CROSS REFERENCE SHEET

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Regarding

Date

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Name or Subject

Smith, Alexander
Fellowships in Chemistry

File No.

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CROSS REFERENCE SHEET

Name or Subject: Me. Cay, H. M.  
Regarding: Chemistry  
Date:  
File No.:  

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Name or Subject: Harper Letters, June 4, 1898  
File No.:  

File cross reference form under name or subject at top of the sheet and by the latest date of papers. Describe matter for identification purposes. The papers, themselves should be filed under name or subject after "SEE."
July 25th, 1892

President N.R. Harper,
University of Chicago.

Dear Sir:

After having conferred with Professor Def as to the suitability of the subjects, I should like to offer the following lectures in chemistry at the opening of the University year: for the first three quarters,
two hours a week on "The Nitrogen Compounds in Organic Chemistry, with especial attention to the aromatic, pyridine, and quinoline series."

For the third quarter, besides the former lecture, one hour a week also on "Recent Synthetic Methods in Organic Chemistry."

Hoping that these subjects will meet with your approval, I beg to be informed in case any further steps must at present be taken by one in connection with the announcement of these lectures.

I remain,
Very Respectfully,

[Signature]

223 McIlvain Ave,
Detroit, Mich.
Prof. Wm. R. Harper,

My dear Sir,

Yours of Aug. 1st, inclining to my modification, was duly received.

I quote your exact words—

"Your corrections of the Register material amount to a reconstruction or recasting of the department. It involves a large amount of expense, and I think it best to make these changes."

I cannot really believe that you would do either in capa diap or chaf what you know simply, namely, making changes in the department entirely in my own responsibility without consulting either you or other members of the department concerned. In such an understanding manner, as this, by struggling them through under cover of Prof. Dr. section. If any rural uncle is in the condition to allow me or do anything to the
Kind, it is quite evident that mistakes
my calling, & should have chosen as
when a Clergyman having & amount are not
required.

The fact is that the program was to
department, with the exception of the introduction,
which I wrote myself at Dr. Kebo's request, I ran
such a state of utter confusion that none
could make anything out of it. I had likely
at least an hour or it before I could find what
some of the statements really meant.

The following are some of the errors:

1. Some words printed twice, but in different

from:

2. Some printed without underlines.

3. Some different words are crossed out in the

statement.

4. Crossing printed without numbers.

5. Numbers attached to explanatory paragraphs.

6. Total absence of rational connection in the

order of the courses.

7. Special & General courses throng through each

other in the wilder confusion, making it

impossible for an intending student to

tell which are required without election,
Many of the required cases being placed under the head of Optimal cases -
8. Failure to distinguish between lecture and laboratory cases. in cases where this is essential.
In addition to this, there are misinterpretations regarding my own cases, unless the expert witness, which I am pointing in error, together with other errors and misinterpretations, all kinds. It was quite the most difficult piece of work reading & understanding. If you had examined the report critically, as I must, you could not be expected to do. It being a chemist, not having exact information in this matter, you would have found it a useless

The only cases open to us was 5 cases & remembering the cases, as they should follow in topical order, rather than special or optimal cases, leading topically in my section. These, and much more.
Corrections, intended to express clearly in the English, what was meant, were all the changes I made, but there were quite sufficient to give the prof its alarming appearance. I did not alter a single word, I refrained as much as possible from making even verbal change in other words than my own, except when absolutely necessary for clearness. I think it would well enough to make amendments in general chemistry in the chemical quarter is irrational but in harmony with modern methods as teaching the subject. Dr. Heffernan must withdraw it, but did not do so. I might have taken his promise as an excuse for calling it out, but did not. I believe this course by E. T. Smith, professor of chemistry in the university of Pennsylvania, is the best American chemical. He at once said it was absurd. Prof. Knovaloff, professor of general chemistry in the university of St. Petersburg, told me practically the same thing.
The previous programme of the department have been repeatedly edited. I can point to you in the April Calendar (pp. 30-31) where the arrangement of numbers is such that elementary general Chemistry requires as a prerequisite Organic Chemistry and research work in Anatomy (11). I can point out in the same calendar still more blunders, not typographical which would disgrace a student, but in spelling standing. The programme proceeding from this department neither has been another in poor verse nor poor English, but I am willing to submit them in defence of my statement to Professor Benner or any other competent chemist as well as to anyone who knows what clear expression means. That the blunders are largely due to carelessness, is simple true, yet it seems to me that when a man attempts to be "head" of a department, it is his business not to be so absorbed in research that he cannot look out for these things. I don't know that it is fair for my work to protect by help reputation, yet I think I have...
An issue a frequent preventing such affairs
of work as this from the Register from appearing
in its original form. The most injurious
have been to have been to have been to have
have left it standing as it was, and to have allowed
him to shoulder the responsibility with
him. Indeed, it would have brought in little
valuable from outside chemical writers.

While one or two others propose to me, with
regard to this program. The first is to
put it in such shape as to make it intelligible
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I blamed to glad & except the original part as well as the already published statements of the department & the judgment of Professor Klinek or any other chemist of equal standing in support of what I say. I refer only to matters which are uninvolved, but to those in which other may still be a difference of opinion. Here melb a Congress of Chemists held in Aug. 214 which I could afford a fair opportunity. I hope I have made it clear that I could as hit me of the strings & that not the defence in the chief of the department & I have claimed another alternative & handed the proof task to Mr. Hilton without withdrawing any of my modifications. I am very sorry to put the line at the receipt & any further expense & will not order to have been made & only with your request to spare the red ink but & have no other. I am of course ready & else I amed to you. I am very sorry & else I amed to you. I am also very to have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it. I am also sorry & have had if you require it.
Dear [name] & dear [name],

I am writing to express my concern and regret. As you may know, my work was based on a misunderstanding of your position. I regret any inconvenience or distress this may have caused.

I have since handed you my statement about the assistant who claimed to have experience in teaching. I have consulted with several chemists, including Prof. Smith, Dr. Klein, and Prof. Pena, who have all agreed that such experience is not necessary for an assistant. I estimate that the half-year, which was me for fifteen.

Prof. Alva, whom you have arrived, stated

With his services, I think

Can you suggest any arrangements, or will you authorize me to make me?

I am telegraphing [name] communicating (with your permission) with the principal and teachers in Chemistry in the Chicago High Schools with [name].
view of ultimately arriving at an understanding and in relating in this matter. I feel, I think I feel if you could put me in the way of getting this name and address, I feel these gentlemen from a construction I had today with Mr. Field, principal of the High Park High School, I judge that the amount which has been used or present is not much on behalf that required by us present entrance requirements in chemistry. Yet I do not think we require more than should be required by a B.S. Candidate who does not expect to pursue the subject further. It is no wonder they cannot pass the examination. I do not think our standards too high, but it is absolutely necessary that they should be so. I misunderstand the schools may perhaps do something towards meeting it by improved methods, better text books and teachers, specialization in the part of students preferring it. This chemistry, we entrance.

Yours very truly,

[Signature]
Chicago, Nov. 11, 1873.

Professor Wm. R. Harper,

Very dear Sir,

I regret to trouble you with a matter which I consider of extreme importance for satisfactory conducting the work in General Chemistry. I have hesitated to do so, but matters have come to a point where it is practically impossible to carry on the work in the proper manner, and I find that no solution of the difficulty can be reached within the department. Without going into technical details, the point is this.

For several years, there has been a growing opinion among teachers of General Chemistry that the subject is being improperly taught. Beginners have been trained only in the most superficial elements of manipulation, in fact, hardly more than was done fifty years ago. As a result of this imperfection in training, students almost invariably fall into careless habits, of which it is impossible to cure them at a later stage. In common with many others interested in the subject, I have felt that
This was a grievous error, that as Chemistry is an exact science, it cannot be taught as such from the very start. Exact work requires exact instruments, the chief instrument of precision in the case of Chemistry being the balance. In among the usual authorities I consulted eminent authorities in teaching Chemistry, and concluded that the new method was in every respect the best, and planned my work accordingly. Instead of being encouraged in my effort to introduce the best system, I was not only rebuked, but treated in an extremely unkind manner, because I ventured to express any opinion as to the best method of teaching. Dr. Jeff sent me to understand that the best laboratory was for research only, that beginners were an unpleasant temporary necessity, that they were to be merely tolerated and whenever the occasion was satisfied with what was first given, the balance was not to be given. I was told by Dr. Jeff that there was not enough money while at the very same time he was telling others that he had a surplus of three thousand dollars, a statement which he never
forgotten as far as to make to me. Instead of being exasperated, I was led to feel that I was in advance
with my pupils, that I ought to neglect them & look
out for my personal interest rather than for that
of the University. This has been said & is repeated.
Especially in the case of chemical balance, a mere
Especially in the case of chemical balance, a mere
chemical equation which are needed in the elementary
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This year my request was again flatly refused.
A small portion of Mr. Kunitz' money is not allowed
to be spent on this important item. Though Dr. Hef
kopes, he tells me, it reserve two thousand dollars
for incidentals. In short, misunderstanding my points
representation & you of the importance of this work, it is
still to be carried on in a starvation basis.

Now if I were attempting anything more, far more
with the opinion & experience of the best authorities
of the matter would be different. The fact is, however, that
satisfied myself of the reasonableness & practicality
of my views before asserting them. I have letters
from the most eminent teachers of general chemistry,
both in England and America, in which my plan
is endorsed, on the basis of their own experience, as the
Only one by which Chemistry should be taught. Then obtained their letters, not to strengthen my new convictions, but because I believe that the only way to deal with brutes & dogies is to crush them with the weight of authority. I beg to submit a few of them to you, with the request kindly to return them after noting their contents. I enclose letters from the following.

In England.

Professor Ramsay, University College, London.

Thorpe, Royal College of Science, London.

Gladstone, London.

Ramsay and Thorpe are unquestionably the two most eminent active Chemists in England. Gladstone is also a very high authority and all three are actively engaged in chemical instruction.

In America.

Professor F. W. Clarke, Chief Chemist, U.S. Geological Survey.

W. A. Noyes, Rose Polytechnic Institute.

P. O. Greer, University of Michigan.

E. J. Smith, President of Chemical Laboratory, University of Pennsylvania.

E. H. Keiser, Bryn Mawr College.

Clarke is well known as one of the most prominent American Chemists. Smith is also well known by chemists.
Everywhere, and has had long experience in using my "system" with large numbers of students. All of them had had long experience in teaching beginners, and all of them are actively engaged in research work. They all appreciate that my system not only makes the best chemists, but also the best investigators, and at the same time give the best discipline in school education. You will see that Gladstone says that it is now recognized by the British Government, and introduced into elementary schools under government control.

In fact, it is impossible to find satisfactory laboratory manuals which do not require experiment, involving the use of the chemical balance. Russell's rule is that the chemical balance. Russell's rule is the chemical balance. Russell's rule is the most important known test of the quality of the most important

From Dr. T. Bates' paper, you will see that he finds it impossible to perform without experiment. The same paper gives the best advice on teaching. The instructor at the University of Chicago wrote me that the instructor at the University of Chicago wrote me that he has introduced this system. Students come in and demand this kind of work, and experiments of

and demand this kind of work, and experiments of

When they find that the University of Chicago is in the clear instead of the man in progress in chemistry

the clear instead of the man in progress in chemistry

in chemistry in the Hyde Park High School is in the

in chemistry in the Hyde Park High School is in the

affiliated Chicago Academy, these men can at the

affiliated Chicago Academy, these men can at the

learn how to teach chemistry, and how to

learn how to teach chemistry, and how to

make mistakes and apologies. The last is not great

the instruments last for years, and these instruments

the instruments last for years, and these instruments
no excuse for not getting them. Shall we in the University of Chicago offer so good instruction as can be obtained elsewhere, even at smaller institutions like, Dehorne, Barns, Wilt & Roe Polytechnic? Is it likely to draw students when the director of the latter, Dr. Osgood, says that beginners are to be tolerated only, unless yet along with what is left? the time will now come when this instruction can be dispensed with, because both the graduate need it. I have in my elementary class alone, five or six freshmen graduates. Besides those intending to become teachers, in all, very nearly three fourths of the latter list. Yet these are to be compelled to work by methods rejected by the best teachers & thinkers, because a few students are to be supplied with costly chemicals, a single bottle of which, used up in a few experiments, costs more than a balance which costs one or two years. Is any this, while I am quite as much interested as Dr. Jepson in the advanced work as Dr. Jepson.

The main obstacle to conducting this work properly is the power & inclination of too man to play the tyrant, & interfere in work which is not in his line, which he does not understand, and does not care for. Having been called here as an expert in General and Inorganic Chemistry, ever as his assistant, and having been given
Work of the very highest difficulty and responsibility, which is just our chief interest to general education and the Theoretical Department in the University, than the as-Called advanced work, and which in Europe only the very best men are allowed to undertake, I find myself subjected to the ignorant and insipid dictation of an extreme specialist in another branch of chemistry, which notoriously requires, my the more superficial preparation in a knowledge of chemistry in general. I am actually denied the right of free speech, and am personally called to account for having dared openly to express in faculty meeting an opinion differing from his, on a matter which concerns my work and not his. I have been so often deceived that I do not know when I am listening to the truth. I am placed in a mortifying position before students, that I must make apologies because they are unable to perform even the experiments in their text books, many of whom know that things are not so conducted elsewhere. I have so many 000y students in the temporary laboratory as can be accommodated, and the situation is rapidly becoming intolerable. Within a week or two at most I shall be compelled to explain the exact situation to these students, and as it is my custom to speak the truth,
I shall do so on this occasion.
I have had my last word with Dr. Hef in this matter. These interviews are certainly too unpleasant for me to continue any longer, when I am compelled to listen to statements which I do not believe. Besides, I am getting a reputation for various disagreeable qualities, simply because I do not blindly accept without question, all the responsibilities which are placed on me. It is not my custom to allow my self to be forced into doing really what I wish to do and can do well. I have the weight of authority on my side, and I know perfectly well how my action would be regarded not only by my students, but by my scientific friends. Whose letters I send you. I am obliged to tell you this dictation is intolerable, that it is better to teach Chemistry as a whole than to teach it piece by piece. I need not remind you that I am not the victim of this tyrannous spirit, either in our of the chemical department. I refuse to predict that recommendations for promotion in this department will not depend on faithful adherence to one duty, but in blindly following the orders of a dictator, who might be respected if not beloved if his knowledge outside his special branch were not dispicable, but who must obey explicit decisions & instructions among these in which
will he attempts & meddle. future positions will not be given to those who has shown fitness for their special work, but to those series & cycophant.

General Chemistry will be neglected because no narrow training is needed as a preparation for organic chemistry, & inorganic Chemistry must

be also, because it requires a great & wide preliminary training. I have explained this before, the importance of these branches - I can

add that I am glad to do my best in developing them, but I can do so only when unhindered as far as the general ambition of the university will allow.

I am not a cycophant; & if the department is to take the course which appears to be indicated, I shall be compelled to both on its degeneration from the outside.

The my remedy for these dangers, which from the nature of the situation will be constantly recurring, in one form or another, is this; that the inorganic

in one form or another, is this; that the inorganic

branch, in which complete harmony & cooperation exists, he placed on an entirely independent power should be given to act with entire independence
in the matter of requisitions for materials & books, unless the necessary will never be obtained. Such distribution of the required materials should be made, that the instructors in inorganic branches should have their students working under their own control, & enabled to introduce such matters of discipline as they think necessary, without interference. This is the general custom. As far as I am aware, this is the most unpleasant kind.

I need hardly say that the above statement are made my me, with great reluctance, & after due & most careful deliberation. I am ready to publish the same under all circumstances.

Yours truly,

[Signature]
may learn to make compounds new or less inspire ad nauseam. I do not understand how Stokes could send you this letter.

Yours very respectfully,
John Wylie Nef.

P.S. I would like to ask you if there is any truth in the rumor that the head last year (read) actually was seeking for a head professor in Chemistry? Schneider, for instance, stated to me that you had asked him whether he did not think an older and steadier man ought to be in charge of the laboratory.

Chicago, Ill., Nov. 19, 1933

Dr. W. R. Harper
Dear Sir:

I have read one the letters which you sent.

The facts in the case are as follows:

Mr. Stokes wishes to provide the finest analytical balances for the use of beginning students who work but six hours a week in the laboratory and whose work during this time necessitates the use of a balance only to a slight extent. Assuming that 100 students take the course (and this is a reasonable estimate for the near future), this means the purchase of 20 analytical balances at a price of about $50 each. It means further that a special room must be fitted up for these balances in the new laboratory as the other balance rooms are needed for quantitative analysis and for research work — and there is no room left on the top floor which can be used for such a purpose.

If I thought Mr. Stokes’ request in any way reasonable, practicable, or desirable, I would be the first to grant it.

Last June when we were making up the equipment order, Mr. Stokes put down six ordinary good balances, costing $10 apiece, which were intended for general use in his course in General Chemistry. He then thought, and that was my opinion also, that these
scales were sufficiently accurate for the work in general chemistry. Why he now takes the ground that these are not satisfactory, I am unable to understand.

I feel sure if the facts were presented to any director of a German Reise, their laboratory he would say it was "Blödel." I know further that the Harvard Yale and Johns Hopkins men do not do this and that they would be amazed if they knew we were contemplating such a thing.

With regard to the letters which Stokes has received, I have the following comments to make:

Prof. Soper's letter does not bear on the question at all. He states that he deems it wise to put none of our work on record until analyzed in the same article - and this is my opinion, but this has nothing to do with point involved.

Prof. Raper's states: "I regard it as a mistake to expect a beginner to analyze with great accuracy. If the results are correct to 0.5 percent, it is good enough! This is my opinion, and this can be accomplished by using ordinary cheaper balances.

At Harvard all the men in general chemistry (also in my time) work on very rough balances - far less accurate than those which Dr. Stokes agreed upon last June - and the results are very satisfactory.
October 30, 1900.

President W.R. Harper,

The University of Chicago.

My dear Doctor Harper:

A remark of Dr. Goodspeed today seems to indicate that your remark about our bankrupting the University was more than a joke. I want to point out (for your information) that during the present quarter we have 177 majors of laboratory work (this does not include registration for lecture courses). Of these, 105 are in general chemistry. For handling this work we are going to incur an expense of one associate professor, who is doing other things at the same time, and a number of assistants costing altogether $306.66, which is less than the salary of an associate. It does not seem to me that, for a number of students sufficient to fill four ordinary classes, the cost is at all out of the way. I think that the work might be better done if the enlargement of the expense were possible.

In connection with this matter I might add also, purely for information, that the cost to the University of the laboratory work of a student taking general chemistry for three quarters is as follows:

Chemicals, for three quarters........ $4.68
Repairs of apparatus............. .59

$5.27

We are at present charging $15.00 in laboratory fees, intended to meet these expenses. If we throw in the cost of solution, making
and an extra man in service in the special general chemistry store-room, the total becomes $7.97 for three quarters, or $2.66 per quarter. It certainly seems to me that the laboratory fee in general chemistry should be reduced somewhat in view of these facts. This is not a proposal to reduce; that will come later if it comes at all.

Finally, Dr. Goodspeed mentioned that he had got into a difficulty through having notified me incorrectly about the dimension of my salary as dean. I recalled to his mind the fact that immediately on receipt of the announcement I went to him and informed him that the sum you named was smaller than that which he specified in his letter. He said, "So much the better, that would save two hundred dollars to the University." So that any embarrassment which may have arisen was entirely due to his forgetting my visit.

Yours truly,

Alexander Smith
any experience may be valuable in the special interest of the
school-room, the social because of the social dignity of the
pen. Distribute. It certainly seems to me that the impression too in
beginning grammar should be received somewhat in view of these
facts. This is not a proposal to reduce the All alone factor. It

It seems to me

Finally, I shall not mention that I am not into a gift.

tually enough, I have not the impression that I am not into a gift.

in my capacity as dean, I correspond to the mind of the least important
in my capacity as dean, I correspond to the mind of the least important
in my capacity as dean, I correspond to the mind of the least important
in my capacity as dean, I correspond to the mind of the least important

I am not a dean of the announcement. I want to him and informing him
I am not a dean of the announcement. I want to him and informing him
I am not a dean of the announcement. I want to him and informing him
I am not a dean of the announcement. I want to him and informing him

In my capacity to the announcement. In my capacity to the announcement.
In my capacity to the announcement. In my capacity to the announcement.
In my capacity to the announcement. In my capacity to the announcement.

Yours truly,
Nov. 2, 1900.

My Dear Mr. Smith:

Your letter of October 30th was duly received and read with much interest. I judge from this letter that nothing would be more profitable than to multiply students in Chemistry. Indeed I do not understand why it would not be wise to enter into a special arrangement with the University department so that we might make money enough for the University to establish new departments.

But joking aside, I am very much interested in what you write and obliged to you for the information which the letter contains.

Yours very truly,

W. R. Harper
My dear Mr. Smith,

Your letter of October 30th was only received, and

I regret to inform you that the letter

was not actually received by this department. Indeed I do not

understand why it was not sent to me before now.

A meeting was called with the art department

to decide where we might make money enough for the university

and to satisfy new departments.

But taking aside, I am very much interested

in what you write and apply to your for the information

within the letter sent me.

Yours very truly,

W. H. Huber
My Dear Dr. Harper:

Dr. Nef reports that he gave you to understand that if the requisition for gas liquefying machinery were approved we should run behind $2000 this year. I need hardly say that Dr. Nef does not pretend to know anything about the budget of the laboratory of his own knowledge. All he has is the statement showing the increase in returns from breakage bills and laboratory fees from year to year of which I sent you a duplicate. This year we shall come out at least $600 ahead of the budget estimate (estimate $3500 - income 4300 on May 1st) with some rebates to come off). The session by the idea that we should run behind enormously seems to have taken hold of him a couple of months ago. He says himself he doesn't know how he got the idea. I never gave it to him; he mentioned it first to me. It is an hallucination which seems to have arisen parthenogenetically - like Loeb's sea urchins.

Before I knew the state for this year, I told Dr. Goodspeed that we should probably not be able to avoid over running the appropriation next year by $400. It seems to me that the excess of our earnings this year - since they represent material taken by students from the equipment of the department - should be made available for use next year. This would make everything snug.

The department will have serious reason for regret if this misunderstanding leads to the disapproval of the requisition for $900 for a liquefier and gas compressor recently submitted.

Yours sincerely,

Alexander Smith
June 30, 1931

My dear Dr. Harper:

I was sorry that I was unable to attend the regular meeting of the Board of Regents and submit my report in person. I have, therefore, asked you to present it in my place. I do not know whether you will be able to do this, but I hope you will.

The report is attached to this letter. I have asked Dr. Grove, who is the Chairman of the Finance Committee, to read it into the minutes of the meeting. I have also asked him to draw your attention to the fact that the report of the Committee on the Lewis Fund is also included in the report of the Board of Regents.

I would like to express my appreciation of the work of the Committee on the Lewis Fund. They have done a fine job and I am sure that the University will be grateful to them.

I enclose a check for $500. It is for the purpose of paying the expenses of the trip to the University of Chicago. I believe that this will be sufficient.

I hope you will be able to attend the meeting of the Board of Regents next week. I have been unable to make any arrangements for the meeting, but I hope to be able to do so soon.

I look forward to seeing you at the meeting.

Yours truly,

[Signature]
My dear Professor Smith:

I have read the copy of your letter to Dr. Nef and have been much interested in it. You it means that we must try to do better next year. I proposed that the plan timed the winter of 1900-01 of having a paid assistant for each section be continued this year. As I understood it, you informed me that authorities of the University were not able to promise this in advance, and that the securing of an assistant was to depend upon whether a second section should actually be necessary. As you now, two sections were found to be necessary, and when application was made for the assistant it was found that what I had understood to have been an implied promise could not be fulfilled, as there was no money available for the purpose.

The two sections, excluding medical students, contained twenty-five members each. Section 1b had a paid assistant (Dr. Holmes), Section 1a had none. In Section 1b the assistants were Dr. Holmes and Mr. Shackless. In 1a they were Mr. Beatty, Miss Gibbons, Miss Smith, Mr. Hamilton and Mr. Speed, the three last serving only one afternoon each. The result in grades was as follows:
Mr. great Professor Smith:

I have read the copy of
your letter to Dr. Head and have been much interested
in it. It seems that we ought to go faster next
time. Perhaps we ought to talk about it.

Very truly yours,

W.R. Harper
Dec 24

Harper,

accompanying copy of letter sent to A. M. May

of interest.

Alexander Berthe
My dear Dr. Nef:

I think it may interest you to know the result of our experiment in attempting to run one section of general chemistry without a paid assistant, while the other was provided for in this respect.

You will remember that last year I proposed that the plan adopted during the autumn and winter of 1900-01 of having a paid assistant for each section be continued this year. As I understood it, you informed me that the authorities of the University were not able to promise this in advance, and that the securing of an assistant was to depend upon whether a second section should actually be necessary. As you know, two sections were found to be necessary, and when application was made for the assistant it was found that what I had understood to have been an implied promise could not be fulfilled, as there was no money available for the purpose.

The two sections, excluding medical students, contained twenty-five members each. Section lb had a paid assistant (Dr. Holmes), Section la had none. In Section lb the assistants were Dr. Holmes and Mr. Shacklee. In la they were Mr. Beatty, Miss Gibbons, Miss Smith, Mr. Hamilton and Mr. Speed, the three last serving only one afternoon each. The result in grades was as follows:
EXCLUSIONS on MEDICALS of the quarter, the will also 3 advised 8 give up attempting
Course 2: A—The third place, I shall notify six students
(including 2B+ medicals and ten or fives each students) that their work during
have barely B+ needed in 3 ras, and advise them that unless
they are prepared to bring about an immediate and marked improvevment during the first three weeks of the winter quarter,
they will incalculably eliminate themselves from the class, as
the work is here difficult and their preparation not to my
mind sufficient to enable them to carry it 10 about considerable
extra effort.

You will notice that, excluding the medicals, the grades
of the section which had no paid assistant (la) are vastly inferior to those of the section with a paid assistant (lb). The
marks in the latter case are in fact exceptionally. As for the
medicals, you will see that a large proportion of them will
have to be called failures, while practically none of the ordinary students will be in that position.

Following my usual course, I shall notify eight students
(seven medicals and one ordinary) that their work has been so unsatisfactory that it would be impossible for them with profit
to do the work of the second course, and requesting them therefore to withdraw in case they have registered for it. I shall
notify five others (all medicals) that their work has been so poor that unless they care to make preparation and pass age.
second examination within seven days of the beginning of the quarter, they will also be advised to give up attempting Course 2. In the third place, I shall notify six students (including four medicals and two ordinary students) that their work during the autumn quarter was of such a nature that they have barely succeeded in passing, and advise them that unless they are prepared to bring about an immediate and marked improvement during the first three weeks of the winter quarter, they will infallibly eliminate themselves from the class, as the work is more difficult and their preparation not to my mind sufficient to enable them to carry it without considerable extra effort.

It seems to me that the relative work of the two sections, which, since medicals are excluded, were selected purely by chance, demonstrates the very great advantage of having a paid assistant, as compared with the plan of using fellows, scholars and students-on-service as makeshifts.

In regard to the work of the medicals, you will perceive that it has been, with a single exception out of twenty-two, very much below the average work done by our students. The cause of this appears to me to be (1) that as a whole they are less well prepared and (2) that they are inclined to give more attention to other subjects, conceiving them to be more indispensable to success in their chosen profession. At the same time it is to be remembered that our work in chemistry is not a professional course in the subject but an ordinary college
course, and as such does not make upon the students the demands which might justly be made in a strictly professional course. I can see nothing but a combination of deliberate neglect and utter immaturity as the causes of the bad showing they make.

Very sincerely,

Alexander Smith
Dear Dr. Harper:

In regard to instruction in advanced General Chemistry, commonly known as Physical Chemistry.

1. Almost every year in the past we have offered:

   (1) A 1 mj. elementary course. Class-room and laboratory work.

   (2) Three 1/2 mj. courses of lectures, one each quarter on various branches of Physical Chemistry.

   (3) One mj. advanced laboratory work.

   (4) Research.

   (5) Instruction in physical chemistry regularly included in

       (a) elementary general chemistry by Lengfeld and myself

       (b) analysis by Stieglitz and now by Jones.

       (c) graduate special organic chemistry by Stieglitz.

More was imperatively demanded (see 2.), but even this minimum was given with increasing difficulty on account of the enormous growth of undergraduate classes.

2. Why is physical chemistry needed? During the last ten years physical chemistry has grown to be fundamental to, and part and parcel of every branch of chemistry. Even medicine, physiology, geology and botany now reek with it. Whether we will or not, up-to-date chemistry must be full of it. Special knowledge of it has suddenly become indispensable alike to the teacher and the industrial chemist (electro-chemical processes are taking the place
of the old ones in almost all chemical manufactories, for example). We filled over 20 positions in both these lines last year, and have left at least 20 others unfilled because we had not competent men to recommend. To ask us to prepare chemists to enter the chemical world as it is, and not as it was 20 years ago, without physical chemistry, is like asking us to make bricks without straw.

3. The present problem. Modern research in any line, general, organic or inorganic must use it. Dr. Stieglitz, Dr. McCoy and I have at least six Ph.D. candidates (McCracken, Knight, Upson, Brownler, Derby, Bruce) whose research is at present largely physico-chemical. Not one of these men, with the possible exception of Derby (from Cornell), has had any approach to sufficient training for the work we have been compelled to give him.

And the teachers and experts and future directors of factories we shall turn out at the end of this year? So far our total physical chemistry for this year, has been two 1/2 mj. courses of lectures! Even this meager fragment of our irreducible minimum was given by Dr. McCoy during the autumn and winter quarters in addition to an amount of work which was amply sufficient to fill his whole time. He gave them as an extra because he anticipated that the rest of our plan would be carried out and that by this voluntary contribution to the scheme as a whole, a well rounded, though all too brief, course, would be put at the service of our
To the one who is about to depart on an important mission, he said,

"We have been to preparations in deep space. Those last years, and
have felt of such and other matters, passing on, have set the course to see
consequences to see, and not to lose. Are we not, again at once,
potential opportunity to live, and to make plans without
"Without..."

3. The Promise Program

Generalist, chosen of the program, will be of particular...

Necessary, critical, and I have fixed it up. The arrangement (thought, grateful
Please, remember, to be on the lookout for an opportunity to...

A selection of parts (from Cooper) and any necessary to understand
Important. For the work, we have been compelled to give him
And to remember and express our thanks. And other beaches of interest.

And we shall earn at the end of the year, to our content.

By technical means, have this arrangement of our intellectual
You may fix up how much the matter and minute details to fill
expression of an amount of work which was medically unnecessary to fill
The whole time. It has been some to examine in some extent, to fill
Our great courage, and to secure its own and their...

In my important conclusion, to give assurance as a whole, a well

Copy of Roy's letter to Dr. Ehrlich at the Science of our
students. The department is greatly indebted to him for the enthusiasm and energy which he threw into this work.

Don't you think we're "up against it"? We simply must offer some more in spring. If Dr. McCoy can be released he will offer 1 mj. chemistry course, 1 mj. advanced laboratory work, 1/2 mj. lectures, and we shall have a good part of our minimum.

4. When I first saw you I mentioned the sum of $400.00 or $500.00. This was because I had in mind the fact that two sections in organic chemistry involving the instruction of 80-100 students, mostly medical, should not be entrusted to a junior instructor. Our department has hardly ever given classes to instructors below the rank of assistant professor. There is some question whether the exceptions to this rule have proved successful. I now suggest paying Dr. Stieglitz $500. This will secure three distinct benefits. Proper care of the two sections of organic; proper care of the men doing research under him; proper care of the recommendations of students to positions. The last is very important, comes in heavily in the spring quarter, and has always been largely in Dr. Stieglitz' hands because most of the candidates come from the quantitative stage of work which he instructs.

5. I wish we had had more foresight, but have urged the general policy ad nauseum without success. I wish heartily I could think of some cheaper way of accomplishing the end. I
The President's message of April 30th, 1928, has been placed on file for the information of the officers and members of the Executive Committee. The message contains certain recommendations which are of great importance to the welfare of the University and the staff of the College. The recommendations are based on the results of a comprehensive study of the College's financial and administrative needs, as well as the current economic conditions. The recommendations cover a wide range of issues, including tuition fees, faculty salaries, and the overall financial stability of the College.

I have reviewed the message and am confident that the recommendations will be implemented. The University must continue to strive for excellence in all aspects of its operations, and I am committed to supporting the necessary changes to achieve this goal.

I appreciate your attention to this matter and look forward to working with you to implement the recommendations.

Sincerely,
[Signature]
feel most strongly that if we do not accomplish it somehow this year - and in the future as a regular thing - the results of our having permitted the influx of undergraduates to shoulder out what has come to be the most valuable part of intermediate and advanced instruction in chemistry, will speedily result in furnishing ground, in the incompetence of our graduates, for very severe criticism of the policy which has guided the department. I have heard such criticisms already on all sides; from the heads of departments in other institutions, for example, when I was in Washington at the meeting of the American Chemical Society this Christmas. Students are leaving us to go to the universities of Wisconsin and Missouri! The Journal of Physical Chemistry gibed at us in its last number!

As the programme for the spring quarter will be made soon, within a week perhaps, an early decision is desirable.

Yours sincerely,

[Signature]

P.S. A suggestion that Dr. Stieglitz allow some students to do a little physico-chemical laboratory work in connection with his course 13 this quarter, and that I give elementary lectures to accompany the same next quarter(!) is unporkable, because non-graduate students cannot, and will not, for many reasons, spread 1 mj. over two quarters. Besides, I shall have to offer two sec-
Dear Mr. Atwood,

I have been given the opportunity to review your submission to the Committee on the American Chemical Society. I have read the material with great interest and would like to express my thoughts on it.

The Committee has been given the task of selecting the most deserving candidate for membership in the American Chemical Society. I believe your work and qualifications are outstanding and I wholeheartedly recommend your inclusion in the society.

I trust that my recommendation will be taken into consideration and that you will receive the recognition you deserve.

Thank you for your consideration.

Sincerely,

[Signature]
tions of Elementary General Chemistry, teaching of chemistry, and research.
Dear S. Harper,

I trust that the enclosed, made in some haste (for no large a problem) may give the sense of the data you wished.

Yours sincerely,

Alexander (signature)
I. TITLES OF DEPARTMENTS.

I. CHEMISTRY (or Organic and Analytical chemistry, if Dr. Nef prefers).

II. PHYSICAL CHEMISTRY.

The list of men offering courses in Department II will include Smith, Stieglitz and McCoy, and these men, with their students, will have completed during this year and last 10 papers on subjects comprised in physical chemistry (Smith 4, Stieglitz 4, McCoy 2). The department will, therefore, have recognized standing in this special field as soon as it is created.

This division emphasizes the existence of work in physical chemistry and of facilities for it at the University of Chicago, a fact which has been questioned in many quarters because of the absence of titles.

II. TITLES OF PROFESSORS.

J.U. Nef, Professor of Chemistry and Head of the Department of Chemistry. Senator.

Julius Stieglitz, Associate Professor of Chemistry.

--------

A. Smith, Professor of General Chemistry and Head of the Department of Physical Chemistry. Senator.

H. N. McCoy, Assistant Professor of Physical Chemistry.

This puts the work in Physical Chemistry under my charge and yet does not claim that I am an out-and-out specialist in physical chemistry, a claim which, if made at present, would harm both the University and myself.
III. THE STAFFS, for the present.

Dept. Chemistry.
Nef
Stieglitz
Hessler
Jones 2/3
Holmes 2/3
Brownlee 1/3
Barnard
Hale
Fuller 1/2
Haines (W.S.)

Dept. Physical Chemistry.
Smith
McCoy
Research Asst., not yet appointed
Jones 1/3
Holmes 1/3
Brownlee 2/3
Fuller 1/2

The Fellows would belong to the departments jointly. In announcements, the courses are easily divisible between the two departments. Instructors' names will appear in both lists when they offer courses in both departments (See separate list.).

IV. EQUIPMENT AND SUPPLIES.

Appropriations in common (unless Dr. Nef prefers division on basis of last three years' expenditure).

V. SALARIES.

Separate budgets.

VI. DEPARTMENTAL LIBRARY.

Appropriation in common. Joint Departmental library adviser (Dr. Stieglitz).
III. THE STAFFS, FOR THE PRESENT

Dept. Physical Chemistry

Henry

Research Ass. not vet appointed

Jones

R. of Physics

Promote &

Patten

Hanne (W.E.)

The following would belong to the Department (total)

Noncommissions, the courses are easily divisible between the two P

Personnel. Instructors' names will appear in both files when given

after courses in both departments (see separate files).


IV. EQUIPMENT AND SUPPLIES

Appropriations to common (unless Dr. Neet otherwise grants on

parts of his own research expenditure)

V. SALARIES

Separate budgets

IV. DEPARTMENTAL LIBRARY

Appropriation to common (Joint Departmental library

(Dr. Neet))
VII. PRINTING. Appropriation in common.

VIII. FELLOWSHIPS. Assigned by joint recommendation of two Heads and staff.

IX. DEPARTMENTAL EXAMINER. One joint representative of both departments (Smith).

X. RECOMMENDATION TO POSITIONS. One joint representative of both departments (Stieglitz).

XI. SCHOLARSHIPS. Joint recommendation. Naturally Department of Physical Chemistry will have Senior College Scholar, and Organic and Analytical the Graduate Scholar.

XII. DEGREE Ph.D. Major in either Department, and one of two required minors in the other. (The other minor will usually be physics. This represents no change from existing facts.

SUMMARY.

(1) Separate Departments in respect to: Representation on Senate, Teaching Staffs and their salaries.

(2) One department in respect to: Appropriations for equipment, supplies, library and printing, recommendation to fellowships, to scholarships, and to teaching and other positions., Departmental examiner. These matters will be presented to authorities officially by one of the heads, by mutual arrangement between them.
VII. APPOINTMENT IN COMMON

VIII. APPOINTMENT FOR FOUR YEARS

IX. APPOINTMENT TO POSITIONS OF \( n \) JOINT REPRESENTATION OF \( n \) REPARTITION

X. APPOINTMENT TO POSITIONS \( n \) JOINT REPRESENTATION OF \( n \)

XI. SCHOLARSHIPS \( n \) JOINT RECOMMENDATION, Faculty Department of

XII. DUAL DEGREE PH.D. MASTER IN ELLER DEPARTMENT AND ONE OF TWO

XIII. SCIENCE RESEARCH AND ANALYSIS, THE GRADUATE SCHOOL

SUMMARY

1) Separate Department in respect of representation on

2) One department in respect of representation for each
REASONS FOR THE DIVISION.

I. Chemistry has become so highly specialized in several directions that two men of first rank are required to represent it adequately in a university; and such men can only be secured as heads of independent departments. This is fully justified by the fact that the number of students in each of the departments and the responsibility of directing the work of one of these departments is as great as in most other single departments. In Germany the larger universities, almost without exception, have three departments, generally representing inorganic, organic and physical chemistry respectively, analytical chemistry forming the major part of the work of the first of these. (Statistics on this point on separate sheet.) This division is on natural lines and results in absence of all duplication of work.

II. In America experience has frequently resulted in a similar division. Here, however, it is usually on artificial lines; one department in the Medical School, or School of Technology, and the other in the Literary and Scientific Departments, for example: (statistics on separate sheet). This always involves duplication.

III. The expansion of the University of Chicago, involving the addition of Medical, College of Education, and, presently, Technological students, has caused a very rapid increase in the number of students in the courses which belong almost exclusively to the proposed new department. This increase has overloaded the (old) department and its staff to such an extent that the work in analytical and organic chemistry has been jeopardized. The time of the staff and thought of the head of the department have been diverted, to the detriment of the advanced and graduate work in analytical and organic chemistry. (See departmental report in Decennial volume.)
REASONS FOR THE DIVISION

I. Compulsion may be defined as being compelled to remain at the location where one may or must remain to remain at the same position; any such men can only be regarded as being

compelled in a compulsive manner, this is when one is put within the terms of the compulsive condition and the reason.

The number of instances of work or state of these departments as an

apparatus of restricting the work of one of these departments as an

example of this type of compulsion without exception have these departments

exemplified successfully overcoming analytical and philosophical concepts

with the aid of these types of restrictions on the part of the work

of the first type of these (restrictions on the part or separate aspect).

The division is not necessary since and remains to operate or not.

II. In America experience and tradition might be to similar

College? Hence, power; if necessary no artificialities, these and the

department of the Federal School or School of Technology, and the

organize the literature and scientific departments, for example,

(a) restatement on separate aspect. This shows in nature of application

III. The expression of the University of Chicago, involving the

satisfaction of W.H. College of Information, and purely technological. The

least evidence has come a very rapid increase in the number of

students in the courses which demand specialties and the more

doing new departments. This increase can only come as expected that the work in specialties and other specialties and areas of possible, and only on special areas.

(See departmental report in December of 1940.)
- C -

DIVISION OF COURSES.

CHEMISTRY.

Ne£, all his (advanced), organic courses and research.

Stieglitz, all his analytical courses. Organic research.

Jones, his analytical courses, inorganic preparations.

Hessler, research assistant, organic in summer.

Holmes, analytical courses.

Brownlee, lecture assistance.

Barnard, assistant in analytical.

Hale, research assistant.

Fuller, laboratory inspector.

PHYSICAL CHEMISTRY.

Smith, all his courses; elementary and advanced general chemistry, physical chemistry, teaching of chemistry and research.

Stieglitz, physical chemistry, applied organic problems, elementary physical chemistry, physico-organic research.

McCoy, all his courses: general chemistry, advanced physical chemistry, research, inorganic preparations.

Jones, general organic chemistry. (Research assistant.)

Holmes, one section general chemistry.

Brownlee, lecture assistance.

Fuller, laboratory inspector.
NUMBER OF DEPARTMENTS OF CHEMISTRY IN OTHER UNIVERSITIES. (Complete statistics will be sent later.)

In Germany there are 3 in Berlin, 3 in Heidelberg, 3 in Goettingen, 3 in Leipzig. Even Polytechnic in Karlsruhe, with separate buildings.

In America.

Ann Arbor.—Two departments: General Chemistry (Freer), and Organic and Analytical Chemistry (Prescott).

Columbia.—University department, and School of Mines department. But latter offers scientific courses and is preferred by graduate students.

Cornell.—Organic and Analytical Chemistry, and Physical Chemistry.

Princeton.—Two departments.

University of Minnesota.—Two departments (Medical and University proper).

Wisconsin.—Two departments: Chemistry, and Physical Chemistry.

Purdue University.—Two departments: College department (engineers take this), and School of Pharmacy.

NUMBER OF DEPARTMENTS OF CHEMISTRY IN OTHER UNIVERSITIES

In Germany there are 5 in Berlin, 3 in Heidelberg, 3 in Göttingen, 5 in Leipzig. To my knowledge, 8 were in Munich, 2 in Hamburg, 1 in Hamburg.

In America:

University of Virginia:
- Graduate Department: General Chemistry (Pearl) and Organic and Analytical Chemistry (Preusoff).
- University Department, and School of Mines (Geyger).
- University of Minnesota: Department of Chemistry and Physical Chemistry.
- University of Michigan: Graduate Department.
- University of Wisconsin: College of Pharmacy.
January 19, 1904.

Dear Dr. Harper:

Beyond telling one or two personal friends, I have not in any way made known the creation of the Directorship of the Laboratories of General and Physical Chemistry. To avoid "offside play" I have left to you the choice of the occasion. Since you did not include it in your last Convocation statement, I have felt uncertain whether the omission was for some special reason or accidental. I should be glad to know what your intentions may be in this matter. Since all the chemists in the country have heard of the City College affair, I should like now to let the change in the situation in Chicago become known.

Yours sincerely,

Alexander Smith
Dear Mr. Herbert,

I am writing to inform you of the appointment of Mr. John Smith to the position of Director of the Laboratory of Experimental Biology. Since you are not on the Executive Committee, I have felt it necessary to make you aware of this appointment. Mr. Smith has been recommended by the Committee as a suitable person for the position.

I hope that you will agree with my selection and that the appointment will be acceptable to the Committee.

Yours sincerely,

[Signature]
March 26th, 1904.

My dear Professor Smith:

I have your note concerning the supply of anti-toxin. I have understood that the City itself was undertaking this work. I appreciate the point you suggest and wish it were possible. We must try to do something in the way of a farm for animals, but I question whether it would be a good relationship for the University to occupy to the city, since, no matter what we would charge for the anti-toxin, people would think we were making money out of it and that it was purely a commercial matter.

Yours very truly,

W. R. Harper

Prof. Alexander Smith.
My dear Professor Smith:

I have your note concerning the supply of anti-toxin. I have meanwhile sent the city health nurse to take the anti-toxin. I appreciate the point you suggest, and wish it were possible. We must try to do something in the way of a test for immunity, but I don't think we will want to carry it any further.

The anti-toxin has been used for the University to occupy the city since no money is available for the purchase of anti-toxin. People would think we were making money out of it and that if we bought a commercial anti-toxin it would be better.

Yours very truly,

[Signature]

Mr. Harber

Port Alexander Smith
Dear S. Barfen,

I have suggested to me, in conversation, that perhaps the University could offer to purchase antitoxin for the city of Chicago. You realize the newspapers did connect the fact that Burke Davis had raised the price beyond what the health department could afford to pay. This would perhaps kill two birds with one stone.

1. Assist in bringing about more cordial feeling between the city & University, by showing some of the latter to cooperate with the former.

2. Enable us to establish a farm of animals for all experimental purposes in a way that would silence captious criticism. Our biological work is at present enormously hampered by the lack of proper facilities for the care of animals.

Yours sincerely,

Alexander Smith