

A.

IMPROVEMENT OF INSTRUCTION

Outline of Topics

Selection and Appointment of Instructors

Scouting

Systematic file of information about eligibles
Co-operation with appointment committees
of Universities and learned societies

Trying-out of candidates

Teaching fellowships
Lectures before seminars, etc.
Summer Quarter appointments

Appropriations to support these procedures

Policy of appointing in terms of men rather than of
subjects only; and of appointing when a first-
rate man is available rather than only when a
vacancy occurs.

Education and Training.

Departmental arrangements for training junior instructors

Voluntary, cooperative study of teaching methods by all
members of the teaching staff, meeting from time to
time, in groups or as a whole body, for lectures and
discussions

Formulations of standards of good teaching devised to aid
teachers in criticizing and improving their own work

Training of advanced students in practical teaching methods
Special course of study for a teacher's degree

Supervision

Informal back-and-forth visiting of classes by colleagues
of similar rank, with the object of exchanging sug-
gestions

Visiting of classes by officers of departments or
faculties, especially if these visits are frequent
in the ordinary course of things, and co-operative
in spirit

Criticism by outside experts invited by the group
whose instruction is to be criticized.

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Elimination of the Incompetent

Prompt elimination of persons of inadequate capabilities

Retirement of persons who no longer deserve to be retained on permanent appointment

Retention of the Superior

Salary and promotion policy to retain persons of superior ability, training and experience

Fiscal aspects of the problem of assuring experienced instruction; relation to size of classes, etc.

Opportunity and Incentive

Moderate burden of work, especially for junior men

Freedom from exonomic pressure necessitating outside work

Assistance in preparation of class material

Recognition and promotion on the basis of

Good teaching

Contribution to discussion of educational policies

Syllabi, examination papers, etc.--which should be published, so far as seems possible, and regarded as significant publications

Departmental democracy, co-operation and morale

Methods of Instruction

Preceptorial (tutorial) system for reading courses

Discussion groups in large classes, with outstanding students as group teachers

General lectures by exceptional lecturers in courses of many sections

Material

Outlines, syllabi, reading lists and other devices to organize work

Printed examination questions

Improved library accomodation

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B

With a view to the improvement of teaching and scholarship in the University, the College Deans offer the following suggestions concerning policy and procedure in the selection and appointment of instructors.

Policy

Appointments to the Faculties should be made in terms of men, rather than in terms of subjects only. In accordance with this principle, an appointment may well be made when a man of outstanding ability is available, even though instruction is already being offered at the University in the field of his special interest. On the other hand, the mere fact that some particular subject is for the moment unrepresented in the curriculum should not ordinarily be felt to justify permanent appointment of a person of indifferent qualifications. Temporary gaps in the program of instruction may be regarded as inevitable and not necessarily serious; but the hasty and ill-judged appointment of an inferior professor in effect perpetuates a vacancy as long as he holds the position.

Procedure

Members of the Faculties, and especially the chairmen of departments, should be at all times alert to discover scholars and teachers of promise in their particular fields, whether or not immediate appointments are contemplated. To support the efforts of the several departments, it is recommended that a central bureau be established in charge of a competent secretary whose duty it shall be to gather and file, currently, whatever information can be collected with reference to the academic records of such persons as have been reported to the secretary as possible candidates for appointment at some future time. Among other sources of information may be mentioned college and university catalogues or circulars containing descriptions of courses offered; statements from the appointment officers or committees of universities and learned societies; published proceedings of learned societies; current bibliographies and reviews, etc. Graduates of the University connected with other institutions might be asked to supply information about men whose work they were in a position to observe.

When an appointment is to be made departmental executives should consult the systematic files of information thus provided and be guided by them in their subsequent inquiries and negotiations.

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observe.

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should consult the systematic files of information thus provided.

and be guided by them in their subsequent inquiries and negotiations.

Candidates for appointment should, so far as possible, be tried out in one or another of the following ways:

(a) As invited lecturers before audiences composed of student and faculty members of the interested departments. The subjects of such lectures, and the character of the audience on each occasion, should be arranged with reference to the sort of teaching that would be expected of the lecturer if he were appointed to the faculty of the University. Thus a candidate for an instructorship in elementary work should be asked to lecture to a junior college audience and to choose and treat his subject accordingly. It is desirable that trial lectures of this kind be given not singly, but in short courses extending over several days in order better to test the lecturer's organization of his material, and in order that opportunity may be given for informal personal meetings with the candidate.

(b) As instructors in the Summer Quarter

(c) As teaching Fellows - especially in the case of younger men. The teaching fellowships here contemplated would differ substantially from fellowships and assistantships as not ordinarily administered. The honorary character of the appointments should be strongly emphasized; the stipends should be nearly equivalent to what the incumbent might receive as a full-time instructor, and in every way the conditions of tenure should suggest opportunity for the teaching fellow, rather than such demands upon him as would interfere with his development. Particularly he should be advised and assisted in his efforts to organize his material for effective presentation, and, in general,

to make himself a successful teacher of his chosen subject. He should be led to feel that his tenure of the fellowship was advantageous to him, even if no appointment at the University followed.

.....

To support these policies and procedures, special appropriations of money would be necessary. The obvious expenditures would include salary and office expenses for the proposed secretary; lecture fees; teaching fellowships. Furthermore, if scouting for promising personnel is to be effective, and if men under consideration for appointment are to be observed and interviewed, traveling and incidental expenses must be provided for. Specifically, it may be desirable to pay a part of the expenses incurred by any member of the faculty sent as an authorized departmental representative to attend the meeting of a learned society and to report upon the promising men present and participating at the meeting.

The total of these various expenditures should be considerable if the policies indicated are to be pursued with energy and with promise of full success. The College Deans venture to suggest, however, that at the maximum these expenditures would amount to but a small fraction of the sum now spent as salaries of ineffective professors. If the proportion of unfortunate appointments could be reduced one-fourth by the measures suggested, ~~than~~ actual financial economy would probably be effected. One hesitates to reckon in dollars what might be gained for the University by the discovery and appointment of men destined to become preeminent as scholars and teachers.

QUALITIES DESIRABLE IN INSTRUCTORS IN ELEMENTARY
COURSES CONDUCTED BY THE LECTURE-
DISCUSSION METHOD

I. Knowledge and Organization of Subject Matter

- a. Possessing a broad and accurate knowledge of the subject
- b. Selecting the material of the course effectively
- c. Organizing the course so that the sequence of topics is natural and clear
- d. Preserving proper balance in the emphasis on important topics
- e. Pointing out the relationships between the materials of the course and other subjects; between these materials and current affairs

II. Skill In Instruction

- a. Giving evidence by the readiness and orderliness of lectures and discussions that the daily work is carefully planned.
- b. Getting the point of view of the students and adjusting to their power of comprehension.
- c. Making clear explanations
- d. Stimulating intellectual curiosity
- e. Conducting discussions with skill. That is--

Sticking to the point
Avoiding the introduction of too many details
Possessing skill in questioning
Securing the participation of the students
Exhibiting fertility in suggestions

- f. Making satisfactory assignments. That is--

Making assignments that are definite
Distributing assignments as evenly through the
course as the conditions of the instruction permit
Making assignments that indicate careful estimation
of the time required to prepare them

- g. Helping students in the formation of desirable study habits.
That is --

Giving specific directions, when needed, in regard to
methods of study
Continuing this directive criticism as needed
throughout the course

- h. Returning written work with constructive criticisms
- i. Measuring adequately the results of instruction by the use of written tests. That is --

Testing with sufficient frequency
Testing ability to understand and apply principles
as well as ability to retain information
Employing some of the newer types of examination
such as the true-false, sentence-completion and
best-answer
Making tests reasonably brief

- j. Giving due attention to the marking of students. That is--

Familiarizing himself with the principles in
accordance with which the marking system of
the college is constructed
Applying this system properly in the assignment of
marks
Basing marks, so far as possible, upon objective
measures of achievement

- k. Managing routine matters efficiently. That is--

Giving due attention to seating of students, record-
ing attendance, and regulating the physical conditions
of the classroom
Meeting and dismissing classes, returning papers,
and attending conferences promptly

III. Personal Qualities

- a. Interest in subject
- b. Interest in teaching
- c. Sympathetic attitude toward students, including freedom from sarcasm
- d. Tact in dealing with students
- e. Accessibility to students
- f. Self-reliance and confidence
- g. Open-mindedness
- h. Attractiveness of manner
- i. Sense of proportion, including a sense of humor
- j. Freedom from personal idiosyncrasies that interfere with effectiveness

IV. Professional Development

- a. Keeping up to date in the literature of his subject
- b. Devoting systematically a reasonable portion of time to research or other creative work
- c. Keeping informed in regard to the more recent developments in teaching
- d. Endeavoring by experiment to improve the methods of conducting his course
- e. Attending the meetings of associations organized for the advancement of his line of work

V. University Cooperation

- a. Showing loyalty to his department and to his colleagues
- b. Cooperating with members of the faculty and with the administrative staff in service on committees and in other helpful ways
- c. Manifesting an interest in the more general problems of university policy and organization, and a readiness to assist in the solution of these problems

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The University of Chicago
Department of Philosophy

Appr. made ✓
7
March 22, 1909

My dear President Judson:

The Committee on Instruction has prepared blanks in accordance with the vote of the Faculty that it should obtain information from Faculty, students, and Alumni. Certain questions as to financial matters present themselves:

1) The printing of the blanks Mr. Vincent informs me has been authorized by him.

2) Another item of expense which he did not feel authorized to pass upon is this: we have asked students questions regarding their work and regarding the instruction, and we believe that they will feel more free to answer these questions if they can be assured not only that their names will not be known to instructors, but also that their handwriting will not be seen by the instructors concerning whose courses they report. In the case of a small class it would be easily possible for the hand-writing to be identified. We desire, however, that the instructors should see what their students have to say concerning the work in their respective courses, hence the committee thinks that it would be advisable if we could assure the students that their answers would be typewritten before being open to inspection. We shall provide that the name can be written upon a detachable slip and hence will be known only to the clerk handling the reports. It cannot be estimated precisely what it would cost to have the students' reports copied by a typewriter. I estimate roughly that the expense should not exceed \$100. The committee would like to know, therefore, whether this could be authorized. Personally, I doubt somewhat whether we should get a large and full reply unless we could assure students of this.

3) In the case of reports from Alumni we shall request them to have their replies typewritten, but I think that if these are open to inspection, it might be well to have all typewritten that are submitted in hand-writing. The expense for copying the Alumni reports, of course, would not be so great as that in the case of students.

4) The committee will need considerable clerical help if reports are handed in in any satisfactory numbers. There will be considerable to be done in the way of tabulating and classifying and it will require considerable intelligence. It is not fair to require this work of the members of the committee. I think that it would be advisable to have a clerk provided for, one competent to relieve the committee as much as possible. This does not need to be acted upon immediately, but I mention it here in order that the whole situation may be before you. It is intended to send out blanks soon after.

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The University of Chicago
Department of Philosophy

-2-

the opening of the spring quarter. The question raised under (2) above needs to be passed upon before the blanks can be sent out.

I shall be glad to call upon you if you would like further information as to our plans and the proposed blanks.

Very truly yours,

James H. Tufts.

Fees

Chicago, July 19, 1921.

Committee on Instruction and Equipment,
University of Chicago.

Gentlemen:

For the information of the Committee in connection with its deliberations on the subject of the possibility of an increase in certain fees I beg to present below a statement comparing the tuition fees adopted by several institutions for the fiscal year 1921-22. These apply for three-quarters or two semesters.

State Institutions -	Residents	Non-Residents
1. Liberal Arts:		
Wisconsin	\$24.00	\$148.00
Ohio	40.00	140.00
Indiana	50.00	85.00
Illinois	50.00	50.00
Iowa	55.00	55.00
Minnesota	60.00	90.00
Missouri	75.00	85.00
Michigan	80.00	105.00
Endowed Institutions*-		
Chicago	200 (180.00)	180.00
Carleton College	210.00	210.00
Leland Stanford	225.00	225.00
Harvard	250.00	250.00
Brown	250.00	250.00
Princeton	300.00	300.00
Vassar	300.00	300.00

*Fee mentioned is for graduate or undergraduate tuition, except at Chicago where graduate fee is \$150.00.

For the information of the Committee in connection with its deliberations on the subject of the possibility of an increase in certain fees I beg to present below a statement comparing the rates then adopted by several institutions for the fiscal year 1921-22. These apply for three weeks or two semesters.

2. Law -	Residents	Non-Residents
State Institutions:		
Wisconsin	\$24.00	\$148.00
Illinois	50.00	50.00
Ohio	60.00	160.00
Indiana	65.00	100.00
Missouri	75.00	85.00
Iowa	75.00	100.00
Minnesota	90.00	120.00
Michigan	105.00	125.00
Endowed Institutions:		
Chicago	195.00	195.00
Harvard *	200.00	200.00
Leland Stanford	225.00	225.00

*A further increase is expected within a year or two".

In addition to the foregoing, the fee in the Harvard Graduate School of Business Administration is \$400.00, and in the Medical School it is \$300.00.

At Columbia the situation is a little difficult to translate into terms of quarterly fees since their charge is based upon a valuation for each course. A fair comparison could be made only after a study of the fees in groups of courses that would be comparable to our situation.

The information received in response to inquiries does not give a basis of comparison of fees in other departments of the University.

With regard to the State institutions, I should like to call your attention to the situation at Wisconsin, where the tuition fee for non-resident students is \$148.00 as against a fee for resident students of \$24.00. The Business Manager at the University of Wisconsin informed me that over a period of years the attendance of non-resident students had stood fairly constant at about twenty-eight per cent. It may be unwise to

Non-Resident	Resident	State Institutions	Approved Institutions
\$148.00	\$24.00	Wisconsin	Chicago
70.00	20.00	Illinois	Harvard *
100.00	40.00	Ohio	Iowa
100.00	45.00	Indiana	Minnesota
87.00	75.00	Missouri	Michigan
100.00	75.00	Iowa	
120.00	90.00	Minnesota	
125.00	105.00	Michigan	
125.00			
195.00	195.00		
200.00	200.00		
225.00	225.00		

* A further increase is expected within a year or two.
 In addition to the foregoing, the fee in the Harvard Graduate School of Business Administration is \$400.00, and in the Medical School is \$500.00.

At Columbia the situation is a little different in that the fee is not charged for the first year. A fair comparison based upon a variation for each course. A fair comparison could be made only after a study of the fees in groups of courses that would be comparable to our situation.
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With regard to the State Institutions, I should like to call your attention to the situation at Wisconsin, where the tuition fee for non-resident students is \$148.00 as against a fee for resident students of \$24.00. The Business Manager at the University of Wisconsin informed me that over a period of years the attendance of non-resident students had been fairly constant at about twenty-eight per cent. It may be unwise to

draw a general conclusion from this case, but in view of the low rates in other states it seems rather clear that the student's selection of an educational institution is not based upon the smallness of the fee. Dean Salisbury in the main agrees with this conclusion. A further illustration of this point may be drawn from a comparison of the fees at Carleton and at Minnesota. In the latter institution the residents' fees in Liberal Arts will be \$60.00 per year whereas at Carleton it will be \$210.00.

At the suggestion of the President I have interviewed the Deans in the various Colleges and Schools of the University and none feels that an increase in fees will have a detrimental effect on the registration. They are all sympathetic toward an increase of \$10.00 in the present tuition fees, effective with the beginning of the Summer quarter 1922, with the exception of Mr. Judd, who feels that while an adjustment should be made in the fees, it is probably unscientific to advance fees in the manner indicated.

It has been suggested by Dean Salisbury that if the graduate tuition is increased some adjustment should be made in the fellowship stipends. Dean Robertson is anxious that provision be made for an increase in the remission of tuition or a provision for a loan fund, or its equivalent, to be used in connection with the acceptance of the student's note for a period of years, payments to begin after graduation. It occurs to me that it would be entirely feasible to accept the student's note for the amount of the increase from either the original rate of \$40.00 per quarter (and \$50.00 in the Law School) or

draw a general conclusion from this case, but in view of the low rates in other states it seems rather clear that the student's selection of an educational institution is not based upon the smallness of the fee. Penn State is in the main agree with this conclusion. A further illustration of this point may be drawn from a comparison of the fees at Carleton and at Minnesota. In the latter institution the residents' fees in liberal arts will be \$60.00 per year whereas at Carleton it will be \$25.00.

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the increase over the subsequent advances in the several departments.

If all tuition fees, exclusive of those in the University College, Correspondence-Study Department, High School, and Elementary School should be increased \$10.00 per quarter, the matriculation fee from \$5.00 to \$10.00, and students in the Divinity School allowed three-quarters remission of a fee of \$60.00 (to which Dean Mathews is agreeable), the cash receipts of the University, based on the attendance for the year 1920-21, will be increased by approximately \$195,000. - \$166,000. as a result of increase in tuition fees and \$29,000. as a result of the increase in the matriculation fee. From this increase, if approved, it will be necessary to provide for the adjustment in the fellowship stipends and the arrangement to enable worthy students without funds to attend the University, either by remission of tuition, scholarships, or loan fund. The net amount of the increase available for general purposes of the University I should think would aggregate approximately \$170,000. to \$175,000.

The natural increase in attendance in the University during the year 1921-22 (based on previous experience) will be sufficient to obviate the necessity of providing for a decrease in attendance in case the fees are increased. In other words, during the year 1922-23 we could suffer a diminution in attendance (assuming that the increase in rates will be effective with the Summer Quarter 1922) equal to the increase in 1921-22 and base our estimates of the results of the increases indicated upon the attendance for the year 1920-21, without allowance for shrinkage. This of course is based on the assumption that economic condi-

the University over the subsequent advances in the several departments.

It is all within the year, exclusive of those in the University.

University College, Correspondence Study Department, High School, and Elementary School should be increased \$10.00 per quarter.

The matriculation fee from \$2.00 to \$10.00, and students in

The Divinity School should have three-quarters reduction of a fee

of \$60.00 (to which Dean Hatcher is agreeable), the cash re-

ceipts of the University, based on the attendance for the year

1920-21, will be increased by approximately \$125,000. - \$166,000.

as a result of increase in tuition fees and \$27,000. as a result

of the increase in the matriculation fee. From this increase,

if approved, it will be necessary to provide for the adjustment

in the following respects and the arrangement to enable working

students without funds to attend the University, either by re-

duction of tuition, scholarships, or loan fund. The net amount

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(assuming that the increase in fees will be effective with the

summer quarter 1922) equal to the increase in 1921-22 and base

our estimates of the results of the increase indicated upon the

attendance for the year 1920-21, without allowance for shrinkage.

This of course is based on the assumption that economic condi-

tions will become no worse.

The foregoing information was communicated to President Judson and there is given below a copy of his telegram in reply, which was submitted to the meeting of the Board on July 12. It will be noted that he makes no mention of an increase in matriculation fees. I have written to him concerning the matter, but have not yet received his reply.

"Approve Ten Dollars Increase. Humber University Fellowships and Scholarships should not be decreased. Fellowship should not holder Four Hundred and Two Hundred respectively. Lump sum for Loan Fund should be provided."

Respectfully submitted,

N. D. Hampton

There will be no more.

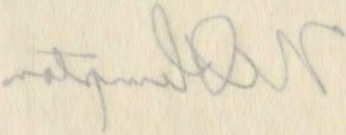
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"Aggravate for Bolivia increase. Number University
Relationships and Relationships should not be decreased.
Relationship should not be less than four hundred and two
thousand respectively. I am sure for less than would
be provided."

Respectfully submitted,



The University of Chicago

FOUNDED BY JOHN D. ROCKEFELLER

The Board of Trustees

September 10,

1921

OFFICE OF THE SECRETARY
ELLIS AVENUE AND FIFTY-EIGHTH STREET

President Harry Pratt Judson,

University of Chicago.

My dear Mr. President:

At the recent meeting of the Committee on Instruction and Equipment when the proposed increase of tuition fees was once more under discussion, it was voted to send to each member of the Board a copy of Mr. Plimpton's recent report which deals with the question from the point of view of University finance.

Enclosed please find a copy of his report. The Committee is not ready as yet to submit its recommendations to the Board.

Very truly yours,

J. D. Dickerson
Secretary.

The University of Chicago

For Dean of University

September 10,

1911

President Harry Pratt Hood

University of Chicago

My dear Mr. President:

At the recent meeting of the Committee on

Instruction and Departmental Affairs the proposed increase

of Wilson fees was once more under discussion. It was

voted to send to each member of the Board a copy of

Mr. Eliason's recent report which deals with this question

from the point of view of University Finance.

Enclosed please find a copy of his report.

The Committee is not ready as yet to submit its recom-

mendations to the Board.

Very truly yours,


Secretary

Greeley, Colorado.
August 12, 1921.

Committee on Instruction and Equipment,
University of Chicago.

Gentlemen:

On my trip west I have been giving further consideration to the matter of the suggested increase in tuition fees, and for your information I am setting down my conclusions.

In my opinion the University's need of additional income in the near future is expressed by the following:

Surplus for the year 1920-21	- - - -	\$ 73,426.
which amount included the grant of		
\$50,000. from the General Education Board.		

Add to the surplus the supplemental grant, also		
from the General Education Board, for 1921-22 of		<u>50,000.</u>

This gives a total excess of income of	- -	\$123,426.
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The following are deductions that may be specifically designated at this time as applying to the year 1921-22:

1. The surplus includes an item of which consists of an adjustment of dividends, as explained in the report for the year 1920-21. This amount will not be duplicated in the year 1921-22.	\$ 18,517.
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2. According to current reports, taxes on fee property owned by the University will be increased by about 40 per cent. This increase would adversely affect the income from fee property by about	48,000.
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3. Special assessments for paving Ellis Avenue will reduce the income from the property adjacent to the University by about a year for five years.	10,000.
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4. The current dividend returns on the original group of Standard Oil stocks will produce about less than was received in 1920-21.	42,000.	<u>118,517.</u>
--	---------	-----------------

Net excess of income, taking no other factors into consideration		<u>\$ 4,909.</u>
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11. Review the year 1920-21. The surplus of \$18,517.00, which was reported in the year 1920-21, is being carried forward to the year 1921-22.

12. Review the year 1921-22. The surplus of \$18,517.00, which was reported in the year 1921-22, is being carried forward to the year 1922-23.

13. Review the year 1922-23. The surplus of \$18,517.00, which was reported in the year 1922-23, is being carried forward to the year 1923-24.

14. Review the year 1923-24. The surplus of \$18,517.00, which was reported in the year 1923-24, is being carried forward to the year 1924-25.

15. Review the year 1924-25. The surplus of \$18,517.00, which was reported in the year 1924-25, is being carried forward to the year 1925-26.

16. Review the year 1925-26. The surplus of \$18,517.00, which was reported in the year 1925-26, is being carried forward to the year 1926-27.

17. Review the year 1926-27. The surplus of \$18,517.00, which was reported in the year 1926-27, is being carried forward to the year 1927-28.

18. Review the year 1927-28. The surplus of \$18,517.00, which was reported in the year 1927-28, is being carried forward to the year 1928-29.

19. Review the year 1928-29. The surplus of \$18,517.00, which was reported in the year 1928-29, is being carried forward to the year 1929-30.

20. Review the year 1929-30. The surplus of \$18,517.00, which was reported in the year 1929-30, is being carried forward to the year 1930-31.

21. Review the year 1930-31. The surplus of \$18,517.00, which was reported in the year 1930-31, is being carried forward to the year 1931-32.

22. Review the year 1931-32. The surplus of \$18,517.00, which was reported in the year 1931-32, is being carried forward to the year 1932-33.

23. Review the year 1932-33. The surplus of \$18,517.00, which was reported in the year 1932-33, is being carried forward to the year 1933-34.

24. Review the year 1933-34. The surplus of \$18,517.00, which was reported in the year 1933-34, is being carried forward to the year 1934-35.

25. Review the year 1934-35. The surplus of \$18,517.00, which was reported in the year 1934-35, is being carried forward to the year 1935-36.

26. Review the year 1935-36. The surplus of \$18,517.00, which was reported in the year 1935-36, is being carried forward to the year 1936-37.

27. Review the year 1936-37. The surplus of \$18,517.00, which was reported in the year 1936-37, is being carried forward to the year 1937-38.

28. Review the year 1937-38. The surplus of \$18,517.00, which was reported in the year 1937-38, is being carried forward to the year 1938-39.

29. Review the year 1938-39. The surplus of \$18,517.00, which was reported in the year 1938-39, is being carried forward to the year 1939-40.

30. Review the year 1939-40. The surplus of \$18,517.00, which was reported in the year 1939-40, is being carried forward to the year 1940-41.

31. Review the year 1940-41. The surplus of \$18,517.00, which was reported in the year 1940-41, is being carried forward to the year 1941-42.

32. Review the year 1941-42. The surplus of \$18,517.00, which was reported in the year 1941-42, is being carried forward to the year 1942-43.

If during the year 1922-23 the grant of the General Education Board to the University is not continued the prospect for that year would be affected adversely, as the discontinuation of the grant would reduce the income in 1922-23 by \$100,000. and leave the University with a prospective deficit. Other factors in the situation appear much more indefinite than those mentioned. It is hoped that the indefinite factors will not affect the situation adversely, but it will be some months before a statement embodying a fair degree of accuracy can be made on this subject. In general, however, provision for the growth of the University inevitably calls for income in addition to that which may be realized from an increase in registration in order to maintain desirable standards.

To meet the situation for 1922-23 the following possibilities may be considered:

1. A reduction in operating expenditures. The larger portion of the expenditures of the University is for salaries. In my opinion any increase in registration will require an increasing number of instructors in the higher ranks. This is particularly true if the University is to maintain its position in the forefront of educational institutions. Accordingly, in my judgment, there is slight possibility of reducing instruction costs. Some reduction may be secured in cost of operation of plant, but such costs will eventually increase with the placing of additional buildings in commission.

2. Gifts for current expenses. Obviously this is a more or less hazardous basis for meeting the necessary expenditures of the institution unless donors have in mind eventual capitalization of such gifts for current needs.

3. Income from additional endowment. This of course in principle is the ideal method of meeting the situation. A successful effort in this direction would not only have the result of producing independently income for the budget, but also of meeting the conditions of the General Education Board, and thus insure the continuation of their grant, presumably to be capitalized in whole or in part at a later date.

4. Increase of student fees. If there is no likelihood of securing additional endowment, the only remaining alternative seems to be an increase of fees. Speaking from the financial point of view, the increase of tuition rates, in my opinion, offers the least difficult solution of the situation. An increase of \$10.00 per quarter gives a fee that is still practically the lowest in the country for endowed institutions of the character of the University of Chicago. Even with such an advance the tuition fees probably will not cover the direct instruction costs. With respect to

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the State universities: In my opinion they are inevitably on the eve of increasing fees, since the burden of taxation is too heavy to admit of a continuance of the present low fees, particularly when applied to professional courses. An increase of fees for such courses will in all probability call for an increase of fees for liberal arts and similar courses. It seems to me the University has before it a possibility of leadership in a movement to place the cost of university education in a larger degree where it properly belongs, - on the individual instead of the State. Of course fees constitute a hardship on the student, with or without marked ability, who may be without funds. This condition is recognized by the University and income from scholarship endowments, unendowed scholarships, tuition remissions, and loan funds are provided to meet this condition. An increase in fees presents a situation differing only in degree from that existing at the present time. Any plan meeting at least proportionately an increase in fees by a similar increase in endowed scholarships, unendowed scholarships, tuition remissions, and loan funds meets the situation in so far as it affords to the poor boy a continuation of his present opportunity for securing a university education.

The foregoing does not touch on the proportion of the required expenditures that should be assessed against the student body or the proportion that should be derived from endowment income. I fancy the varying proportions in endowed institutions are the result largely of local conditions and not the application of well defined principles. (Leland Stanford University is a case in point. Originally there was no student fee on the assumption that the endowment income was sufficient to meet the needs of the institution. Later it was found necessary to charge a fee of \$120.00 per year, now increased to \$225.00 per year.) The establishment of such a proportion by the University would amount to the announcement of a principle from which it would be necessary to deviate in accordance with the possibility of failure to secure the stated proportion from endowment income.

Very sincerely yours,

W. D. Huntington

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Very sincerely yours,

W. B. Dillingham

Harold H. Swift
Union Stock Yards
Chicago

December 10, 1921

President Harry Pratt Judson,
The University of Chicago,
Chicago, Illinois.

Dear President Judson:

Acknowledge yours of December 9 in reference to matters
to come up before the Committee of Instruction and Equipment.

1. Merging Public Speaking with English:

I, personally, feel I had a great benefit from the Public Speaking I was required to do at the University and think, therefore, it is a distinct advantage to students to have some of this work required. I feel, and I am sure from conversation with you that I voice your sentiments, that our Department has not been particularly well run and I think it may have some advantage in being merged with the English Department, although I hope that the importance of the work will not be overlooked on this account.

2. The other matters mentioned are entirely satisfactory to me.

Yours cordially,

Harold H. Swift

for letter to C. on I. + E.

The University of Chicago
CHICAGO, ILLINOIS
Office of the President

*look in folder
for I + E.*

*Committee
on
Instruction
&
Education*

THREE YEAR PROGRAM OF
THE SCHOOL OF COMMERCE AND ADMINISTRATION

Submitted by Mr. Marshall

May, 1925

The School has reached a stage in its development that makes it wise to survey its program, to make a forecast for the next three years, and to adopt certain permanent policies with respect to its instructing staff:

1. The School has always had before it reasonably definite educational aims. It hopes to contribute to:
 - a. A better foundation of social studies in the public schools.
 - b. A better commercial curriculum in the senior high school.
 - c. A more mature and scientific presentation of economics and business material in college; an organic functional curriculum.
 - d. A new order of graduate work; a new order in economic research.
 - e. A new college spirit with particular reference to Schools of Commerce and Administration.
2. Progress has been made in these matters. The secondary and collegiate curricula have been blocked out and the next 18 to 24 months should see the material available. The major constructive tasks of the next three years are:
 - a. Training instructors for other colleges.
 - b. Building up a staff and a student constituency competent to handle research.
 - c. Laying the foundations for a new type of advanced work.
 - d. Pointing all of the work so as to contribute more definitely to the development of personality.
3. To accomplish this we should adopt a forward-looking policy with respect to the instructing staff. This involves the following items:
 - a. Increased opportunity for contacts with business problems.

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The University of Chicago

CHICAGO, ILLINOIS

Office of the President

- b. The adoption of a definite policy with respect to retention and promotion on the basis of unique service in teaching, research, or administration.
- c. The adoption of a salary scale which will be on the general basis of the Law School schedule as regards its upper limits but which would have large overlappings in the different classifications. The following scale is suggested:

Assistantships, \$300.00 to \$2,000.
Instructorships, \$2,000.00 to \$4,000.00.
Assistant Professorships, \$3,000.00 to \$5000.00.
Associate Professorships, \$4,000.00 to \$6500.00.
Professorships, \$5,500 to the top limit of the Law School Scale.

- A
- Appointments to associate professorships are for three years; appointments to professorships are for five years. Other appointments are for one year.

It would be understood that a man who qualifies on all three of the bases of promotion would quickly be advanced to a salary of \$5500 or \$6000. Advances beyond that figure would not be automatic, except in small amounts, (perhaps \$250 a year). Larger increases would be in terms of clearly proven cases.

- 4. The administrative staff should be reorganized so as to provide an assistant dean who would be responsible for the routine administration. It is recommended, further, that we have his assistants teach on a two-thirds basis under a rotation scheme.
- 5. The acceptance in principle but of course not in detail of a three-year budgetary program as set forth below. This statement gives a clear indication of the financial implications of the foregoing paragraphs. The following remarks are pertinent:
 - a. The annual income from the School will presumably be in the neighborhood of \$240,000, \$160,000 coming from fees and \$80,000 from the Williams Fund.
 - b. Such a program would be based upon the hope (and expectation) of securing added funds from Foundations and from business houses for cooperative research.

The University of Chicago

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Law School Scale.
 Professorships, \$8,800 to the top limit of the
 Associate Professorships, \$4,000.00 to \$8,800.00.
 Assistant Professorships, \$2,000.00 to \$8,000.00.
 Instructorships, \$2,000.00 to \$4,000.00.
 Assistantships, \$800.00 to \$2,000.00.

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	<u>1922-23</u>	<u>1923-24</u>	<u>1924-25</u>	<u>1925-26</u>
Administration		12,850	13,000	13,000
Instruction				
a. Staff	81,400	87,900	98,000	110,000
b. Assistants		6,995	6,995	6,995
c. Outside Lecturers		2,500	2,500	3,000
Fourth Quarter Instruction		13,000	15,000	16,000
Scholarships and Loan Fund		4,725	4,725	4,725
Materials Collectors		6,000	6,000	6,000
High School Workers		3,200	3,200	3,200
Supplies and Equipment		15,050	15,050	15,050
Research		16,445	20,445	21,445
Publications		5,000	5,000	5,000
TOTAL.		173,665	189,915	204,415
Requests not granted 23-24				
a. Personnell		7,000	7,000	7,000
b. Research		5,000	5,000	5,000
GRAND TOTAL		185,665	201,915	216,415

6. An alternative financial program is entirely discussable but its figures would run higher than those sketched above. It is entirely discussable that the financial program should be organized in terms of the following principles;

- a. That the University will provide out of its general funds for housing, heat, light, equipment, administration, etc.
- b. That student fees in a lucrative professional school should be relied upon to furnish instruction.
- c. That research, publication, etc., should be provided out of special funds or the income of special endowments.

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Office of the President

	1932-33	1933-34	1934-35	1935-36
Administration	12,850	12,850	12,850	12,850
Instruction	81,400	87,900	98,000	110,000
a. Staff	6,935	6,935	6,935	6,935
b. Assistants	2,500	2,500	2,500	2,500
c. Outside Lecturers				
North Quarter Instruction	12,000	12,000	12,000	12,000
Scholarships and Loan Fund	4,725	4,725	4,725	4,725
Materials Collectors	6,000	6,000	6,000	6,000
High School Workers	2,200	2,200	2,200	2,200
Supplies and Equipment	12,050	12,050	12,050	12,050
Research	12,445	12,445	12,445	12,445
Publications	5,000	5,000	5,000	5,000
TOTAL	172,555	182,915	192,915	204,415
Requests not granted 32-34				
a. Personnel	7,000	7,000	7,000	7,000
b. Research	5,000	5,000	5,000	5,000
GRAND TOTAL	185,555	194,915	204,915	216,415

6. An alternative financial program is entirely dissatisfactory but its figures would run higher than those sketched above. It is entirely dissatisfactory that the financial program should be organized in terms of the following principles:

- That the University will provide out of its general funds for housing, heat, light, equipment, administration, etc.
- That student fees in a narrative professional school should be relied upon to furnish instruction.
- That research, publication, etc., should be provided out of special funds or the income of special endowments.

After consideration of the presentation by Mr. Marshall the Committee voted to make to the Board of Trustees the following recommendations.

- 1) That the general policy enunciated by Mr. Marshall in the enclosed paper be approved.
- 2) That the Committee recommend the Board of Trustees to adopt the salary scale proposed by Mr. Marshall, viz.,

Assistantships, \$300.00 to \$2,000.00
Instructorships, \$2,000.00 to \$4,000.00
Assistant Professorships, \$3,000.00 to \$5,000.00
Associate Professorships, \$4,000.00 to \$6,500.00
Professorships, \$5,500.00 to \$10,000.00

- 3) That the Committee recommend to the Board of Trustees that an appropriation of \$7,000 for personnel and \$5,000 for research, or so much thereof as may be found necessary be made for the year 1923-24 and underwritten from the special contingent fund.
- 4) That the Committee recommend to the Board of Trustees that the principle be established of allotting to the School of Commerce and Administration as a basis of the Budget for each year the anticipated receipts of that year and \$60,000 from the income of the Williams Fund, with the understanding, however, that this principle will not be fully operative until the year 1925-26, and that its full application at that time, and its partial application in the interval, will be contingent upon the University being able to secure the funds necessary to make these increases in the Budget of the School of Commerce and Administration without unduly hampering the work of the other departments of the University. (This raises the budget for 1923-24 to \$185,665, and suggests for 1925-6 a possible budget of approximately \$220,000.)
- 5) That Mr. Marshall be asked to give his cooperation in the effort to secure additional funds with which to meet these increases of the budget.

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5) That Mr. Marshall be asked to give his cooperation in the effort to secure additional funds with which to meet these increases of the budget.

Mr. Marshall has indicated his entire satisfaction with the action recommended by the Committee and the Acting President recommends that the recommendations of the Committee as stated above be adopted.

Mr. Marshall has indicated his entire satisfaction with the

action recommended by the Committee and the Acting President re-
commends that the recommendations of the Committee as stated above

be adopted.

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The University of Chicago

CHICAGO, ILLINOIS

Office of the President

each of these fields it would be difficult July 26, 1923. him

in the two combined, probably impossible. I am convinced,

To the Committee on Instruction and Equipment:

therefore, to allow him to leave us would be a very bad day-

To avoid the necessity of a meeting of the
gain, and that he is not unreasonable, in view of the call to
Committee on Instruction and Equipment I beg leave to
California, in desiring to know what his future here will be,
submit to you for your approval or comment the following
I beg leave to recommend, therefore, that his salary be in-
recommendations; of these the most important ones, namely
proposed to \$7000, with the question of distribution of the
those respecting Mr. Cross and Mr. Miller have already
salary between the two departments left to my decision later.
received the approval of the Chairman and Vice Chairman
It will be necessary to underwrite this sum from the contin-
of the Committee.

gent reserve.

Some two or three years ago Professor T. P. Cross
Mr. Russell P. Magill of the Law School Faculty
of the Department of English and of that of Comparative
has presented his resignation to take effect Oct. 1, 1923, and
Literature was called to the University of Michigan at a salary
and I recommend that it be accepted. On the nomination of
considerably exceeding that which he was then receiving at
Dean Hall I recommend that Mr. Sydney H. Schiff, Ph.D. Uni-
the University of Chicago. He consented to remain being
versity of Chicago 1921, and J.D. 1923, be appointed as
encouraged, as he tells me, by President Judson that the
instructor for one year from October 1, 1923 at a salary of
University would care for him. He has now received a call
\$2500 within the Budget. I recommend that he be accepted
at a salary of \$7,000 from the University of California and
Mrs. Howard Siler presents his resignation as
has been approached also by another University. I am assured
Instructor in Chemistry to take effect October 1, 1923,
by Professor Manly and other members of the Faculty competent
and I recommend that it be accepted. I am sure with it
to judge that in the field of Comparative Literature Mr. Cross
for the Lawrence W. Bridge of the Faculty of the University
is unsurpassed in this country or Europe, and perhaps un-
High School presents his resignation to take effect Oct. 1, 1923,
equalled in America. In the Celtic Language and Literature,
and I recommend that it be accepted.
which is his specialty in the Department of English, he has
Mr. Judd recommends the appointment of Clifford
few competitors, and probably no equal in this country. In

71
The University of Chicago
CHICAGO, ILLINOIS
Office of the President

July 28, 1933.

To the Committee on Instruction and Equipment:

To avoid the necessity of a meeting of the

Committee on Instruction and Equipment I beg leave to

submit to you for your approval or comment the following

recommendations: of these the most important ones, namely

those respecting Mr. Gross and Mr. Miller have already

received the approval of the Chairman and Vice Chairman

of the Committee.

Some two or three years ago Professor T. P. Gross

of the Department of English and of that of Comparative

Literature was called to the University of Michigan at a salary

considerably exceeding that which he was then receiving at

the University of Chicago. He consented to remain being

encouraged, as he tells me, by President Johnson that the

University would care for him. He has now received a call

at a salary of \$7,000 from the University of California and

has been approached also by another University. I am assured

by Professor Manly and other members of the Faculty competent

to judge that in the field of Comparative Literature Mr. Gross

is unsurpassed in this country or Europe, and perhaps un-

equalled in America. In the Celtic languages and literature,

which is his specialty in the Department of English, he has

few competitors, and probably no equal in this country. In

The University of Chicago

CHICAGO, ILLINOIS

Office of the President

each of these fields it would be difficult to replace him; in the two combined, probably impossible. I am convinced, therefore, to allow him to leave us would be a very bad bargain, and that he is not unreasonable, in view of the call to California, in desiring to know what his future here will be. I beg leave to recommend, therefore, that his salary be increased to \$7000, with the question of distribution of the salary between the two departments left to my decision later. It will be necessary to underwrite this sum from the contingent reserve, from the general reserve.

Mr. Roswell F. Magill of the Law School Faculty has presented his resignation to take effect Oct. 1, 1923, and I recommend that it be accepted. On the nomination of Dean Hall I recommend that Mr. Sydney K. Schiff, Ph.B. University of Chicago 1921, and J.D. 1923, be appointed as instructor for one year from October 1, 1923 at a salary of \$2500 within the budget. I recommend that his suggestion that Dean F. J. Miller be released from service with payment of Mr. Howard Adler presents his resignation as Instructor in Chemistry to take effect October 1, 1923, and I recommend that it be accepted. I have carried with it an appropriation of \$5000 as salary for Mr. Lovett. The budget for the Clarence W. Bridge of the Faculty of the University recommend that consistently with this arrangement his salary High School presents his resignation to take effect Oct. 1, 1923, and I recommend that it be accepted.

Mr. Judd recommends the appointment of Clifford
few competitors, and probably no equal in this country.

Approved
Charles V. Girty
Aug. 6, 1923

The University of Chicago

CHICAGO, ILLINOIS

Office of the President

March 10, 1933

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Mr. Lind recommends the appointment of Clifford
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The University of Chicago

CHICAGO, ILLINOIS

Office of the President

Holley as instructor in Science and Mathematics in the University High School for one year from October 1, 1923 at a salary of \$2400, budget, page 27, item 7, and I recommend that the appointment be made.

Professor Merriam recommends that Professor White be authorized to attend the Second International Congress of Public Administration to be held in Brussels, Sept. 23 to 26 1923 at an expense of \$400, to be borne by the University. I recommend that the request be granted, and the amount be underwritten from the general reserve.

Miss Alice M. Baldwin, instructor in the Department of History presents her resignation and would like to take effect after the Autumn Quarter. I recommend that the resignation be accepted to take effect December 31, 1923.

In accepting the office of Dean of the Colleges for the remainder of the current year Mr. Wilkins has at my suggestion submitted a series of recommendations respecting the Deans already in office in the Colleges, retaining some for full service and others for half service. I recommend that his suggestion that Dean F.J. Miller be released from service with payment of salary as Dean in the Colleges for the remainder of the year be approved. The case is similar to that of Mr. Robertson but involves much less release of duty.

The budget for the year 1922-23 carried with it an appropriation of \$5000 as salary for Mr. Lovett. The budget for the current year provides \$4000 on two-thirds basis. I recommend that consistently with this arrangement his salary be fixed at the rate of \$6000 a year.

equalled in America. In the Celtic Language and Literature, which is his specialty in the Department of English, he has few competitors, and probably no equal in this country.

Approved in full:
Charles B. Slichter
Aug. 6, 1923

The University of Chicago

CHICAGO, ILLINOIS

Office of the President

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Approved
Charles W. Dyer
Oct. 6, 1933

The University of Chicago

FOUNDED BY JOHN D. ROCKEFELLER

The Board of Trustees

October 26,
1923

OFFICE OF THE SECRETARY
ELLIS AVENUE AND FIFTY-EIGHTH STREET

old file

Se 1

Rev. C.W. Gilkey,
5600 Woodlawn Ave.,
Chicago, Ill.

My dear Mr. Gilkey:

Herewith please find a copy of Mr. Judd's paper somewhat amplified and correlated which contains what he said (and more) at the recent meeting of the Committee in Instruction and Equipment.

Very truly yours,

J. D. Kerson
Secretary.

The University of Chicago

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OFFICE OF THE SECRETARY
2000 WOODSWAN AVENUE
CHICAGO, ILL.

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J. H. Johnson
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Part of Preliminary Report to President

Oct. 26. 1923
Lus. T. Equip.

For some years the members of the faculties of the School of Education have been engaged in bringing together the materials necessary for the formulation of certain detailed, scientifically exact courses on specific aspects of education. A decade ago it was the practice of teacher-training institutions in this country to give courses which were very general in their scope and made up chiefly of a recital of the personal experiences and opinions of teachers who had conducted schools. There was no specific body of well-digested information on even such concrete matters as the costs of public education, the regularity of promotions of pupils, or the results of instruction in arithmetic and reading. During recent years the demand for exact information on such topics has become insistent, and the School of Education in common with a small number of other institutions has been a center for its collection. There are now formulated and offered in this School more detailed specific courses of the type described than in any institution in the country.

The time has come when it is entirely safe to say that a clear demonstration has been given of the possibility of scientific studies of education. It will be the task of the next years to round out the present organization in such a way that the scientific methods now applied to certain fields of inquiry shall be extended into all of the aspects of education. In other words, the plans for a complete organization can now be outlined, and the realization of these plans can be made the direct objective of the administration.

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these plans can be made the direct objective of the administration.

The basis of a rational plan can not be provision for an accidental student registration. Fortunately, the School of Education has an adequate student body so that considerations of registration need not interfere with concentration of attention on other matters. In the laboratory schools there are waiting lists. The under-graduate courses are overflowing and the graduate registration during the autumn, winter and spring quarters is over 125 while in the summer it reaches more than 600. The student registration is therefore inadequate and plans can be based on the demands of the science itself.

The true basis for the final organization of the School of Education is to be found in a complete survey of the science of education itself. It is evident that there must be courses offered in the various aspects of school administration, there must be courses in educational measurements, in the history of school practices, in methods of instruction, in educational psychology. In short, it is possible to canvas the field and lay out all the lines of inquiry which must be taken up if the schools of this country are to be organized on a basis of fact rather than a basis of tradition or opinion.

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PRELIMINARY STATEMENT

Graduate Enrollment

The Department of Education has enrolled in its graduate classes this Autumn somewhat more than 130 fully accredited graduate students. With additional equipment and staff this number will go to 150, where in the judgment of the Department a limit should be set. In the future, candidates for registration in this Department should be required to submit credentials not later than one month before the opening of the quarter, and 150 of the best should be selected.

Salaries of Staff

It will be impossible to secure first rate men on our present salary schedule. Other institutions distinctly outclass us in this matter. Teachers College has no fixed schedule but is paying several of the first rank men \$12,000 and is liberal in vacations and exemptions from teaching in favor of research. Several of the State Universities are paying their deans and head professors \$8,000 and are appointing very young men. Packer goes this year to Iowa at \$6,000 after taking his Ph. D. last June. Neal goes to Missouri from Minnesota at \$6,250 after three years of experience since receiving his degree. Professorial salaries are high. Koos of Minnesota was offered by California \$7,000 and refused. We offered Works \$6,000 and he refused.

Other concrete examples can be supplied.

It is my judgment that an entirely new level of salaries will have to be adopted. We have now four men of the first rank: Bobbitt, Morrison, Freeman, Gray. We have several of the next rank and a number of very promising young men. These men as distinguished

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from men in State Universities have to pay an income tax and a number of them now pay insurance under our general plan. The salary schedule cannot in my judgment be held at less than \$7,500 for men of the first rank.

Equipment Needed

First class men require much better library and laboratory equipment than we now have. The recitation-rooms now available are also inadequate in number for the present program.

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Outline of Recommendations

Increases in Salary	\$8,550.
Additional funds to supplement types of work now provided for in the College of Education	2,500.
Additional funds to supplement types of work partially provided for in this year's budget	7,000.
New Minor Appointments	16,770.
New Major Appointments	30,000.
Additions to Supplies and Equipment	<u>9,000.</u>
Total	.\$73,820.

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Total	\$73,820.

Details of Increases in Salary
Recommended for Next Year

H. C. Morrison	\$500
F. J. Bobbitt	500
W. S. Gray	500
F. N. Freeman	500
E. T. Filbey	250
G. T. Buswell	250
K. J. Holzinger	300
I. N. Edwards	250
Alice Temple	250
Katharine Martin	300
Grace Storm	200
R. M. Tryon	500
R. L. Lyman ..	500
E. R. Downing	500
W. G. Whitford	250
Florence Williams	300
Edith Parker	400
Katherine Blunt	500
Lydia Roberts	200
Mabel Trilling	300
Evelyn Halliday	200
Cora Colburn	300
Mary Heiner	200
Lillian Stevenson	200
Marion Clark	200
Ruth Lehman	<u>200</u>
Total	\$8,550.

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Total	\$8,550.

Details of Additional Funds
in the College of Education
for part-time teaching in
Special Departments

Methods of Teaching History \$500.

Methods of Teaching English 500.

Methods in Mathematics 500.

Art Education 500.

Geography 500.

T O T A L \$2,500.

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Methods of Teaching History	\$500.
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Art Education	500.
<u>Geography</u>	<u>500.</u>
T O T A L	\$2,500.

Details of Additions to Funds
Provided in Present Budget for
Graduate Department of Education

Major appointment in School Administration,
for which \$6,000 is now provided \$1,500.

Assistant professorial appointment in
School Administration for which
\$3,500 is now provided 2,500.

Mrs. Reed withdraws. Increase to
major appointment 3,000.

T O T A L \$7,000.

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Mrs. Reed withdraws. Increase to	
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TOTAL	\$7,000.

Details of New Minor Appointments

Instructor for High School Methods	\$2,400.
Instructor for Introduction to Education	2,400.
Assistant Professor for Tests and Measurements	3,500.
Assistant Librarian for School Documents	1,650.
Asst. Librarian for Text-book Library ...	1,650.
Asst. Librarian for Reserve and Reference Library	1,650.
Secretary for Mimeographing	1,320.
Laboratory Assistant and Special Assistant for Tests in Laboratory School	<u>2,200.</u>
T O T A L	\$16,770.

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T O T A L	\$16,770.

Details of New Major Appointments

Professor of High School Administration .. \$7,000.

Professor of School Administration to
deal with personnel problems 8,000.

Professor of Administration of
Higher Institutions 7,500.

Professor to deal with problems of
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T O T A L \$ 30,000.

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Buildings

The present equipment is inadequate, and plans should be made for three new buildings.

Details on Buildings

The buildings needed to carry on the proposed program of the School of Education are three in number:

- I A graduate building
- II A high school building
- III A gymnasium and refectory

Detailed specifications for these buildings are as follows:

(I) The graduate building should be located on the east side of Kimbark Avenue between Blaine and Belfield Halls. On the ground floor it should have a large library to store the education library. There should be provided also three special libraries; one for reports and special materials not in book form; one for reserve material; and one for a collection of text-books. There should be suitable work-rooms for the librarian. On the same level as the library and extending east into the court and occupying the space now occupied by the temporary gymnasium, should be an auditorium large enough to seat 700 people. This should open into the library so that it can be used at times as a reading-room.

On the second floor should be four graduate recitation rooms.

On the third floor should be a series of laboratory rooms for instruction in statistics and laboratory courses in educational psychology. Some testing-rooms should also be provided.

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On the fourth floor should be offices.

(II) A high school building should face east on Kenwood Avenue between Blaine and Belfield Halls, and should provide in four stories, together with the rooms now available in Belfield Hall, quarters for a high school of 700 pupils.

(III) A gymnasium and refectory should be built on the east side of Kenwood Avenue for the laboratory schools. It should connect with the present quadrangle by means of a tunnel under Kenwood Avenue. It should be a long one-story building opening on the east side on to Jackman Field.

This plan contemplates the removal of the Boys Club, Kimbark Hall, and the temporary gymnasium. Some changes would need to be made also in Blaine and Belfield in the way of readjustment of partitions.

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BRIEF JUSTIFICATION OF ITEMS

Item: Increases in Salary.

The preliminary statement gives in general the justification for this general effort to raise the level of all salaries. Each item here set down represents an effort to retain a person whose contribution is conspicuous either to research, teaching, administration or some combination of these items.

Item: Additions to Funds in the College Budget.

The undergraduate elections are this year such as to justify these recommendations. It is the hope of the College that it may ultimately limit its registration at about 400 undergraduates. In case that limit is reached, there will have to be some further additions in the future. The present recommendations provide merely for some extra divisions now needed.

Item: Additions to Funds in the Graduate Budget.

These are recommended because it seems impossible to get men of the right kind with the funds now available. It is recommended that we once more invite Works and Butterworth at the new figures.

In seeking a man for Mrs. Reed's work, it will be necessary to pay more than we pay her.

Item: New Minor Appointments

These recommendations provide for division or undergraduate work and for library needs.

The last item furnishes a means of organizing the scientific work which is done cooperatively by the graduate department and the laboratory schools.

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The justification for these recommendations is to be found in the fact that a fully rounded treatment of the science of education demands these major lines of work.

Items: Equipment and Buildings

These depend for their justification in part on the expectation that new members of the staff will require room and working material, in part on present crowded conditions.

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Mr. C.R. Holden -2-

January 8, 1924.

December 13, 1923: Carnegie Corporation Library School. Referred for consideration and report.

December 13, 1923: Financial arrangements with Robert Herrick. Referred for consideration and report.

December 13, 1923: University College, Development of. Referred for consideration and report.
Mr. Charles R. Holden,
7 S. Dearborn St.,
Chicago, Ill.

My dear Mr. Holden:

Very truly yours.

The following matters have been referred to the Committee on Instruction and Equipment for consideration and report or for action. They have not been finally disposed of as yet. The matters are arranged in chronological order and not in the order of importance or in the order for early decision.

June 21, 1921: Patenting the results of laboratory research. Refer to Finance and Investment and Instruction and Equipment jointly for consideration and report. July 12, 1921, Lemon patent also referred to these committees. March 13, 1922, Mr. Holden reported progress.

January 9, 1923: Senate's report on scientific research. Referred to committee for consideration and report.

May 8, 1923: Request to Spelman Rockefeller Memorial. Referred with power to make the request if approved and to proceed with project as far as funds are available.

June 14, 1923: Cooperation with commercial corporations. (Marshall's recommendations). Referred for investigation and report.

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July 17, 1923: Medical Examination of Employees. Referred to Committee on Health and Sanitation for report.

December 13, 1923: Institute of Paleobotany. Referred to committee to determine the form of organization and the name.

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Secretary.

June 21, 1921: Patenting the results of laboratory research. Refer to Finance and Investment and Instruction and Equipment jointly for consideration and report. July 12, 1921, Leman patent also referred to these committees. March 13, 1922. Mr. Holden reported progress.

January 9, 1923: Senate's report on scientific research. Referred to committee for consideration and report.

May 8, 1923: Request to Spelman Rockefeller Memorial. Referred with power to make the request if approved and to proceed with project as far as funds are available.

June 14, 1923: Cooperation with commercial corporations. (Marshall's recommendations). Referred for investigation and report.

July 12, 1923: Profits on Commons. Referred to committee with power to advise the president and to report to Board.

July 17, 1923: Medical Examination of Employees. Referred to Committee on Health and Sanitation for report.

December 13, 1923: Institute of Paleobotany. Referred to committee to determine the form of organization and the name.

Mr. C.R. Holden -2-

January 8, 1924.

December 13, 1923: Carnegie Corporation Library School. Referred for consideration and report.

December 13, 1923: Financial arrangements with Robert Herrick. Referred for consideration and report.

December 13, 1923: University College, Development of. Referred for consideration and report.

Chicago, Ill.

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GENERAL RECOMMENDATIONS APPLYING TO ALL DEPARTMENTS.

INSTRUCTION

I believe that the University statute requiring two major courses of instruction per quarter from each instructor is an equitable one for the laboratory science departments, provided suitable arrangements for research, assistance and service are made. I would suggest that in the interpretation of the statute the question of laboratory instruction versus class room work be put on the following basis:

"Two hours of laboratory work shall be considered the equivalent of one hour of class room work, but fifteen stated hours of instruction per week shall be considered the maximum possible requirement under this rule." That is, an instructor giving wholly laboratory instruction shall not be asked to give more than 15 hours of such instruction per week in order to comply with the statute. Similarly, an instructor giving a course of two or three lectures a week and laboratory work to two sections for six hours each shall be considered to have complied with the statute. A division of a class into sections requires, of course, the consent of the Dean, and would only be allowed for classes large enough to warrant a division.

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The purpose of the above suggestion is to protect

instructors against the working of the "two to one" rule where a very large amount of laboratory instruction is involved. Laboratory instruction is exhausting, and in some ways more of a tax than class room work, as the instructor is the target for innumerable diverse questions in the individual instruction given. To go beyond the recommended maximum of three hours per day for the five days would be a real hardship, taxing the time and vitality of instructors to an extent that would prevent development in research and study for the rest of the day.

For the same reason, the request for more than 2 majors of work per quarter, as permitted under the form of contract made with instructors, would work a hardship in laboratory courses. The only department averaging above 2 majors per instructor per quarter is Chemistry, where the excess has accrued spontaneously, for the sake of the development of the department.

A reduction from the two-major requirement may, of course, be made by special agreement with the President. Such a reduction may be desirable in certain cases for a number of reasons: the particular importance of an instructor's research work, the wish to allow a younger man to develop as an investigator, author, etc.; but all such arrangements should be specifically approved by the President, or, at his wish, by the Dean of the Faculties,

and should not be a matter of private arrangement in a department, as it seems to be at present.

It is practically inevitable that in a number of graduate courses, necessary for a rounded course of preparation of advanced men, there should be a very low registration - often as low as 1 to 3 students. Sometimes there will be no registrations. The Department of Chemistry has for many years met the need of such courses in a very economical way in the case of laboratory courses: from two to nine laboratory courses are offered simultaneously in a single room as a single course, or as two courses, as far as the work of the instructor is concerned. Thus, Dr. Nef offers three successive majors of advanced preparation work (courses 35, 36, 37) simultaneously every quarter, as a single course. There may be no registration in a given quarter in a given one of these courses, but the total registration is on the average a very respectable one for such advanced work. Miss Barnard offers, with a \$400 assistant, nine simultaneous courses every quarter, with a total registration averaging 35 to 40 per quarter. With the assistant 30 hours of instruction are offered, 15 hours for each, and we count the work as two majors for Miss Barnard. This method is not only economical but it also has the great advantage for the department that a student can begin the work any quarter, and can continue it in any

way suiting his work; with the result that there is a minimum of loss through the drifting away of students as a result of interrupted or postponed work. Anatomy gives its dissection courses in the same way. I am emphasizing this arrangement because it might be duplicated with advantage in other departments, whenever equipment and material make such an arrangement possible. In these courses no lectures are given, as a rule, but there is a good deal of required reading, indicated in the instructions, and individual discussion with the instructor.

RESEARCH INSTRUCTION

In the early days of the University when Ph.D. candidates were few in number, it became the custom to consider research courses of instruction as special, voluntary courses, not counted in the "two-major" rule. At that time no hardship was involved in the custom, as one or two research students, properly directed, are really an aid rather than a handicap in the development of an investigator's own field. That is true to-day as well, and it is recommended that research courses running through three quarters and given to an average of one or two research students per quarter be considered voluntary courses, outside of the two-major requirement. In the majority of cases, such work will accelerate a young

instructor's becoming more widely known; it is a positive advantage to him; and the University through its standing does much to supply him with such students.

On the other hand, with the great growth in the number of Ph.D. candidates in several departments, working under one or two instructors, their instruction has become a very great, though necessary, burden rather than a help to the instructor, a burden more necessary for the University than for the individual instructor. It is therefore recommended that instructors who have an average of four research students per quarter of residence to look after, be allowed to count such research instruction as one-third of the work required by the University; i.e., as two majors of the six required for the year. In lieu of this privilege, by arrangement with the President, the instructor may (not shall) be granted a research assistant, and he shall then be held to give the ordinary six majors of instruction per year. This, of course, does not preclude in any way special arrangements with the President; but it shall be considered the normal arrangement, deviation from which should require the consent of the President. The present practice deviates far from this rule.

For intermediate cases, involving two or three research students per quarter, similar adjustments would easily be made, such as an allowance of one major per year.

Such a plan has met with the approval of heads of departments. It should not involve the University in any particular extra expense on the whole, but would involve readjustment of courses and staff in a number of instances, as will be shown in the specific recommendations concerning departments. Such an arrangement is considered necessary to provide for the growing numbers of Ph.D. candidates in these departments in a way equitable to the University and to its staff.

LABORATORY ASSISTANTS

There are two or three fundamentally different ways in which courses requiring laboratory assistants may be offered. For instance, a department may offer courses to classes ranging from fifty to over a hundred, as we do in chemistry, and have the laboratory work done under the direction of a professor or instructor with the assistance of a great many minor assistants. Such a method has the advantage that each student is under a man of advanced rank and receives the benefit of the inspiration and broadness of view of such a man. A second method, such as is observed in physics, limits sections to 30 students. The department is naturally unable to multiply professors at a rate to take care of numerous sections, and hence a good proportion of the sections are left altogether in the hands

of younger, though efficient, men and younger laboratory assistants, and the students get none of the vital element of personal contact with the best men in the department. The method has the advantages of smaller units of instruction, which balance nicely the disadvantage. Dissecting is offered in still another way, a group of instructors taking charge together of classes of eighty to over a hundred students, without using any younger assistants at all. All of these methods are legitimate and successful methods of coping with the problem of laboratory instruction, and it is desirable that the University should allow and even encourage such variation, enabling each department to solve its own problems of instruction in the way it finds works best. The question of expense will not enter to any great extent into the matter of choice between the three methods, provided the University regulation of two majors of full work per quarter per instructor be lived up to, and provided departments are allowed, roughly, amounts for laboratory assistants and instruction estimated on a common basis. Then the exact form in which they employ these amounts, as long as they are employed efficiently, and with good results in instruction, is a matter of no moment to the University. One department, such as Chemistry, may distribute the amount among numerous minor assistants; another, like Anatomy, may concentrate it for its specific needs in a few men.

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As a study of the efficient use of appropriations, I have made estimates on the following basis:

1. Each instructor of the rank of instructor or higher is supposed to give two courses per quarter and, where numbers permit it, to classes of 30 students. For smaller classes a single instructor should do. Instructors used beyond this requirement are considered to be really doing the work of assistants, possibly economically by concentration in a single man of the work of several minor assistants; but the total expense of such men, beyond that required for classes as indicated, has been charged by me to "Laboratory Assistants".

2. For laboratory classes numbering more than 15 students, \$50 should be allowed for a laboratory assistant for every 12 to 13 students for 6 hours of laboratory instruction (and notebook correction) per week.

3. For laboratory classes numbering more than 30 students, there should be an additional allowance of \$120 for an excess of 30 students (i.e. for a class of 60), and of \$160 for an excess of 50 students (i.e. for a class of 80), to provide for proper supervising assistants of better grade.

These amounts were arrived at by taking the pay of graduate student assistants (\$40 to \$50 for 6 hours a week) for the lowest class of assistants, and by taking the proportion of an associate's or instructor's salary for the time required for the supervising of the large classes.

On the basis of (1), (2) and (3) the work of the departments was studied for the four quarters of 1912-13. The registration in each course given was secured, sufficient of the staff allowed for instruction on a liberal scale; and the balance of the staff, calculated on the basis of the two-major-per-quarter rule, was considered as belonging to "laboratory assistance", and the corresponding cost in salaries charged against laboratory assistance. Estimates were then made of the amounts that should have been allowed for laboratory assistance on the same basis, proper deductions being made for fellows and scholars assigned to the various departments.

The estimates and comparisons thus made show a number of interesting and important results. For instance, for the departments of Physics and Anatomy the amounts estimated tallied practically exactly with the amounts allowed by the University; for the department of Chemistry, the largest and probably most economical of the departments, the amount estimated was a little higher than that actually allowed, but still close to the limit of a correct relation between appropriation and application. It is an interesting fact that these three departments have extremely widely varying methods of handling their laboratory work, but they are all three thoroughly well organized as to instruction, assistance, and particularly also as to service.

In nearly all of the other departments there are, as a rule, considerable deviations, and in one instance, Botany, a very great one, between appropriations and estimated allowance, and all in the direction of too large appropriations for instruction and assistance. These same departments are very poorly equipped with service: high-priced men are used to do work that should be done by lower-priced service employees. It is for such departments that readjustments towards a gradual transfer from the instruction to the service budget are recommended. The advantages of such changes have already been referred to, and are cordially endorsed by the heads of departments. The excess of appropriation does not mean therefore entirely wasted, but rather misapplied, money, in a large measure. In one case, Botany, the discrepancy is so great, however, that even after due provision for service there will be ample staff to make a decided saving in Summer Quarter appropriations by the University possible and advisable. In the case of Zoölogy a similar saving, to a lesser degree, however, is recommended.

It is recommended, as a result of this study, that, for normal working conditions, the allowance to departments for laboratory assistance in future be estimated on the basis of the above rules (1), (2) and (3), as soon as the readjustments between "assistance" and "service" have been made in the departments in which the service is as yet inadequately

organized. The same basis would serve well for special appropriations asked for to take care of unexpectedly large registrations in laboratory courses and also for special appropriations for the summer quarter work. It is not intended to work any such system too closely, a fair margin will be allowed, as it is recognized that there must be ample room for development and growth. But some such method will give all the departments an equal chance for development, and also demand an equal degree of efficiency.

It is further recommended that the exact manner in which such allowances for laboratory assistance are used shall not be prescribed, as long as efficient instruction is given. That is, Anatomy may continue to concentrate its funds in a few high-priced men, Chemistry may use its funds for a large number of minor assistants. It is recommended, however, that in the employment of definite grades of men departments adhere fairly well to the following schedule:

I. Undergraduate assistants shall receive \$40 per quarter (the equivalent of a scholarship) for 6 hours of laboratory assisting and the reading of about 12 notebooks of students under their care.

II. Graduate assistants, appointed for one quarter only and not as staff members, are to receive from \$40 to \$66.67 for the same service, according to the degree of responsibility imposed.

The University would thus supply the research assistant at a present cost of \$400 or \$500, and at a final cost, say at the end of three years, of \$700 or \$800. This is the only increase in appropriation recommended in this report; ultimate reductions in other departments more than offset it.

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III. Departments should try the experiment of appointing staff assistants, to receive \$300, free tuition, and laboratory fees and material (within reason; a limit of \$25 per quarter is used in Chemistry) for 9 hours of laboratory assistance per week for three quarters. The total service may be distributed unevenly in the three quarters at the convenience of the department (a number of departments have a huge class in only a single quarter). Such assistants receive in cash, tuition, etc., the equivalent of a first-class fellowship (\$500). The amount of work is somewhat greater than required of fellows. The positions will enable departments to strengthen their staff of assistants after the award of fellowships has been exhausted, with men of the same caliber. They are good assistants, and tend to strengthen the Ph.D. work of departments.

IV. Where larger amounts are paid to such assistants, there shall be a proportional increase in time of service demanded. For instance, a \$600 assistant shall be expected to give 15 hours (the maximum) of service, excepting by explicit arrangements approved by the President, when it is desired to secure an unusually good man.

V. Assistants paid \$800 to \$1,000 shall have the rank of Associate (at least), and be subject to the general University statute concerning instructors.

VI. It is hardly necessary to point out that departments are expected not to bid against each other for men.

departments. It includes a collector and a preparator, at a cost of \$1900. With 427 majors of laboratory work, the per major cost of service is \$4.50, comparable with \$3.70 in Chemistry and \$6.60 in Physics.

V. The Summer Quarter.

The Summer Quarter arrangements of the department impress me as its weakest feature. It required a special appropriation of \$2046, and used \$1367 of the time of the regular staff, a total of \$3413 for 204 minors of work, netting roughly \$1200. While it is not assumed that the net return should pay for the summer instruction offered - as it happened to do in the Chemistry Department in 1912 - still the ratio of 1/3 seems far too low. This is particularly so in the face of two items of the special appropriation: \$400 for Dr. Strong for one term's work (double work) for 16 students - a class of 6 and one of 10; and \$333 for Professor Child for 2 students, as far as I can see! Dr. Anderson, in Chemistry, of the same rank as Strong, received \$500 for three majors in the quarter with an attendance of 105 student majors!

VI. Recommendations.

In view of the fact that the regular instruction of the department is below the amount required by the University statute, and that there is no shortage of laboratory assistance or service, it is thought that the regular staff can cover the summer quarter work more completely with a very considerable saving to the University. Otherwise the department appears to be splendidly organized.

ANATOMY

I. Instruction.

Except for Professors Bensley and Herrick, the staff of the department appears to be doing full work in instruction as required by the University statute. The work of the two professors in question is of so highly specialized a character and the difficulty of holding graduate students in the face of the temptation to engage in medical practice is so great, that the shortage appears to be inevitable. No doubt the gentlemen are doing in research and organization of work more than enough to make good the formal shortage.

II. Research Instruction.

For the reasons just given it is difficult to hold research students. The average per quarter appears to be 1.

III. Laboratory Assistance.

Allowed: \$2767 (this includes a good portion of the salaries of "instructors", as explained in my introductory remarks.)

Estimate of proper allowance: \$2100.

A part or all of the difference appropriated has been turned back by Professor Bensley. The laboratory assistant question seems to be very wisely and economically managed in the department. As a consequence of the seductiveness of medical practice, it is necessary to employ high-priced men only. This has been done in so admirable a manner that the total cost is practically no greater than a greater number

of cheaper assistants would have demanded.

IV. Service.

The total appropriation of \$2400 is for 873 majors of work at the rate of \$2.75 per major, representing wise distribution. No doubt the large amount of work done in dissecting, with immovable material, is largely useful in this showing, which is an excellent one.

V. The Summer Quarter.

The special appropriations of \$850 and \$667 of regular time of the staff made a total of \$1517 used. The attendance (about 64 minors of work) was very light indeed, the ratio of expense to return being about 4 to 1. It is thought that a reduction in this expense can well be made by combining more courses under a single instructor in the manner discussed in the introductory remarks.

VI. Recommendations.

A recommendation concerning a reduction in the expense of the summer quarter is given in V.

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PHYSIOLOGY AND PHYSIOLOGICAL CHEMISTRY.

I. Instruction.

In Physiology the ratio of major courses to instructor per quarter is only 1.3 - an unusually low value. Professor Carlson and Professor Lingle are doing full work, but the remainder of the instructional staff represents too large a force for instruction and assistance. On the other hand, the service is inadequate and much work that should be done by preparators is done by high-priced instructors, accounting for the low ratio exhibited. A complete, though gradual, reorganization of the department seems advisable, as recommended below under VI - recommendations which Professor Carlson has endorsed in general.

In Physiological Chemistry there is a similar disproportionate distribution in instruction staff and service, with the result that instructors are doing service work, which does not show in the record of courses and which represents an extravagant waste of ability to do a higher grade of work. Dr. Koch, for instance, is considered to be in residence this quarter, although offering no courses! I do not know whether this arrangement was made with the approval of the President or Dean. An excess of drudgery in the autumn quarter would seem to justify such an arrangement, but it should be made with the explicit approval of the President or Dean. The whole organization is bad, however, and recommendations for changes are made in VI

1. Instruction.

In Physiology the ratio of major courses to instructor per quarter is only 1.3 - an unusually low value. Professor Carlson and Professor Klinge are doing this work, but the remainder of the instructional staff represents less a force for instruction and assistance. On the other hand, the service is inadequate and much work that should be done by preparators is done by high-priced instructors, accounting for the low ratio exhibited. A complete, though gradual, reorganization of the department seems advisable, as recommended below under VI - recommendations which Professor Carlson has endorsed in general.

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below - changes which Professor Mathews heartily endorses.

II. Research Instruction.

The research instruction of the department is very heavy and important, averaging 7 students in Physiological Chemistry and Pharmacology per quarter, and 8 per quarter in Physiology. Provision for the former has been made by the appointment of a \$1222 assistant to Professor Mathews. In the reorganization of the department some of the assistance funds should be used for a similar research assistant for Dr. Carlson.

III. Laboratory Assistance.

Allowed: Physiology: \$3250.

Estimate of proper allowance: \$850. The great discrepancy indicates that a good portion of this amount should be transferred to service and research assistance.

Allowed: Physiological Chemistry and Pharmacology:
\$2200.

Estimate of proper allowance: \$450. Here again the great discrepancy indicates the need of a transfer of funds from so-called "instruction" to service, protecting the staff against service calls.

IV. Service.

The service of the department is inadequate. It includes a mechanician, an animal keeper, a boy storekeeper and a man storekeeper,- a total of \$2520 for 572 laboratory majors of work, a ratio of \$4.35 per major.

While this represents a reasonably high ratio, it is put in good part into sources which are not available for much service in the actual running of courses. The organization of the department would be much improved by using a part of the excess of funds for assistance in instruction for a preparator and for a higher grade storekeeper and curator combined.

V. The Summer Quarter.

With a special appropriation of \$1100 for instruction and laboratory assistance, and using \$884 of the time of the regular staff, the department had 266 minors of work done during the summer. This represents roughly \$1600, or 80% of the summer quarter cost of the department, a very excellent showing, which indicates that the special appropriation is not excessive.

VI. Recommendations.

For the reasons developed under I-IV the following reorganization of the work of the department is recommended for consideration:

1) A preparator should be appointed in place of part of the present staff of assistants and instructors. His salary could be \$900, the same as in Zoölogy (Adams), and he should have charge of the preparation of material, etc., for all the courses of instruction (Lingle, Carlson, Mathews, etc.), with the aid, if necessary, of the storekeeper discussed in 2).

2) A single storekeeper for the whole department (Physiology, Physiological Chemistry and Pharmacology) should be employed in a single storeroom, as in Kent, if the four floors can possibly be served in such a way. That would enable the storeroom to be open all the time to all the students, instead of as now, part of the time only, and then only to part of the students.

3) Part of the excess of assistants (see III) should be set aside for a research assistant for Professor Carlson, or he should be allowed to offer only 4 majors of stated courses per year, aside from his research instruction. The former arrangement would be preferable.

4) While the budgets of the two divisions of the department in regard to service and equipment and supplies may remain as separate accounts, it is recommended that the business management of the whole department be placed in the hands of a single man: for instance, Dr. Koch, an arrangement which would suit both Professor Mathews and Professor Carlson. Dr. Koch would then have the management of all orders, supplies, equipment, apparatus, etc.

5) The recommendations as to staff and instructing assistants in the department should remain, as at present, separated, in the hands of Professor Mathews for Physiological Chemistry, and of Professor Carlson for Physiology.

Both Professor Mathews and Professor Carlson think that the suggested reorganization would add very greatly to the

efficiency and comfort of work in the department. It should be economical, but the recommendation involves no present reduction of total appropriations, simply a readjustment. The present appropriations for laboratory instruction are out of all proportion to the needs for instruction, but instructors are burdened with service, and the management of the department is altogether unbusinesslike.

BOTANY

The Department of Botany, even more than Physiology, is altogether out of line with the statute of the University requiring 2 majors of work per quarter per instructor, in part because it has an altogether inadequate service. Recommendations, which have already met with Professor Coulter's approval, will be made below in VI, after the detailed discussion of the situation in the department.

I. Instruction.

For the staff of professorial and instructor's rank (not counting a host of assistants discussed under III) the average of 1.3 (!) course per quarter of residence per instructor was maintained for the year 1912-13, in place of the statute requirement of 2 majors. Instructors have been burdened with duties which could be assigned much more economically to service appointees.

II. Research Instruction.

The department has been very strong in research instruction, averaging about 14 research students per quarter, which places it only after Chemistry, and close to that department in this important respect. The burden of the work is so great that specific provision should be made for it, and it is recommended below that in the rearrangement of the work Professor Coulter be allowed half the time of Professor Chamberlain for joint direction of research

(requiring of Professor Chamberlain only one other course per quarter; this being equivalent to an appropriation of say \$1250 for a research assistant for Professor Coulter). It is also desirable to allow Professor Crocker to consider his research courses in three quarters equivalent to at least 2 regular majors, or to assign him out of the present funds of the department \$1,000 for a research assistant, preferably the former.

III. Laboratory Assistance.

Allowed: \$4766, besides Fellows and Scholars.

Estimate of proper allowance: \$820 (!).

This glaring discrepancy between the two amounts is in part the result of a correspondingly small appropriation for service and for research instruction. Still the excess, together with the excess in staff, will justify a decided reduction by way of summer quarter appropriations (see below).

IV. Service.

The service in the department is entirely inadequate for the needs of a large department. It has only \$960 for a gardener. It should have a collector (\$900) and a Curator-preparator" at \$900 to \$1,000, funds for whom should be transferred from instruction account to service account. The advantages of such a transfer have already been discussed, and it meets with the unqualified approval of Professor Coulter. The total service budget, say \$2860, would be for

590 majors of laboratory work, a ratio of \$5.00, which would not be extravagant in view of the needs of the department; (in Physics the ratio is \$6.60 for similar needs; in Chemistry, with less delicate material to handle, it is \$3.70).

V. The Summer Quarter.

Botany had a special appropriation of \$2415 for the summer quarter of 1912, and used, in addition, three regular staff members (Cowles, Crocker, Land), receiving \$2167. The total cost for instruction was thus \$4582. From this amount \$194 for Professor Caldwell's work in the School of Education should be deducted, leaving \$4388. A total of about 500 minors of work was taken in the department, equaling roughly about \$3,000. The department earned therefore practically two-thirds of its summer quarter expenses, which is a good showing. The recommendation to reduce the special summer appropriation (see below in VI) is not intended to curtail the summer work at all, but it is intended to use the regular staff, especially the younger instructors, to a greater degree for the summer quarter, in order that in the fulfillment of the University statute of 2 majors of instruction per quarter for each instructor there be no disorganization of the staff. Simultaneous large special appropriations for the extra payment of more than one high-salaried professor in a given summer would thus be avoided.

VI. Recommendations.

I have drawn up a tentative staff for Instruction and Service on the basis of the work offered by the department in the four quarters of 1912-13. Besides Professors Coulter, Chamberlain, Caldwell, Cowles and Crocker, there would be needed an instructor in Morphology (say at \$1200, the present salary of Mr. Fuller); an instructor or associate in Physiology (say at \$1,000, which is \$100 more than Mr. Knight's salary); three assistants at \$300 (Ph.D. candidates, with free tuition and fees, 9 hours' work a week); a curator-preparator at \$1,000 and a preparator at \$900: totaling \$5,000. For summer quarter work there would be required an instructor at \$400 or \$500; and \$250 for assistants: making a total of \$5,750 for the four quarters. The present appropriation, outside of the professors enumerated above, is \$7,400, with \$2,415 additional for the summer quarter: a total of \$9,815. The difference in cost would be \$4,065. While the staff as outlined would be on a more liberal scale than we have in Chemistry, (averaging 1.8 majors per instructor per quarter against our 2.3 majors), the difference between my estimate and the present appropriations is sufficiently generous for some intermediate budget, which would make liberally possible the development of new lines of work in the department, which Professor Coulter is right in wishing to have a chance to develop.

My specific recommendations would be the following:

(1) That half of Professor Chamberlain's time be considered the equivalent of a research assistant to Professor Coulter, for joint direction of research in Morphology.

Professor Chamberlain would then offer only one other course per quarter.

(2) That Professor Crocker be asked to give only four courses in 3 quarters, besides his research courses, or else, if full work is done, that he be provided with a research assistant at \$1,000 out of the present appropriation. The former arrangement might be the preferable one.

(3) That a Curator-preparator be appointed out of present appropriations at a salary of \$1,000.

(4) That a Collector be appointed out of present appropriations at a salary of \$900.

(5) That gradually a readjustment of the department to some basis lying at least between the present one and that outlined above be made, the saving to be made primarily out of summer quarter special appropriations, and perhaps only to a minor extent, if at all, out of the regular budget.

I believe Professor Coulter will be glad to cooperate in some such readjustment.

PHYSICS

I. Instruction.

The average number of courses per instructor per quarter is 1.8, exclusive of research courses.

II. Research Instruction.

The average number of research students per quarter was 4. This is probably below the usual average of the department.

III. Laboratory Assistants.

Allowed: \$300; besides 4 Fellows and 4 Scholars.

Estimate of proper allowance: \$200.

The department gives instruction to classes limited to 30 by staff members, and the fellows and scholars are almost sufficient for the minor assisting.

IV. Service.

The department uses \$5360 for service. Of this amount at least \$1200 is used chiefly for research work and \$1300 for the making of apparatus which would otherwise have to be bought at much higher cost from the supplies and equipment fund. The balance, \$2860, may fairly be considered to be used for "service": i.e., maintenance of apparatus, distribution of it, etc., etc. With 435 laboratory majors taken, the ratio is \$6.60 per student major - a high ratio, but not an exorbitant one, in view of the delicacy and great expense of the apparatus used. At least 40% of this is paid back in the form of laboratory fees, reverting to supplies and equipment funds, and

enabling the department to eke out its slim appropriation for equipment.

V. The Summer Quarter.

The department had a special appropriation of \$1100, besides using \$1667 worth of the time of its staff (Gale and Kinsley) in addition to Professor Michelson (not included in the estimate of cost). An attendance of 249 minors, roughly estimated at \$6 per minor of work, meant a return to the University of roughly 54%. Other departments have done much better (Chemistry over 90%) for the summer, although 54% is acceptable. The recommendation is made, however, that when Professor Michelson is in residence in the summer a second "stellar attraction" be considered unnecessary (Dr. Born from outside gave a special course to 6 students).

VI. Recommendations.

The department seems to be run extremely efficiently, both from the point of view of instruction and output of important research and of highly trained men. The most pressing need of the department is for equipment. Its apparatus is inevitably costly, and it needs a correspondingly liberal amount for equipment. As soon as income for research becomes available, the Department of Physics, among the laboratory departments, should receive the first consideration, in my opinion.

SUMMARIES

I. INSTRUCTION.

Department. Ratio of Courses Per Quarter Per Instructor
(exclusive of research courses).

Physics	1.8
Chemistry	2.3
Zoölogy	1.8 (exclusive of Professors Williston and Tower.)
Anatomy	1.8
Physiology	1.3
Physiological Chemistry	1.3
Botany	1.3
Pathology	1.7
Bacteriology	1.25

II. RESEARCH INSTRUCTION.

Department.	Average Number of Students per Quarter.	Provision.
Physics	4	\$ (1200)
Chemistry	16	2500
Zoölogy	8	1000
Anatomy	1	
Physiology	8	
Physiological Chemistry	7	1222
Botany	14	
Pathology	5	300
Bacteriology	5	750

Tables I and II taken together indicate the need for some readjustment for research instruction.

III. LABORATORY ASSISTANCE.

The amount tabulated under "Allowed" will not tally with the amount called "Laboratory Assistance" on the University books, because in many departments instructors are used as assistants or in lieu of them, and in others (in Chemistry Miss Terry is giving independent courses as an instructor) instructors' salaries and research funds are included in the University's record. Under "Allowed" below is stated the cost of laboratory assistance calculated as described on pp. 7-8; that is, an excess in staff appointments, not needed for instruction, is classified as "Allowed Laboratory Assistance".

Under "Estimate of Proper Allowance" is given the estimate made according to pp. 7-8, deducting Fellows and, in most departments, Scholars, from the estimate.

Department.	Allowed.	Estimate of Proper Allowance.
Physics	\$ 300	\$ 200
Chemistry	2700	3050
Zoölogy	1000	620
Anatomy	2767	2100 (Difference returned to U)
Physiology	3250	850
Physiological Chemistry	2200	450
Botany	4766	820
Pathology	300	350
Bacteriology	1300	350

The wide variations result primarily from an over-development of instructional forces, and inadequate organization of service and provision for research. In some cases, even with such a provision there would remain a considerable excess over actual requirements.

IV. SERVICE.

Department.	Service.	Recom- mended.	No. of Laboratory Majors.	Cost Per Major Present.	Major Recommended.
Physics	\$ 2850	\$ 2850	435	\$ 6.60	\$ 6.60
Chemistry	4880	4880	1326	3.70	3.70
Zoölogy	1900	1900	427	4.50	4.50
Anatomy	2400	2400	873	2.75	2.75
Physiology	2520	3480	572	4.35	6.00
Physiological Chemistry					
Botany	960	2880	590	1.63	5.00
Pathology					
Bacteriology	360	900	230	1.57	3.90

All increases recommended are to be made by a transfer from instruction.

V. SUMMER QUARTER.

Department.	Special Appropriation.	Staff.	Attendance (in minors).	Ratio of Cost "Earned."
Physics	\$ 1100	\$ 1667 (excluding Michelson)	249	54% (excluding Michelson)
Chemistry	2500	3033	892	97%
Zoölogy	2046	1367	204	35%
Anatomy	850	667	64	25%
Physiology))				
Physiological) Chemistry)	1100	884	266	80%
Botany	2221	2167	500	68%
Pathology	400	—	110	165%
Bacteriology	300	2167	113	28%
