of Natural History Exhibits Committee

1970 Instructor, paleobotany course at University of Maryland

1966-69 NRC-Smithsonian Postdoctoral Research Associate

1964-65 Teaching Assistant, Princeton University

FIELD WORK

1979 October June-July

1978 August March

1977 February July-Aug.

1976 June-Aug. March

1975 July-Aug. Panama - modern tropical plants

1974 July-Aug. Panama - modern tropical plants

1973 Sept. Florida Keys, Puerto Rico - modern tropical plants

1972 July-Aug. Montana, Wyoming - Fort Union Fm.

1971 July-Aug. Montana, Wyoming - Fort Union Fm.

1969 August Wyoming - Wind River and Tweep Trail Fms. (Eocene)

1968 July-Aug. Montana, Wyoming - Fort Union Fm., Wind River and Tweep Trail Fms.

1963-67 summers North Dakota - Golden Valley Fm. (Paleocene-Eocene)

SUPERVISION OF STUDENTS

Degree Committees

1978-present

1978-80

1979

1979

Scott L. Wing, Yale University, Ph.D.
 Garland Upchurch, University of Michigan, Ph.D.
 John W. Hayden, University of Maryland, Ph.D.
 Jane Dionne, George Washington University, Ph.D.

1978 James U. McClammer, University of Maryland, Masters
1977 Isabel Griffith, George Washington University, Ph.D.
1976-77 John Bibout, Pennsylvania State University, Ph.D.

PREDOCTORAL AND POSTDOCTORAL FELLOWS

1980 Scott L. Wing, predoctoral
1976-77 C. P. Sreemadhavan, predoctoral
1975-76 Edgardo J. Romero, postdoctoral
1969-70 James A. Doyle, postdoctoral

HONORS AND GRANTS

8/77 The New York Botanical Garden Henry Allan Gleason Award,
jointly with James A. Doyle
1976 Nominated by the Botanical Society of America for the
Alan T. Waterman Medal of the NSF
7/75-6/76 Smithsonian Research Foundation Grant: Leaf ranking in
the dicotyledons
7/74-6/75 Smithsonian Research Foundation Grant: Systematic survey
of the distribution of leaf architectural features in the
dicotyledons
1972-1974 Smithsonian Research Foundation Grants. Early Tertiary
Floras of the Rocky Mountains
1966-1969 NAS-NRC Post Doctoral Research Associateship at the
Smithsonian Institution
1962-1966 National Science Foundation Graduate Fellowship to Princeton
University. Danforth Foundation Graduate Fellowship
1962 Bachelor of Science degree cum laude in Geology, Villanova
University
1958 Full four-year scholarship awarded by Villanova University

EDUCATION

1958-1962 Villanova University, Geology, B.S. 1962
1962-1966 Princeton University, Stratigraphy, Paleobotany, M.A. 1964;
Ph.D. 1967
1963-1965 Rutgers University, Botany

PROFESSIONAL AFFILIATIONS

The Geological Society of America
Botanical Society of America
Paleobotanical Section - Botanical Society of America
Torrey Botanical Club
American Association for the Advancement of Science
Paleontological Society of Washington - Secretary 5/1973-5/1974
Yellowstone Bighorn Research Association
International Association of Plant Taxonomists
Latin American Association of Palynology and Paleobotany
International Association of Angiosperm Paleobotanists

WORK IN PROGRESS

- Leaf architecture of the dicotyledons.
 Paleocene Flora of the Northern Bighorn Basin of Montana and Wyoming.
 Flora of the Eureka Sound Formation, northern Canadian Arctic Archipelago.
 Leaf ranking survey of the dicotyledons.

PERSONAL DATA

Date of birth: April 26, 1940
 Married: 3 children

- 1971a, _____ A leaf architectural classification of the flowering plants. *Am. Jour. Bot.* 58(5 part 2):450 [Abstract].
- 1971b, _____ Evolutionary significance of leaf architectural features of the woody dicots. *Amer. Jour. Botany* 58(6 part 2):459 [Abstract].
- 1972, _____ Stratigraphic summary of the Golden Valley Formation (Paleocene-Eocene) of western North Dakota. Guidebook, Coal Geology Division, Coal. Soc. America (11/10-11/72); North Dakota Geol. Survey, Misc. Series no. 59-105-122.
- 1972, Reed, P. W. and Hickey, L. J. A revised classification of fossil palm and palm-like leaves. *Taxon* 21(1):129-137.
- 1972, Scott, R. A., P. L. Williams, L. C. Craig, E. E. Barghoorn, L. J. Hickey and R. D. MacGinitie. "Pre-Cretaceous" angiosperms from Utah: evidence for tertiary age of the palm-wood and rooks. *Amer. Jour. Botany* 59(9):695-698.
- 1972, Doyle, J. A. and L. J. Hickey. Coordinated evolution in Paleocene Group angiosperm pollen and leaves. *Amer. Jour. Botany* 59(6 part 2):560 [Abstract].
- 1972, Hickey, L. J. and J. A. Doyle. Fossil evidence on evolution of angiosperm leaf venation. *Amer. Jour. Botany* 59(6 part 2):561 [Abstract].
- 1973, Hickey, L. J. Classification of the architecture of dicotyledonous leaves. *Amer. Jour. Botany* 60(1):17-33.
- 1973, _____ Patterns of Cretaceous angiosperm differentiation. *Coal. Soc. America. Abstracts with programs* 3(7):669 [Abstract].
- 1973, _____ Section D. Pollen Venation in A. R. Hedford et al., eds. *Vascular Plant Systematics*. Harper & Row, New York, p. 197-199.

BIBLIOGRAPHY

- 1969, Hickey, L. J. Stratigraphy of the Golden Valley Formation of western North Dakota. Geol. Soc. Amer. Abs. with Programs for 1969, pt. 7, p. 100 [Abstract].
- 1971, _____ and Cooper, G. A. Nomination of R. W. Chaney for the Paleontological Society Medal. Jour. Paleontology 45:567-569 [Dedication].
- 1971a, _____. A leaf architectural classification of the flowering plants. Amer. Jour. Botany 58(5 part 2):450 [Abstract].
- 1971b, _____. Evolutionary significance of leaf architectural features of the woody dicots. Amer. Jour. Botany 58(6 part 2):469 [Abstract].
- 1972, _____. Stratigraphic summary of the Golden Valley Formation (Paleocene-Eocene) of western North Dakota. Guidebook, Coal Geology Division, Geol. Soc. America (11/10-11/72); North Dakota Geol. Survey, Misc. Series no. 50:105-122.
- 1972, Read, R. W. and Hickey, L. J. A revised classification of fossil palm and palm-like leaves. Taxon 21(1):129-137.
- 1972, Scott, R. A., P. L. Williams, L. C. Craig, E. S. Barghoorn, L. J. Hickey and H. D. MacGinitie. "Pre-Cretaceous" angiosperms from Utah: evidence for Tertiary age of the palm wood and roots. Amer. Jour. Botany 59(9):886-896.
- 1972, Doyle, J. A. and L. J. Hickey. Coordinated evolution in Potomac Group angiosperm pollen and leaves. Amer. Jour. Botany 59(6 part 2): 660 [Abstract].
- 1972, Hickey, L. J. and J. A. Doyle. Fossil evidence on evolution of angiosperm leaf venation. Amer. Jour. Botany 59(6 part 2):661 [Abstract].
- 1973, Hickey, L. J. Classification of the Architecture of dicotyledonous leaves. Amer. Jour. Botany 60(1):17-33.
- 1973, _____. Patterns of Cretaceous angiosperm differentiation. Geol. Soc. America. Abstracts with programs 5(7):669 [Abstract].
- 1974, _____. Section D. Foliar Venation in A. E. Radford et al., eds., Vascular Plant Systematics. Harper & Row, New York, p. 192-198.

- 1974, Hickey, L. J. Clasificacion de la arquitectura de las hojas de dicotiledoneas. Boletin de la Sociedad Argentina de Botanica 16(1-2):1-26.
- 1975, _____. Earth Sciences in the new exhibits program at the Smithsonian Institution. Geol. Soc. Amer. Abstract with Programs, 1975:728 [Abstract].
- 1975, _____ and Hodges, R. W. Lepidopteran leaf mine from the Early Eocene Wind River Formation of northwestern Wyoming. Science 189:718-720.
- 1975, _____ and Wolfe, J. A. The bases of angiosperm phylogeny: vegetative morphology. Ann. Missouri Bot. Gard. 62:538-589.
- 1975, _____ and Doyle, J. A. Early Cretaceous fossil evidence for angiosperm evolution. XII Int. Bot. Congress, Abstracts:95 [Abstract].
- 1976, Doyle, J. A. and L. J. Hickey. Pollen and leaves from the Mid-Cretaceous Potomac Group and their bearing on early angiosperm evolution in C. B. Beck, Origin and early evolution of angiosperms. Columbia University Press, New York, p. 139-206.
- 1976, Hickey, L. J. Paleocene-Eocene megafloreal change in the northern Great Plains of the United States. Bot. Soc. America, Abstracts of papers (1976), p. 26 [Abstract].
- 1976, _____. Relationship of lithofacies to Cretaceous and Tertiary megafloreal assemblages. Bot. Soc. America, Abstracts of papers (1976), p. 26 [Abstract].
- 1976, Romero, E. J. and Hickey, L. J. A fossil leaf of Akaniaceae from Paleocene beds in Argentina. Bull. Torrey Bot. Club 103: 126-131.
- H 1977,^a Hickey, L. J. Stratigraphy and Paleobotany of the Golden Valley Formation (Early Tertiary) of western North Dakota. Geol. Soc. America, Mem. 150.
- 1977,^b _____. Changes in angiosperm flora across the Cretaceous-Paleocene boundary. Abstracts: North American Paleontological Convention II, p. 14 [Abstract].
- 1977, Hickey, L. J. and Doyle, J. A. Early Cretaceous evidence for Angiosperm evolution: Botanical Review 42:3-105.

1978, Hickey, L. J. 1978, Paleobotany - Year 1977. *Geotimes* 28
(1): 37.

1978, _____. Origin of the major features of Angiospermous leaf
architecture in the fossil record. *Cour. Forsch.-Inst.*
Senckenberg, 30: 27-34.

1978, _____, and Peterson, B. K. *Zingiberopsis*, a fossil genus of
the ginger family from Late Cretaceous to early Eocene sediments
of Western Interior North America. *Canadian Journal of Botany*
56: 1136-1152.

1979, _____. Paleobotany - Year 1978. *Geotimes* 29 (1): 41-42.

1979, _____. A revised classification of the architecture of
dicotyledonous leaves. In Metcalfe, C. R. and Chalk, L.,
Anatomy of the Dicotyledons, 2nd ed., vol. 1, Oxford Press.

1980, _____. Paleobotany - Year 1979. *Geotimes* 30 (2): 39-40.

In Press, West, R. M.; Dawson, M. R.; Hickey, L. J.; and Miall, A. D.
Late Cretaceous and Paleogene sedimentary rocks, Canadian Arctic
and related North Atlantic areas. In _____ Kerr, ed. *North
Atlantic Borderlands Atlas*.

27 February, 1980

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear LeoP

I greatly appreciated your devotion of a whole day to the Hickey-Choi-Traverse project. The slide show was fun, though (as you know) my physical condition at the time was marginal. It could be that my chills were triggered by trying to imagine you wading a 0.1°C stream barefoot. Of course, "your" exhibit was a fun and memorable experience--I would have liked to take some photos. That you are able to see your "r.w. theory" immortalized is an interesting phenomenon. If Mendel had been able to put up a display in the natural history museum in Austria.....

Duck is already at work on the materials. Because of the communication problem, his competence probably doesn't show, but he is very able.

I believe I'll get up a small proposal for the Eureka Sand project for NSF. I discussed it in depth with John Lance. It will list you as "collaborator" or some such, per his recommendation, without remuneration for either you or me, of course.

All the best. Thanks again for a good start of a good project.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

THE PENNSYLVANIA STATE UNIVERSITY

DEIKE BUILDING
UNIVERSITY PARK, PENNSYLVANIA 16802

College of Earth and Mineral Sciences
Department of Geosciences
Palynological Laboratories

Area Code 814
~~XXX-XXXX~~
865-2342

8 January, 1980

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Thanks for yours of 3 January. We reciprocate the good wishes and think with pleasure of your visit at "Pastorale" several years ago about this time.

Duck Choi and I will drive down to DC on Sunday evening, 24 February, so as to be able to be at your place earlyish on the 25th and have as much of the day with you as you deem appropriate.

I don't know what "support publications" might entail, but we can discuss that when we get down your way. I was hoping it would be possible to apply (to NSF?) for a small amount of support for Mr. Choi. Again, we can discuss that in DC, and it is not a sine qua non. (If you could find out if there are precedents, it would be helpful.)

All the best. See you in February.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et
cc: Duck Choi



National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 • TEL. 202-381-5938

January 3, 1980

Dr. Alfred Traverse
Palynological Laboratories
College of Earth and Mineral Sciences
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

I know Christmas was a busy time for you; I hope that it was rewarding as well. My best wishes go to you, and to Betty, for the New Year.

In your letter a month ago, you mentioned late February, specifically the 25th, as a time that we could get together on this project. That date is fine with me, I am planning to be here all through February and March as well, so that if you have to move the date just give me some advance notice. When you come I will make the samples and my field data available to you; I hope to have some rough sections plotted up by then with the levels of the samples indicated. I envision that the paleobotany will be a co-operative effort between the mega- and micro- aspects, and might be able to support publication if the results were to appear jointly.

Mary Dawson mentioned Ron Litwin; it's a small world.

Sincerely yours,

Leo J. Hickey
Associate Curator
Division of Paleobotany

XXXX

3 December, 1979

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Glad to have yours of 15 November. It confirms that in principle you endorse the cooperative venture. Duck Choi is relieved and is glad to know. (I am getting to know him better and feel that he'll be one of my best Ph.D. products--very talented. His wife just arrived, and we had them over to Huntingdon for Thanksgiving. They came to both ~~our~~ home and to my church for Mass in their Korean national costume--that was great! She is a delightful person, expecting a baby. They have been married about ten months.)

Now we need to get on with the practical matters. I would suppose Duck and I should arrange to visit DC to confer with you--get data and (some of?) the samples, discuss a possible proposal for funding, and the like. December is a wretched month for me, and January isn't much better. How does late February sound?--say, about 25 February? I'll look forward to hearing.

I have another new grad student who just arrived from the Carnegie Museum, Pittsburgh. He knew all about your involvement with Eureka Sound--because the vertebrate people (Mary Somebody et al.) with whom he worked in Pittsburgh were also working on the project. The student is Ron Litwin, and he will work in my ongoing Triassic project.

All the best. Let me hear about late February--perhaps suggest alternate dates if 25 Feb. is not good.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et
cc: Duck Choi



National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 · TEL. 202- 381-5938

November 15, 1979

Dr. Alfred Traverse
Palynological Laboratories
College of Earth & Mineral Sciences
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

Just a quick note to tell you that I accept your very kind offer to have Duck Choi study the pollen floras of my Arctic material. The pressure of recent work has prevented me from preparing a letter with details of Eureka Sound stratigraphy and position of our samples. I will get this to you as soon as I can but didn't want to leave you in suspense any longer.

Incidentally, there are 49 samples that were collected for pollen. Dates for some mollusks we collected from the lowest member of the formation have now expanded its range to a span from the early Campanian to early Middle Eocene.

Sincerely yours,

Leo

Leo J. Hickey
Associate Curator
Division of Paleobotany

1000

Smithsonian

24-II-80

2. Edith Scott - Ph.D. on
Foerster et al.
with Fran Huber

Scott Wing -

pre-lectural

w. Leo Spicker

~~_____~~

May Janson has catalogs for
ca 10x10 photos of Eureka land

- contains les for ordering

- paper thereof - to get
the most critical one.

~~_____~~

See list of maps to order from
BSC

655-4000

Dr. John Lence

632-4218

~~19th~~ Pennsylvania
1800 G ST NW

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

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INSTRUCTIONS TO RECIPIENT:

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INVOICE NO. _____

2/25/80

DATE _____

TO: Palynological Laboratories
College of Earth & Mineral Sciences
435 Deike Building
The Pennsylvania State University
University Park, Pa. 16802

LOAN PERIOD _____

Leo J. Hickey

INITIATED BY _____

Paleobotany

UNIT _____

APPROVED Frederick J. Collier / by JW
~~Collections Manager~~

Attn: Dr. Alfred Traverse

THIS MATERIAL IS SENT AS:

- (1) An open long-term exchange (4)
- (2) A loan at your request (5)
- (3) In exchange (6)
- (4) A loan for examination at our request
- (5) Return of material borrowed
- (6) Return of material sent for identification

(7)

MATERIAL (As appropriate, state locality, collector, catalog numbers, etc. Total each distribution category)

49 palynological samples from the Late Cretaceous to Eocene Eureka Sound Formation of Axel Heiberg and Ellsmere islands (all numbers preceded by LJH):

794, 796A, 7913B, 7914A, 7914B, 7914C, 7915A, 7915B, 7915C, 7916, 7917A, 7917B, 7918, 7919, 7920, 7920C (2 bags), 7921, 7922, 7923A, 7923B, 7924A, 7924B, 7924C, 7924D, 7926, 7928, 7932, 7934, 7936, 7938 (2 bags), ~~XXXXXXX~~ 7940A, 7940B, 7948, 7950, 7951, 7967A, 7967C, 7967D, 7967E, 7967G, 7968A, 7968B, 7970, 7971B, 7971D, 7971E, 7973B, 7973C, 7973D, 7911, 7913, 7920, 796-29-1, 7966, 7973a

Note: These samples belong to the Canadian Government. All type specimens, a reference slide of each preparation and the unused portion of each sample must be returned to Dr. Hickey for return to Canada. In addition, when possible, a reference slide should be prepared for retention by the USNM.

NO. OF PACKAGES <u>1</u>	DATE SHIPPED <u>Hand carried 2/25/80</u>	RECEIVED IN GOOD ORDER
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XXXXX

26 September, 1979

Dr. Leo J. Hickey, Associate Curator
Division of Paleobotany
USNM--Smithsonian Institution
Washington, DC 20560

Dear Leo:

Well, that was one interesting letter! I have had two sub-projects in the Canadian Arctic (Jurassic-Cretaceous, and Triassic) before. One of the alleged Triassic ("Rhaetian") samples from Exxon turned out to be Eocene-Oligocene, as I recall, so I've had a go at post-Jurassic!

I happen to have just the man here, now beginning a Ph.D. program, and the project you have seems to me as nearly perfect from ol' Al's point of view as we are likely to find. (There won't be any neat trip to the student's field area as in '75, however?!) I believe biostratigraphic problems that are of interest to other geologists and which tie into something else, ala John Bebout and the G.V., are ideal for Ph.D. theses.

The student in question is Duck Choi, a Korean. His English is a little weak, but we are working on that. He is very capable.

So, yes, let's follow up on this (per your penultimate paragraph). And, in the not too distant future, perhaps a visit by Mr. Choi and me to DC to confer about it?

All the best.

Yours very truly,

Alfred Traverse
Professor of Palynology

cc: Duck Choi

P.S. I probably should get in a proposal for support to NSF for this, as I recall the nickels and dimes were a problem with Bebout's work.



National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 · TEL. 202-381-5938

September 17, 1979

Dr. Alfred Traverse
Palynological Laboratories
College of Earth and Mineral Sciences
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

Thank you for the raft of recent reprints that you sent; I was particularly interested in the Black Sea results.

I was off to the wild and woolly arctic this summer, collecting in the Late Cretaceous to Early Eocene of Axel Heiberg and Ellesmere Islands between 78 and 80° North Latitude. This resulted in a large megaf flora from about 40 localities and also pollen samples from the probable early Campanian to the Bridgerian. These samples are mainly associated with the mega-plants and the section is tied at the base to datable marine mollusks and at the top to vertebrates of Wasatchian and Bridgerian age. Judging from past experience, you no doubt have more than enough to keep you occupied, but do you have any interest in working on these, or have a student who might wish to? If not, does anyone come to mind who might be interested? I don't think that any long pollen sequence from such a high latitude have been investigated - except by the oil companies - and I think the results might be very interesting, especially in relation to the associated megaf flora. By the way, do you know what floral province the area might have belonged to in the Late Cretaceous? Seems that I have heard a rumor that the Aquillapollenites province may have extended over to Northern Europe (Scotland, North Sea) right across the Arctic. If a recent reference to this comes to mind I would appreciate hearing about it.

If you are even faintly interested in pursuing this, I would be happy to send you more information on what I have, where it is from, and the general stratigraphic setting.

In the meantime, best wishes.

Yours truly,

Leo J. Hickey
Associate Curator
Division of Paleobotany

25 March, 1978

Dr. Leo Hickey
Division of Paleobotany
U.S. National Museum
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Dixie Hambrick dropped in to tell me that after some thinking about it she had written to you to apply for the job of field assistant. Let me tell you that Dixie is probably the best advisee I have ever had. This is a really first-class person who is good in the lab and good at the books and a strong person physically, all in all she would make a terrific field assistant. I only hope that in this enlightened age the fact she is a girl will not preclude your considering her.

Best wishes for a happy Easter season.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et



National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 • TEL. 202-381-5938

March 1, 1978

Dr. Alfred Traverse
Department of Geosciences
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

Thank you for your letter of February 14 and the enclosed clipping. It gave me a good opportunity to learn something more of your history and way of life. I was glad to see that it stressed the work involved in what you do rather than the fancied romance of it. I had forgotten we discussed the latest rage in names shortly before Jason's birth. Actually his name is the result of a great deal of thought and discussion (I won't say heated) and the rejection of a number of more Celtic entries. In part, you could say that the name is a tautology on the meaning of our family name and relates as well to the place of its original derivation. Anyway, we have found that children seem to grow into their names and they seem more and more right for them as time passes.

John called this week to tell me that he found the slides all wrapped for mailing, carefully stored in his shed. We are having lunch together tomorrow.

Thank you as well for Alan Davis's name; I will write to him soon with our request. At your suggestion we will start with wood and end with graphite. I will have the fellow in mineral sciences who got the bright idea of sizing them for equal BTU content to figure out how large each should be.

As to the summer, I have inquired about the apprenticeship program and found we have no funded program this year. Applications for an unfunded program were due today (sorry about that). I need one or two field assistants for two months of work in the Big Horn Basin with lots of section measurement, lithologic analysis, megafossil collecting, in rocks of Maestrichtian to early Wasatchian age. My grant will cover travel and living expenses plus a monthly stipend of 250 to 300 dollars. If either of your people are interested have them write.

2.

Winter has been bad here too but I have been able to indulge in the rare (for D.C.) pastimes of sledding and ice skating with the family. The tree roots are growing and the buds are swelling now, though.

Yours,

Leo

Leo J. Hickey
Associate Curator
Division of Paleobotany

XXXXXX
865-2342

26 October, 1977

Dr. Leo Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Thank you so much for the copy of your book on the Golden Valley Formation! I am really thrilled that I would be on what I presume is a fairly small distribution list. I have not as yet finished reading the parts of it which interest me specially, but I can already see that it is the careful and comprehensive work that one would expect from you.

I was slightly annoyed that the USGS editors presumably insisted on the legally correct but bibliographically incorrect use of my name in the references cited section! I did get some satisfaction from the fact that my name is right in the table of contents (page v--and you even included Betty!). I seem to appear even in boldface type on page 37. Too bad that John's thesis could not have been ready in time to be quoted at least as a Ph.D. thesis, but I understand the time frame completely.

That's great country out there, and I wish I could figure out some excuse to get out there again. Best wishes to you as always.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

The Hickey System

Taking the name of the leaf in vein, or
Prehistoric plants made easy

by Janet H. Weinberg

If Leo Hickey sometimes has a far-away look, it's probably because he is thinking about 50-million-year-old fossils and about a time when palm trees grew on top of the Rocky Mountains. But unlike his specimens, Hickey is very much alive, and concerned about public understanding of paleontology, the study of living things from the fossil record.

Hickey is a paleobotanist (studying the fossil history of plants) at the Smithsonian Natural History Museum in Washington, D.C. His studies seem disconnected on the outside—reconstructing the ancient climate of the Rocky Mountains, studying the fossilized remains of plants, and revitalizing the Natural History Museum itself—but they are all subtly interrelated.

"It's not unusual for a modern paleobotanist to study rocks," Hickey says. "Fossilized plants are often buried in rocks, so there is frequently as much information about the environment in the rocks as in the plant specimen. If you find fine-grained carbon, you know there were swampy conditions. From this, you can tell something about the plant's requirements—temperature, nutrients, moisture."

Hickey actually began his scientific career by studying rocks—he charted the various rock strata deposited in a thick formation in western North Dakota called the Golden Valley Formation. This work was aimed at reconstructing the climates in that region during the past few aeons.

Paleontologists have determined, he said, that "back 200 million years ago, the Rocky Mountains were mostly below sea level, low mountains appearing as islands off the coast of a continent to the east, with a seaway in between." Over about 100 million years, plate tectonics and volcanic activity gradually built the mountains up, and sediments collected and narrowed the gap between the mountains and the

rest of the continent. Swamps formed and warm temperate forests grew over the Rockies. The Ice Age and changing rainfall patterns killed off the temperate and subtropical plants, but their fossil remains can still be found on dry plateaus in Utah, and 9,500 feet up in the Rockies.

"As I began to identify fossil leaves

in the Golden Valley Formation," Hickey said, "I found that the methods generally used were totally wrong. There were no systematics, and people were practically guessing about the identities of the plants." So Hickey got sidetracked from rocks for a while, and spent four years developing a whole system of classification based solely on the leaf characteristics of plants.

"Most herbarium specimens are identified through their flowers, but most plants only flower during a brief season. If a plant has deciduous leaves, at least it can be identified for half of the year using my system, and a tropical plant can be identified all year." And, of course, fossil leaves can be more accurately identified.

Hickey found that the vein patterns in leaves can be used to judge primitiveness versus higher adaptation. He has theorized that regular venation patterns, instead of totally or partially random ones, might have evolved because of the special advantage they give in protecting the leaf from tearing. The random venation might also represent a lack of chemical sophistication in the developing leaves.

Leaves from the earliest known flowering plants (angiosperms), those from the Cretaceous Era (130 to 65 million years ago), appear to fit into Hickey's classification scheme. Because of this, he and his colleagues have been able to tackle one of the biggest problems in the field—where and how and when did seed plants evolve into angiosperms, with their successful flowering adaptation?

Modern-looking angiosperm leaves from the Cretaceous Era have been found around the Potomac, and "it seemed to some that the precursors



Leo J. Hickey



Mastodon-sized baggie is used during renovation of the Natural History Museum.

Photos: J. Weinberg

...st therefore be much older, and evolved over a long period of time," Hickey says. "But my work with leaf venation shows that these Cretaceous specimens have random venation and are not modern, and that their development probably wasn't much earlier."

A long paper discussing this by Hickey and James A. Doyle, a botanist at the University of Michigan at Ann Arbor, is in press now.

Although some of them may seem a bit esoteric, Hickey's efforts are not all directed at other paleontologists. He is also the chairman of the exhibits committee for the Natural History Museum, which is currently redesigning the entire museum.

"We want to get away from the old idea of compartmentalization, which too frequently occurs in science, and which is expressed in our exhibits. In order to understand environments, we must learn ecology, and the exhibits don't show this.

"In natural history, the objects are our basic resource, and our biggest challenge is to reorganize them, while intruding as little as possible on their integrity, so that they make sense in the light of new developments and interconnections in natural science.

"Unlike art objects or aesthetically beautiful mineral specimens," Hickey said, "natural history objects must be organized, so we are attempting to position them in space so that certain relationships become clear. For example, we recently tore down the exhibit in the Hall of the Ice Age Mammals, with the huge mastodons, and skeletons. That particular display really gave no idea that during the existence of those animals, glaciation was taking place, major extinctions were occurring and man was coming on the scene.

"We thinned out the vertebrates, put in glacial rocks and maps, glacial men, and arranged some of the animals on platforms to make them look like part of fossil digs. So even if a person were to walk through and not read the labels and text, he could get an intrinsic understanding of how these animals fit into the overall environmental picture."

The Ice Age exhibit will reopen in mid-September, and the rest of the museum will be reorganized one hall per year.

Paleontological studies in general, and Hickey's work in particular, rather than just esoteric, specialized fact-finding, are efforts to establish interconnections between the distant past and living ecosystems, including man.

"I think the concept of geologic time should be part of our cultural heritage," Hickey said. "I think it is very important for us to understand the place of humans in the vast stretch of years that went before us." □



Fossil leaf, an extinct member of the tea family, is over 50 million years old.

Leo J. Hickey

9 February, 1977

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560

Dear Leo:

Congratulations on the baby boy! We were, of course, wondering how it went and are delighted to know everything is o.k. It was fun to have you up here, and I very much appreciate your contribution to our program. I look forward to seeing you again before too long. Think spring!

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et



National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 · TEL. 202- 381-5938

February 3, 1977

Dr. A. Traverse
Palynological Laboratories
College of Earth & Mineral Sciences
517 Deike Building
University Park, Pennsylvania 16802

Dear Al:

The summary of your pollen-spore preparation technique arrived this morning. It is just what I wanted and I am very glad to have it.

Thank you for making my visit a very pleasant one. I enjoyed the dinners we had, the tour of Huntington and your church, and the company. Please thank Betty, as well, for her hospitality. I enjoyed the drive back to Washington with John very much. The temperature was 49° when we arrived but five hours later it was 18°. I understand it was fairly bad in central Pennsylvania and am just as glad to have missed it.

To make my week complete, all 400 pages of the galley proof of the Golden Valley paper were waiting for me when I got to the office. No word yet on the baby front but it is very close.

Yours,

Leo J. Hickey
Associate Curator
Division of Paleobotany

P.S. Our baby came today at 4:51 p.m. A boy, weight 8 lbs. 14 oz. Mother & son doing very well.

3/3/77

Cornet

Agenda for visit of Dr. Leo J. Hickey

25-28 Jan., 1977

Tues., 25 January. Dr. Hickey arrives at Univ. Park Airport at 7:00 p.m. Dinner with Bebout and Traverses at 8:00 p.m.

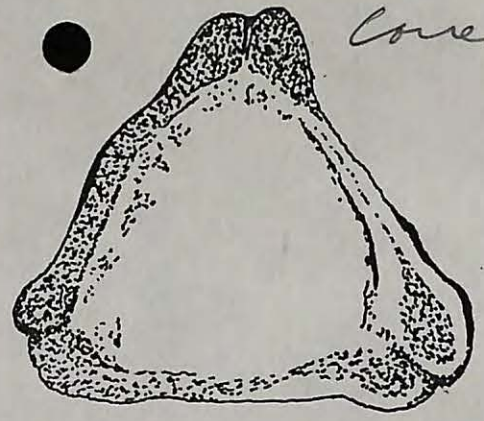
Wed., 26 January. 9:35 a.m. Geology (Biol.) 423 lecture
12:00 m. Lunch with Bebout and Cornet
4:00 p.m. Lecture, "Fossil Evidence on and Early Evolution of the Flowering Plants", rm. 8, Life Sciences

Evening at home with Traverses

Thurs., 27 January. Morning for conferences
12:00 m. Lunch at Nittany Lion Inn with members of Bebout committee
2:00 p.m. John Bebout thesis defense exam, 341 Deike
4:00 p.m. (more or less) Refreshments at Bistro followed by dinner with A. Traverses

Fri., 28 January. 9:00 a.m. Leave for D.C. by auto with Bebout

Coverage



Dr. Leo Hickey,

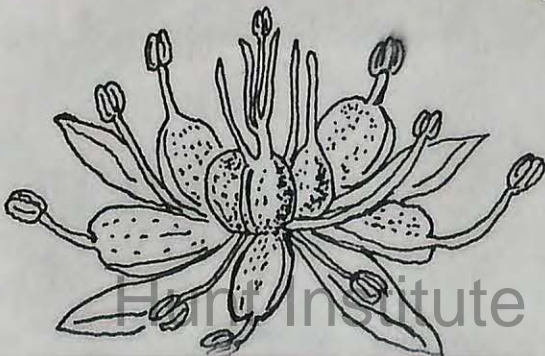
Smithsonian Institution,
will speak on:

"Fossil Evidence on
and Early Evolution of
the Flowering Plants"

-Life Sciences 8

Wed. 26th January at
4:00 P.M.

(light refreshments at
3:45 P.M.)



Washington, D.C.
January 11, 1927

Dear Al

I thought that you and
John could use a preliminary
copy of my geological map of
the G. V. Memoir, in advance
of the slow moving Memoir.
See you both soon.

Les Hickey
p.s. yes, Lone Butte is mapped as
G. V. on this one.

January 3, 1977

Dear Al:

The title of my talk will be "Fossil evidence on and early evolution of the flowering plants".

I will be arriving on the Penn Communter at University Park on January 11 at 6:50 pm.

Looking forward to seeing you all then.

Yours truly,



Leo J. Hickey

THE PENNSYLVANIA STATE UNIVERSITY

INTER-OFFICE CORRESPONDENCE

Date: 22 December, 1976

From: Alfred Traverse

To: Dr. Joseph O'mara

re: visit of Dr. Leo Hickey

Per previous conversation, I would like to have Dr. Leo Hickey, paleobotanist at the Smithsonian Institution, present a lecture on the early evolution of the flowering plants, based on his newest leaf evidence. Drs. Keener and Hillson agree it would be desirable and that Wed., 12 Jan., at 4:00 p.m. would be a good time. The place will be 8 Life Science.

I would now like to cash in my raincheck for an honorarium for Dr. Hickey.

His home address:

1122 East Capitol St.
Washington, DC 20002

His social security no:

171-34-3959

Thank you. I imagine you might enjoy the lecture yourself.

Alfred Traverse

THE PENNSYLVANIA STATE UNIVERSITY

DEIKE BUILDING
UNIVERSITY PARK, PENNSYLVANIA 16802

College of Earth and Mineral Sciences
Department of Geosciences
Palynological Laboratories

Area Code 814
865-6543
865-2342

29 June 1976

Dr. Leo J. Hickey
Division of Paleobotany
Smithsonian Institution
Washington, D.C. 20560

Dear Leo,

During my enjoyable meeting with you during your visit to Penn. State around the 10th of June, I showed you some unusual endothelial-like cells isolated from sample JB2 (late Rhaetian, Newark Basin). I was not satisfied with my interpretation of these cells, particularly after your statement that Doyle has not recovered similar cells from his Lower Cretaceous samples. Therefore, I carefully macerated bulk sample containing visible organic fragments, and filtered the washed residue through a 44 μ mesh screen. The resulting concentrate of wood fragments solved the mystery, and has also yielded some exciting new evidence that complements the angiosperm-like nature of the associated anasulcate and zonosulcate pollen.

Enclosed you will find seven sheets of contact prints of my angiospermoid pollen for your records, and two sheets of contact prints of clusters of wood cells isolated from JB2. Also included is a letter to Doyle which explains my interpretation of these clusters at that time. Since then I have been critically analyzing my discovery, and wish to summarize my preliminary observations and conclusions:

The wood fragments (presumably of secondary-xylem origin) from JB2 contain considerable amounts of coniferous wood with only large circular-bordered pits. This observation is consistent with the dominance of the JB2 palynoflorule by bisaccate (ca. 60%), circumsaccate (ca. 15%), and circumpolles (ca. 10%) pollen. The remainder of the palynoflorule (ca. 15%) is composed largely of (angiospermoid) monosulcate and monosulcate-derived pollen. The wood-fragment concentrate contains a similar proportion of clusters of scalariform-reticulate tracheids and thick-walled reticulate ray cells (\pm multiseriate), which cannot be relegated to the Coniferales or Gnetales. In addition, the scarcity of circular-bordered pits in the tracheids and ray cells of these clusters seems to exclude the Bennettitales, Pteridospermae, and Cycadales, which largely have secondary wood containing only circular-bordered pits (Zamia is an exception with only scalariform tracheids).

These unusual clusters of wood cells probably came from several species of plant, and thus can be considered together only because of similar cell types present in the clusters. A reconstruction of a generalized wood type is possible based on a careful study of associated cell types in each cluster. However, the composite reconstruction will be reliable only to the point of very general comparison.

Several distinctive characteristics of cell types can be seen in numerous clusters: Very narrow and long tracheids with a dominance of reticulate, simple (perhaps bordered) pits are frequently attached to thick-walled ray cells with a dominance of reticulate, simple and bordered pits. The ray cells are heterocellular, based on orientation relative to the tracheids, ie. both procumbent and upright cells are present, as well as elongate sheath cells. The rays were largely multiseriate based on dense clusters of ray cells, sometimes in contact with tracheids. Uniseriate rays or wings of multiseriate rays were present based on the presence of individual and (vertically or radially) stacked, rectangular and very narrow ray cells with thick walls and reticulate simple pits. Tracheids tending toward fiber tracheids may be present based on scattered pitting. Helical and scalariform tracheids have been observed, although they are numerically scarce compared to tracheids with reticulate pitting.

If this composite wood type were angiospermous, it would differ from the most primitive, vesselless wood of extant angiosperms in the scarcity of typical scalariform tracheids. However, the tracheids of primitive extant angiosperm wood are distinctly wider than those of my wood clusters, based on size relative to the size of ray cells. If one were to reduce the (relative) width of a scalariform tracheid to the (relative) width of the tracheids in my clusters, the scalariform openings would be dramatically shortened to elliptical and circular openings. The smaller width of tracheids in my clusters is consistent with the trend toward enlarged width and vessel evolution in more advanced, ranalean angiosperm woods.

In conclusion, the unusual clusters of (secondary?) wood cells, and the abundance of individual or clustered ray cells in JB2 point rather strongly to a very primitive, vesselless angiosperm wood. It would be more difficult to derive this wood type from a gymnosperm than relate it to an angiosperm. The presence of isolated, elaborately branched astrosclereids with long processes in the wood concentrate of JB2, as well as fragments of phelloderm? composed of more or less isodiametric thin-walled cells (similar to the young phelloderm of Kadsura), also points to angiosperm affinity. When the tectate and/or perforate anasulcate and zonizonasulcate pollen of JB2 is considered, the potential for angiospermy is greatly increased.

Although I have not yet isolated any large cuticle fragments or whole leaves that might belong to the types of plant producing the angiospermoid wood and pollen, small-leaved conifers generally dominate at this time in the Newark. In fact, scattered leaves of Brachyphyllum and Pagiophyllum are present in JB2, and these leaf types are dominant for the Newark in general. I must therefore raise the question of why these small leaf-types are selectively chosen over larger leaves

in the Newark. If there is some adaptive significance for small leaves relative to the climates that may have existed during Newark time, then the probability of a large leaf "angiosperm" existing in the Rhaetian of the Newark is unlikely.

One unusual and puzzling aspect of my angiospermoid pollen is the presence of zonizonasulcates possessing a tectate-columellar exine with numerous tectal perforations (types N and R, JB2). Zonasulcate pollen, although clearly monosulcate-derived, exists today only in the Nymphaeaceae (most), Eupomatiaceae (all), and Monimiaceae (very few), according to Walker (1974). Anazonasulcate and zonizonasulcate pollen is restricted to the Nymphaeaceae and Eupomatiaceae. Types N and R in JB2 are zonizonasulcate. The zonizonasulcate pollen of Eupomatia is apparently atectate. If Walker's evolutionary trend from atectate to tectate is irreversible, then the pollen of Eupomatia is more primitive than either types N or R! Furthermore, the pollen of the Nymphaeaceae (excluding Nelumbo) is supposedly atectate? or tectate-granular (Walker, 1976), but the pollen of Nelumbo is tectate-columellate perforate (and supposedly tricolpate). Several species of Nymphaea possess highly sculptured pollen (see Walker, 1974, Fig. 19-24). It is therefore unusual that we lack species in the Nymphaeaceae with tectate-perforate zonasulcate pollen. The highly sculptured zonasulcates of some Nymphaea might instead be intectate rather than tectate-granular or atectate?. Furthermore, the supposedly tricolpate pollen of Nelumbo frequently shows two of the supposed colpi forming an incomplete or rarely complete ring furrow. If such a ring furrow does exist in Nelumbo, then the third colpus is probably distal, and correlates with the distal ulcus present in the zonasulcate pollen of Nymphaea candida and N. mexicana! A distal ulcus is frequently observed in my type N, and an exinal thinning or weak ulcus occurs on one side of my type R.

Putting all the above into perspective, with the premise that zonasulcate pollen can revert back to monosulcate (Nuphar), but rarely, and that zonasulcate producers (excluding the catazonasulcate pollen producers of the Monimiaceae) form a distinct lineage from most monosulcate-producing lineages, the Nymphaeaceae may have been derived from the branch that produced Eupomatia (atectate). Within this branch, a tectate-perforate exine evolved (types N and R), ultimately giving rise to the pseudo-tricolpate condition in Nelumbo, to an intectate condition in Nymphaea, and to an intectate anasulcate condition in Nuphar. The tectate-granular condition in some zonasulcates may be either a regression from a columellate-perforate condition, or perhaps a holdover of a pre-type N and R level of evolution. It is tantalizing to consider the pseudo-tricolpate condition in Nelumbo as one pathway to the tricolpate condition.

The similarity of the flowers of Eupomatia to Nymphaea and Nelumbo has been noted in the past. Although Eames (1961) does not see any close affinity, I do see a possible ancestral relationship.

I look forward to your reply.

Sincerely yours,

Bruce

Bruce Cornet

14 February, 1978

Dr. Leo Hickey
Division of Paleobotany
Smithsonian Institution
Washington, DC 20560

Dear Leo:

Thanks for yours of 8 February. Glad to hear the personal news. We did know about Jason (what a vogue for that name there is!--I guess it's the classical yearning...) and were very pleased. Somebody had told me about your change of residence, and I'm sure it's better for your family.

I do hope you'll get your materials back from John. Truth is, the loan was only theoretically to me, actually to him--but I am technically responsible, so I pray that John can find the stuff!

Regarding your inquiry re the coal series, the man to ask is: Dr. Alan Davis, Eike 517, etc. They get many such requests, but I am sure he'll feel honored to be involved with the Smithsonian! We feel your idea of sizing will keep you busy with your sliderule--we used the proposition on a Ph.D. exam today, and it was a lulu! Also, I think you should begin with wood (and go to graphite?)

Another matter I'd like to bring up is re those summer apprenticeships or whatever at the Smithsonian. I've bothered you about this before. Could you tell me how to advise two very outstanding undergrads to apply for summer of 1978?

We're surviving the winter--but it has been a slight pain in the posterior.--Especially the deep snow. I thought you might be interested in the enclosed xerox of a newspaper article about me. Best wishes as always.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et
enclosure
cc: John Bebout, Alan Davis



National Museum of Natural History • Smithsonian Institution

WASHINGTON, D.C. 20560 • TEL. 202-381-5938

February 8, 1978

Dr. Alfred Traverse
Department of Geosciences
Palynological Laboratories
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

Thank you for your very kind response to my request about those slides. I am sure that it was no coincidence (today) that John called me about them and is fairly sure that he still has them among the things he moved but didn't sort out yet. Please don't feel bad about them; I hate to write dunning letters to responsible researchers such as you; the registrar's computer kicks old loans out periodically and then I have to write an inquiry. One good result of the whole thing is that I am going to get together with John for lunch on Wednesday.

Monday

Some news of our family; I may not have told you but our third son, Jason, was born in February 3, 1977 a little more than a week after my trip to Penn State. We moved from our old house on Capitol Hill to a much larger one with plenty of yard space in Northwest D.C. in August. It has been a winter wonderland there with continuous snow cover since January 2nd.

I have one other reason for writing and that is to inquire if there is someone to contact at Penn State who might be able to help us to find specimens for an exhibit on the coalification series from peat through anthracite. We are thinking of arranging them using pieces sized so as to give an equal BTU value. When your letter arrived today I remembered that Penn State has the leading coal petrological laboratory in the country.

*AL -
I recommended
you!
Sorry -
but it's
an
honor!*

I think of you and your need to commute between the places of your dual vocation in snowy Central Pennsylvania in what must be a hard winter. Best wishes for an early spring.

Sincerely,

Leo

Leo J. Hickey
Associate Curator
Division of Paleobotany

31 January, 1978

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, DC 20560

Dear Leo:

How good to hear from you again! It seems like a long time since you were standing in the snow here. We have much more of the ~~damn~~ stuff now and are having real trouble with ice as well. This winter is because of the precipitation, much more difficult than last year which presented only low temperatures. I understand that even Washington has seen a fair amount of snow!

I was mortified by the news in your letter that the loans were not returned to you. They were, of course, in the care of John Bebout. I used to have a note about them posted on my bulletin board to remind him and me that they should be returned. In the meantime I have had my office moved from the fifth floor to the fourth floor which was terribly disconcerting, and I have difficulty finding things. I had assumed that John returned these things to you when he left here. In fact, I have sort of a vague memory of having discussed it with him. In any event, my apologies if you haven't got them back yet. I'm sending a copy of this letter to John, who now resides in your near neighborhood, and I would think that between the two of you and maybe poking me up we can find the items. I certainly don't want my credit rating to be destroyed through no fault of my own! Best wishes as ever.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et
cc: John Bebout



National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 • TEL. 202- 381-5938

January 24, 1978

Dr. Alfred Traverse
Department of Geosciences
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

It has been a year since I have seen you and I hope things are going well. The real reason that I am writing, however, is that your name popped up as a result of a review of outstanding loans that happens here periodically. In this case the items are three spore slides from the Golden Valley Formation, two containing megaspores of Isoetites horridus and one of spores of Woodwardia grvida. These are listed as loan number 319077 on an invoice dated 11/3/75. If you have no further need for these I would appreciate their return. However, if you would like them for your reference collection I can certainly arrange to exchange them for slides that John sent some time ago.

Sincerely yours,

Leo J. Hickey
Associate Curator
Division of Paleobotany



National Museum of Natural History • Smithsonian Institution

WASHINGTON, D.C. 20560 • TEL. 202-

Red Lodge, Montana
June 24, 1976

Dr. Alfred Traverse
Department of Geosciences
College of Earth and Mineral Sciences
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

I really enjoyed my stay with you and your family and want to thank you and your wife for your hospitality. There was a very hectic week for me between the New Orleans meeting and getting ready to go to the field but I found myself relaxed and at ease during my visit. Cocktails on the patio and old Pennsylvania wines have a way of doing that. It was good to see how John was getting on on his research and to have a chance to celebrate with him and his wife, as well.

I am sorry if I hit another stage of Bruce Cornel's fuse, however. He must learn how to evaluate data responsibly and objectively or he will never make the grade professionally. Paleobotany, in particular, is a field where speculation has outrun the available evidence, so that we must

Be particularly careful to avoid building fantasies
 I am rather surprised that in less than two weeks
 he has been able to generate a whole new line of
 evidence that he did not even mention to me when
 I was talked to him. And Tricolpate yet;
 I wonder if he is going to find some tricolpate pollen
 in the Upper Triassic next!?

It seems to me that Bruce has really gone
 off on the wrong track. Instead of looking for
 complexes of characters he seems to have settled
 on a model of angiospermy for the early Mesozoic
 and to be seeking characters to fit his model.
 Hope you get him back to his thesis problem; he
 can make a really important contribution there.

Good wishes for all your endeavors until
 I see you again. Judy tells me she will not
 let me go to Penn State again without her.

Yours truly
 L.S.

XXXXXX

June 17, 1976

Dr. Leo Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560

Dear Leo:

Just a note to thank you most profusely and sincerely for the investment of time you made in helping John's comprehensive examination be more than just another formality. We all enjoyed your presence here and hope that we can set the lecture up in the fall for an encore! Perhaps on that occasion you can bring your family?

Cornet was so stimulated by your visit that he is off on a completely new kick working on some "angiosperm" wood which he has found in the Upper Triassic? I hope I can nudge him back onto the track without a crowbar...we had a fight about it this a.m.

Every best wish for your summer's work and thanks again for coming.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT:jb

February 27, 1976

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560

Dear Leo:

Thank you so much for yours of 11 February. I have shared it with John, and we are both delighted! As it turns out, this means that all members of the committee will be available here. It will be the second day of classes in the summer term, according to the new (and in my opinion, somewhat ridiculous) schedule. This means that although we would have only a skeleton crew of graduate students around, there would be at least a representative bunch. I wonder under the circumstances whether you might be willing to give an informal seminar at my home (or somewhere) one of the evenings while you are here?

That brings up the question of arrangements. Please let me know whether the gummit will be picking up the tab for your trip. If not, I will try to find something around here so you don't have to pay for it personally. I suppose ~~something~~ related to this is the question of whether you want to stay in a motel or whether you would be willing or even prefer to stay in my home. (Or somebody else's home if I don't have one at that time--more about that later.) I would imagine that you should certainly plan to arrive no later than the evening of June 9th. It is about a five hour drive from your door to the Deike building. There also is, of course, a commuter plane from Washington which flies up here in one hour--a very pleasant trip, especially in June. You could get more information about that by calling the office of the Pennsylvania Commuter Airlines in Washington. It arrives about 7 p.m. I suppose there are other arrangements that we will want to make, but you certainly can phone me later on if you have questions.

Looking forward to hearing from you, particularly with regard to the seminar, housing arrangements, etc. and with grateful best wishes, I am

Yours very truly,

Alfred Traverse
Professor of Palynology

AT:jb

cc: John Babout

December 12, 1975

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560

Dear Leo:

I have forwarded nomination ^{to} you to Bebout's committee, along with the very impressive resumé which you prepared. The chairman of the Graduate Program in Geology, Dr. Robert Scholten, has insured me that there will be no problem, and that you should hear formally from some word of dean one of these days. In the meantime, please assume that you are on the committee. I will be in touch later about John's comprehensive examination, so that we can set it at a time that you will be sure to be present. John and I certainly are grateful for your willingness to be on this important committee! Best wishes for the holiday season.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT:jb

cc: Dr. R. Scholten
John W. Bebout

December 2, 1975

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560

Dear Leo:

Thanks for yours of 19 November and the "vita" which accompanied it. I can now put through the formal request to get you on the committee and will take care of that as soon as the Thanksgiving holidays are over. John is doing very fine work and at a quite energetic pace, and I think you will be impressed with the shape of his research when you come (more about that later).

Thanks for your continued interest, and best wishes for the holiday season!

Yours very truly,

Alfred Traverse
Professor of Palynology

AT:jb

cc: John Bebout



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November 19, 1975

Dr. Alfred Traverse
College of Earth and Mineral Sciences
Department of Geosciences
Deike Building
University Park, Pennsylvania 16802

Dear Al:

I am glad that the trip to North Dakota turned out so well. The Golden Valley Formation lived up to its reputation I see. Given the abundance of megafossil plants in the unit and I am not surprised that you turned up with a few new localities. I will be very interested in seeing any new material you have when I visit Penn State.

It took me a bit longer than I had hoped to get around to revising an old resume. I will be glad to serve on John's committee and hope that this is what you need. I also hope that the slides I recently sent prove useful. Thank you very much for the papers you recently sent.

That slide of Pediastrum that John sent is really exciting. There is sedimentological and paleobotanical evidence of the development of extensive ponds and "drowned lands" just at this interval. I will write him more later.

By the way, Lone Butte does appear as Golden Valley on my master maps of the area and will appear on the revised map to be printed by Williams and Heintz.

Sincerely yours,

Leo

Leo J. Hickey
Associate Curator
Division of Paleobotany

Enclosure



National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 · TEL. 202 381-5938

November 3, 1975

Mr. John Biebout
Department of Geosciences
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear John:

By this time you have settled back into the routine of laboratory work and I expect you would like to see those spore specimens which I macerated from Golden Valley megafossils.

I am therefore sending to Dr. Traverse by separate mail three slides containing the following:

2 slides of Isoetites horridus (Dawson) Brown containing megaspores macerated from a fertile corm of that species from USNM loc. 14053

1 slide containing spores macerated from a fertile leaf identified as Woodwardia gravida n. sp.

I am enclosing pictures of the specimens serving as ^{the} source of the spores of each species, together with a few pictures of the type specimens of the Woodwardia spores. These lack the outer layer "perine?" typical of modern examples of this form but I believe that this was probably lost in fossilization. Each of these macerations was made of individual pieces of these specimens selected under the dissecting scope and watched during each stage of preparation. I think I took all possible care to prevent contamination. I believe you have a copy of the Golden Valley manuscript with the pictures and descriptions of these species; if not I will be happy to send you the complete sections on them.

I have not sent you the type slides of these forms but will do so if you require them. The Woodwardia spores are hard to find but they are there. Keep the slides as long as you need them; we could even exchange them for some of your pollen material if you wanted.

Sincerely yours,

Leo

Leo J. Hickey
Associate Curator
Division of Paleobotany

file

Enclosure



National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 • TEL. 202-381-5938

August 6, 1975

Dr. Alfred Traverse
529 Deike Building
Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

August 29 is fine; I have put it on my calendar. The only way to get parking is to arrive at 10 o'clock and ask the guard for a place. I will advise them that you are coming; just tell them you are visiting me in the Paleobotany Division.

I will be very interested in exchanging some of our experiences in Russia.

Yours truly,

Leo

Leo J. Hickey
Associate Curator
Division of Paleobotany

DR. ALFRED TRAVERSE
529 Doike Building
Pennsylvania State University
University Park Pa. 16802

1 August, 1975

Dr. Leo J. Hickey
National Museum of Natural History
Division of Paleobotany
Smithsonian Institution
Washington, DC 20560

Dear Leo:

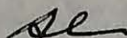
Glad to hear that you got back safely. I also, but considerably the worse for wear emotionally. I'll share some of my misgivings with you, backed by more facts than when we last talked, when we get together later in the month.

Speaking of which--how would 29 August work out? That's a Friday. John and I are planning to zip out to N. Dak. in mid to late Sept.

Gotta dash. Oh, yeah, re reservations--parking lot reservation at Smithy would certainly be appreciated. For housing, I may be able to stay with my old friend again. Will let you know later, if necessary. See you on the 29th, I hope.

Best wishes to you and mutual friends at S. I.

Yours very truly,



Alfred Traverse

cc: Bebout

P. S. My secretary quit in my absence--excuse typing



National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 · TEL. 202-381-5938

July 31, 1975

Dr. Alfred Traverse
Department of Geosciences
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

Survived Russia and returned to find an envelope of your reprints awaiting me. I am very glad to have them all, especially your survey of the field ^{of palynology} and the reprint of your paper in Science with Cornel and MacDonald.

I forget what I told John Biebout about dates to come down, the only time during August that is out is the week of the 17 to 23 when I will be on vacation. Otherwise I am here and have samples from the Golden Valley ready for you and am ready to help find possible localities high in the upper member where you might obtain more pollen samples. I only wish that I could spend some time in North Dakota with you.

Let me know when you want to come and I will get a reservation for you if you need it.

Sincerely yours,

Leo

Leo J. Hickey
Associate Curator
Division of Paleobotany



National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 · TEL. 202-381-5938

June 26, 1975

John W. Bebout
Department of Geosciences
Palynological Laboratories
College of Earth and Mineral Sciences
Deike Building
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear John:

I am very pleased with the progress of your work, it looks as if you are really getting a good palynoflora together. I have some samples to give you when you come from an excellent magafossil locality, a sequence of about 20 feet right across the Bear Den-Camels Butte contact; we trenched and sampled at approximately 1 foot intervals on either side of the Alamo Bluff lignite. I also sampled some promising carbonaceous beds at White Butte, near the level of the White Butte megaf flora, and approximately 45 feet above the base of the upper member. You are welcome to these samples, which are unpacked and waiting for you.

Right now I am involved in the last minute preparations for my trip to the Botanical Congress in Leningrad. We have also been working fairly steadily on the Golden Valley monograph which I hope to resubmit by the end of July.

Pick a day during the last week of August that suits you and I will be very happy to see you. I will go over my data carefully and see what areas I can recommend in the upper member for collecting. Unfortunately, the top of this unit has been extensively leached in most areas by alkaline ground waters.

Your pictures and provisional write up looks fine. I may have macerated your Laevigatosporites gracilis grains from a fertile leaf of a Woodwardia from the lower member. The xerox doesn't have enough data for me to determine this for certain, however, I can show you slides when you come. I know that you sent only an interim report and trust you will attribute the figure you labeled as text-fig. 1 if used in the final report.

Sincerely yours,

Leo J. Hickey ← *file*

Leo J. Hickey
Associate Curator
Division of Paleobotany

October 3, 1975

Dr. Leo Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institute
Washington, D.C. 20560

Dear Leo:

We just got back from North Dakota and had a great time. I suppose John will write you in more technical detail later. We had no difficulties finding the localities and even discovered a couple of leaf zones that at the places that maybe you didn't know about! The weather was sensational!

However, the purpose of this letter is to request that you take a few minutes to put together a short "vita" for the purpose of my getting you on John's doctoral committee. I suppose I could just use American Men of Science of something, but it would be out of date, and besides I would like to give you a chance to emphasize what you think is important. It would start with your undergraduate training and come down to the present, but please don't waste undo effort on it. It would be helpful if a couple of your publications could be mentioned by name--perhaps a bibliography would help.

With thanks for your help for arranging the trip to North Dakota, with best wishes, and looking forward to seeing the vita as soon as possible. I am

Yours very truly,

Alfred Traverse
Professor of Palynology

AT:jb

THE PENNSYLVANIA STATE UNIVERSITY

DEIKE BUILDING

UNIVERSITY PARK, PENNSYLVANIA 16802

College of Earth and Mineral Sciences
Department of Geosciences
Palynological Laboratories

Area Code 814
865-6543
865-2342

June 19, 1975

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560

Dear Dr. Hickey:

Dr. Traverse has returned from his trip to the Black Sea and we have been discussing our work in the Golden Valley formation. I told him of my recent letter to you and he suggested that I send you a copy of the original report I made to him. It illustrates much of what I included in my last letter.

Our trip to North Dakota is now tentatively scheduled for the middle of September. Is there a day in the last part of August which would be convenient for us to visit you? As I believe I already mentioned, we are most interested in collection sites for samples of the upper member of the formation.

Cordially yours,

John Bebout

John Bebout

Enclosure

April 29, 1975

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560

Dear Leo:

Just got yours with Dan Nicolson of 17 April re -ites endings.
The report of the Committee for Fossil Plants is in press in
Taxon, and you will be glad to know that we come down hard for
the Rauschert proposal.

Best wishes.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/usi
cc Dr. J.M. Schopf

Colbeck
Fidelity Onion Skin
100% COTTON

April 28, 1975

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560

Dear Leo:

The announcement soon after I came back from the hospital that I had been taken on as an on-board scientist for the Glomar Challenger cruise to the Black Sea, beginning about May 15, knocked a bigger hole in the possibility of my getting to Washington with John Bebout before I leave than I had thought. I still have not entirely given it up and will be in touch with you if it looks at all possible from our end to see whether you could have us come, but as of now I don't feel too encouraged that there will be even one day for such a visit. John has been making real progress with the samples we do have from you, but a conference with you re needed field work for us in N. Dakota remains a must, now or later.

Best wishes.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/vsi
cc J. Bebout

November 5, 1974

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560

Dear Leo;

Enclosed is a print of the snapshot I took of you in your office last July. It seems to me to be a remarkably good portrait.

We are continuing to make good progress with the samples from you, most of which have been more or less productive, some sensationally so. At the recent AASP meeting in Calgary young Robertson was present and is supposed (he didn't say it to me) to have registered some mild complaints about Bebout going on with the Golden Valley work, but we are pressing forward nevertheless.

Best wishes.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/vsi
Enclosure: photograph

July 8, 1974

Dr. Leo J. Hickey
Associate Curator
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560

Dear Leo:

This is, of course, to thank you for your many kindnesses expended to us under what I am sure were trying conditions for you. John and I both appreciated it. We are looking forward greatly to future collaboration with you and are only sorry that it really does look as if neither of us can take you up on your fine offer to be in the field together later this month. It is the sort of thing for which one usually has to make some plans, and it just does seem to be impossible at this time. I hope that something can be worked out for next year, although speaking for me it looks as if summer of '75 could be really rough, what with the International Botanical Congress in the Soviet Union and so forth.

Thanks again for a nice time and for all your help. Regards to all of my friends at the Museum whom you may encounter--I just don't think I'll write them all! Best wishes to you personally.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/vsi
cc John Bebout

June 10, 1974

Dr. Leo J. Hickey
Associate Curator
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560

Dear Leo:(if I may be so bold!):

This gives one a funny feeling--knowing that you will not see the letter until at least June 26! But I am hopeful that you will have time to open it when that rolls around. John Bebout and I will plan to arrive in Washington on Monday, 1 July and will hope that we can get the work which needs to be done sampling wise accomplished on the 2nd and 3rd, knowing that the offices will be closed on the 4th. If possible, I would certainly like to take you up on the idea of viewing the fireworks display in the "Nation's capital". We would then return to State College on the morning of the 5th.

With very best wishes and in expectation that the first week of July will be mutually beneficial to our work, I am

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/vsi
cc John Bebout



National Museum of Natural History • Smithsonian Institution

WASHINGTON, D.C. 20560 • TEL. 202-

May 29, 1974

Dr. Alfred Traverse
Department of Geosciences
Palynological Laboratories
The Pennsylvania State University
Deike Building
University Park, Pennsylvania 16802

Dear Dr. Traverse:

I'm glad to see that you have been able to solve most of the "ethical" problems with regards to Golden Valley Formation, and am looking forward to being able to cooperate with you and Mr. Bebout in carrying on your palynological investigations. I was actually rather surprised to have received the letter of inquiry that I mentioned from Eddie Robertson since I had not been aware from the discussions I had had with him previously that his work was going to touch on the Golden Valley. I am very happy that there will be no conflicts here.

As for your visit to the Smithsonian, the first week of July would be fine although I am planning to spend the holiday with my family in the city. Except for the weather, the Fourth of July holiday is very pleasant here with a good fireworks display in the evening over the monuments. Depending on both of our plans, we could get together and see this spectacle on the evening of July Fourth. I should be able to give Mr. Bebout and you a fairly good introduction to the Golden Valley Formation during that week and make available to you any number of specimens for palynological analysis. I believe that a carefully done palynological study in such an excellent palynological sequence spanning the Paleocene-Eocene boundary in an area to the east of the Rocky Mountains will be of critical importance to work in the interior American stratigraphy and palynology.

I am going to Europe on May 29 to June 26 so that I will not be able to see your reply to this letter; however, unless I hear to the contrary I will simply presume that you are coming during the first week in July. I am looking forward to seeing you and Mr. Bebout.

I am,

Sincerely yours,

Leo J. Hickey

Leo J. Hickey
Associate Curator
Division of Paleobotany

P.S. The type with this letter on it was considerably delayed
please pardon the lag. 1

April 29, 1974

Dr. Leo J. Hickey
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560

Dear Leo:

I have, I guess, touched all bases on the "ethical" problems that might be related to the Golden Valley since we talked over the phone last week. John Hall sees no problems. It is true that Eddie Robertson has worked in the Golden Valley, though the main emphasis of his studies has been in the Fort Union. Hall is not happy with the quality of the job that Robertson had done, he has emphasized floral studies of what seem to me a very dubious character, and he has not touched anything above the lowest Golden Valley. For all those reasons, John was quite happy about the prospect of my student, John Bebout, carrying on the work. I then contacted Francis Ting, paleobotanist-coal petrologist with the Department of Geology at the University of North Dakota, and the North Dakota Geological Survey. Francis was interested in the possibility of Bebout going on with this study and also saw no conflict with what Eddie Robertson has done. He promised to inform the various people in the North Dakota Survey of our interest and proposed work so that it would be a matter of record up there. I guess that we are now all set on that sort of problem!

Now with regard to the timing for a possible visit to Washington for collecting samples by Bebout and me. I recall that you said you would be available the first week in July, and that is when we would like to come. However, I am wondering whether the Fourth of July holiday would affect your availability at the Smithsonian. I would find it perhaps fun to be in D.C. on the Fourth, but we want to be sure to be able to get our work done too. Presumably you have various other plans, and I want to be in a position to fit into them without inconveniencing you. After you have thought this over, maybe you

can phone me, and we can set up an actual schedule for the visit.

T

Thank you so much and looking forward to this project. With great anticipation, I am

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/vsi

Re Green Valley Fr. project

Eric Hickey!

23 April, 1974

Called Hickey. He welcomed
our further interest in GVF. Said
I could visit him w. Bobert ca.
4 July 74 to "collect sections" in
his office at Smithsonian. Warned
me that John Hall has a student
on Green Valley.

24 April

Called John Hall. Student
mentioned above is ^{Edna} Robertson. Has
concentrated on Green Valley.
Has no real conflict for Bobert's interest.
Says Robertson's thesis done too good a
job.

24 April

Called Francis Ting. Says VWS -
NJ Geol. Surv. would welcome Bobert +
me if we worked a GVF - feels
that problem is big enough to provide
a good scope for Robertson & Bobert.
Says he (Ting) is prob. moving to West Virginia.

Says that he will inform all people at right. ^{that}
Bobert is in this.

August 17, 1973

Dr. Leo J. Hickey
Associate Curator
Division of Paleobotany
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560

Dear Dr. Hickey:

This is to thank you for yours of 2 May, which I can hardly believe arrived so long ago. I just want to assure you that I am still very interested in the project we have previously discussed about the Golden Valley, and the only thing I am waiting for at the moment is the beginning of the fall term and the arrival of new students, one of whom might very well be a good prospect for collaboration with me on this work. In the meantime, I just wanted to assure you of my continuing interest and to thank you for the letter and other literature which you sent, all of which I have read with great interest. I will be in touch with you sometime during the fall, and it is not entirely impossible that I might be able to get down to Washington to discuss the matter with you in person, as I have some other probable business down there which will come to a head during the fall.

Best wishes and thanks for your preliminary indication of willingness to cooperate.

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

AT/vsi



National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 • TEL. 202-~~678-4472~~

-381-5938

May 2, 1973

Professor Alfred Traverse
Department of Geology
and Biology
Deike Building
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Dr. Traverse:

I am very happy to hear of your interest in the Palynology of the Golden Valley Formation and will be willing to assist you in any way possible. I have a GSA Memoir on this unit in press right now, but it will be some time before it is published. I am thus sending you an interim report I wrote for the Coal Geology Section of GSA last year which should give you the general picture. I am also enclosing a megafloral and pollen list.

The Golden Valley is a really critical stratigraphic unit since it crosses the chronostratigraphic boundary between the Paleocene and Eocene and contains well documented assemblages of invertebrate, vertebrate and plant fossils.

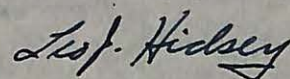
Very early in my studies I realized the necessity to have pollen data and Stella Leopold agreed to run several samples for me. Her list which was published in Leopold and MacGinitie, 1972 (in Graham, A., Floristics and Paleofloristics of Asia and Eastern North America (Elsevier), Chapter 12; p. 147-200) and her correlation based on it supported my placement of the Paleocene-Eocene boundary completely. However this was but a reconnaissance and a really detailed study is necessary. I called Stella last week and she agreed that you and your students would be the perfect choice for this study.

My own research would seem to provide the background for making a palynological study of considerable refinement with regard to the systematics and paleoenvironmental reconstruction. I have mapped the entire formation and have made approximately 70 measured sections of it giving me virtually total stratigraphic control of the unit over its whole area. Glenn Jepsen has studied the vertebrates of the Eocene portion and now Robert M. West of Adelphi University is starting an intensive program of small mammal collecting.

I too am very much in favor of integrated studies by a number of specialists and feel that this would be an extremely worthwhile undertaking. Given the geographic location of the Golden Valley Formation with its small but significant representation of Gulf Coast pollen types the result of such studies might be to provide the much needed standard reference section across the Paleocene-Eocene boundary in the Western Interior.

If needed I can send you copies of my sections, maps, or the Memoir manuscript. Unfortunately I do not plan to spend any time in the area this summer but I can give advice to anyone who might be collecting there.

Sincerely yours,



Leo J. Hickey
Associate Curator
Division of Paleobotany

Enclosures

March 30, 1973

Dr. Leo J. Hickey
Division of Paleobotany
Smithsonian Institution
Washington, D.C. 20560

Dear Dr. Hickey:

On a recent trip to Princeton, I heard from my friend Erling Dorf that you have been working for some time in the Golden Valley Formation of North Dakota. I suppose I should have picked this up from the Paleobotanical Section annual reports, but it had somehow escaped me. Ever since I was stationed with the Bureau of Mines in North Dakota nearly 20 years ago I have had an off-and-on mild interest in the palynology of the Golden Valley. What brought the subject up with Erling was that I have had a couple of students running samples I collected at that time recently and was thinking of somewhat intensifying my interest. Do you already have a palynological collaborator? I always much prefer to do palynology in connection with persons who are working up other aspects of the geology of an area because it makes the results more meaningful, and one gets more productivity from studies so based.

Looking forward to hearing from you and with best wishes I am

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

AT/vsi