

FILE 854

SALARIES: STAFF

1920 - 1934

June
Fifteenth
1920.

Professor H. M. Mackay,
Engineering Building.

Dear Professor Mackay:-

Please accept my best thanks for your letter of June 11th enclosing the two very interesting and important curves, showing the purchasing power of certain salaries paid to University Professors during a period of years. I am returning these curves to you, with many thanks.

I believe that they would form a very excellent item for our publicity in connection with the campaign for funds to be carried out next October, if they were presented in a form which the ordinary subscriber could fully understand and appreciate.

I would suggest, therefore, that you prepare a short explanatory text for the diagrams, in which you would state that they represent the salaries of two leading Professors in the Faculty of Applied Science, one of whom was the Head of a Department, during the last fifteen years. You should also explain the meaning of the term "Virtual Salary", and make a statement concerning what the diagrams show, that, as above mentioned, anyone not accustomed to graphic representations of facts could seize and be impressed with the import of the curves.

When you have prepared this accompanying text, if you will be good enough to send it, together with the diagrams, or copies of the same, to Dr. Nicholson, who is Vice-Chairman of the Publicity Committee, he will see that proper use is made of them.

Prof. H.M.Mackay,

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If the diagrams could be at all simplified, or set forth on a single page, possibly it might render them more easily available.

With best wishes,

I remain,

Yours very sincerely,

Acting Principal.

CANADIAN PACIFIC RAILWAY COMPANY

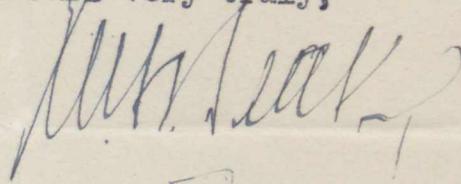
OFFICE OF THE CHAIRMAN AND PRESIDENT

MONTREAL June 23rd, 1927.

Dear Sir Arthur:

You may be interested in
reading the attached letter which appeared
in the New York Times of the 12th instant.

Yours very truly,



General Sir Arthur Currie, G.C.M.G.,
Principal,
McGill University,
Montreal, Que.

Endowments and Salaries.

New York Times, 12th June, 1927.

To the Editor of The New York Times.

A new commencement in our Colleges and Universities is at hand, and I want to call attention to the need of wise financing of education. Those of us who teach feel that too large a proportion of funds is devoted to the more physical aspects. It is human nature, of course, to want to see tangible results such as libraries, study halls and stadia. But there is far greater need at present that Chairs be endowed, scholarships for good students who are poor, and fellowships. In the case of a small college the income from \$1,000,000 say, would help tremendously if applied to salaries of Faculty. It has been called to our attention too often already that teachers are inadequately paid.

We are told often that surely service is consideration enough; that we have in our keeping the making of minds and individuals. Why not revise that truism something like this: To have the best servants we must serve them well too. Self service is a fundamental law of life: We want to serve but we feel that we should be served decently too. Universities in which a small fraction of the total endowment is available for teaching staff cannot pay more than a bare living. We see a number of our students drive up in costly automobiles while we ride in street cars; we see them dressing better than we do. We are accustomed to high thinking and plain living; but the plain living should be enough to provide us with security against the future and with decent equipment in books and travelling.

Instructors ordinarily get less than \$2,000 a year. Like other citizens they are expected to marry and raise families. It is an expensive sacrifice to teach. Self esteem is essential to the best sort of service. Self esteem cannot be maintained on a pittance. Teachers should have the opportunity of spending part of their summer at least in attendance at Universities where they may realize their minds and spirit more. The average business man who sends his children to College perhaps does not realize that he pays only a fraction of the cost of their education

Endow worthy institutions with enough money to pay Faculty properly. We need books and further study and the experience of travelling. In return we will be able to serve much more adequately.

Louis Salbitano.

St. Louis, Mo. June 7, 1927.

DOCKET STARTS:

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	D L
Night Message	N M
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

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SIR ARTHUR CURRIE

1734

MCGILL UNIVERSITY MTL

SOMETIME AGO I RECEIVED REPRINT YOUR EXCELLENT STATEMENT REGARDING
UNIVERSITY ATTITUDE TO FACULTY SALARIES HAVE MISLAID IT
PRESIDENT HUTCHINS WOULD LIKE ONE TO TWENTY COPIES IMMEDIATELY
IF POSSIBLE HOPE SUPPLY AVAILABLE
JACOB VINER UNIVERSITY OF CHICAGO.

Two copies of McGill News containing Principal's statement to Governors. sent.

University of Toronto
BURSAR'S OFFICE

Schedule showing scale of temporary deductions
from salaries, effective 1st March, 1932.

- 2% up to and including \$1,000
- 2½% on amount over \$1,000 and up to \$2,000
- 3% on amount over \$2,000 and up to \$3,000
- 4% on amount over \$3,000 and up to \$5,000
- 5% on amount over \$5,000 and up to \$6,000
- 20% on amount over \$6,000 and up to \$10,000
- 25% on amount over \$10,000

There will be no deduction where the total remuneration
for the year is \$800 or less.

F. A. MOURÉ,
Bursar

THE UNIVERSITY OF BRITISH COLUMBIA
VANCOUVER, CANADA

OFFICE OF THE PRESIDENT

February 17-1932.

Sir Arthur Currie,
Principal, McGill University,
Montreal, Que.

Dear Principal Currie:-

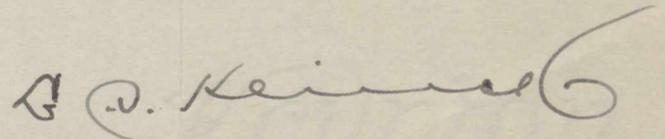
I acknowledge the receipt of your letter of February 10th in which you state you are considering the necessity of recommending to your Board of Governors a general cut in salaries and wages.

The Board of Governors of this University has had this matter under consideration for some time. No definite action has been taken as yet, but the general opinion seems to be that these cuts should not be greater than the reductions which were made in the salaries of the Provincial Civil Servants in October last.

However, as the financial situation has become more acute within recent months, the University may find it necessary to increase the cut on the higher salaries.

I am enclosing herewith a copy of the Order-in-Council showing the scale of reductions in the salaries of the Civil Servants.

Yours very truly,



L. S. Klinck.

Recent reductions in salaries
of Civil Servants.

By Order in Council No. 1282 (1931)

All salaries payable from Consolidated Revenue Fund be reduced in the following proportions, effective on and from October 1st, 1931.

Salaries	\$1225.00 per Annum and under	2 % per Annum.
" over	\$1225.00 " " To \$ 1850.00	3% " "
" "	\$1850.00 " " " \$ 3075.00	5% " "
" "	\$3075.00 " " " \$ 4300.00	7% " "
" "	\$4300.00 " " "	10% " "

CANADIAN PACIFIC RAILWAY COMPANY'S TELEGRAPH



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:SIR ARTHUR CURRIE PRESIDENT MCGILL UNIVERSITY MONTREAL=

REDUCTION DATING FROM OCTOBER FIRST GRADUATED FROM
TWO PERCENT BELOW TWO THOUSAND TO TWELVE PERCENT ABOVE
SIX THOUSAND STOP FURTHER REDUCTION OF SIX PERCENT
FLAT RATE DATING FROM JANUARY FIRST AND RECOMMENDED
BY GOVERNMENT NOW UNDER CONSIDERATION BY BOARD OF GOVERNORS=

H308
RO

:JAMES A MCLEAN=.

PRESIDENT'S OFFICE



CABLE ADDRESS: "VERA"
CODE A.B.C. (5TH ED.)

EDMONTON, February 16th, 1932.
ALBERTA, CANADA

Sir Arthur Currie,
Principal, McGill University,
Montreal, Que.

Dear Sir Arthur:

On November 1st, 1931 a reduction in salaries and wages
in the University took effect on the following scale:

On that portion of the salary from	<u>Married</u>	<u>Single</u>
\$ 1- \$1000	2%	3%
1001- 1500	5%	6%
1501- 4000	7%	8%
4001 and over	10%	10%

The same scale became effective in the Government services of Alberta at the same time. In the University it represents a reduction for the year of approximately \$32,000.

It is, I feel, very unfortunate when decreases have to come in university salaries which are very slow in being effected by prosperous times. Under present conditions in the western provinces it was not possible to withstand the need for reduction. I felt that it was particularly important, however, that concurrent with the reductions and during the period of reduction the normal increase according to salary schedule should go forward. If that does not occur those who are at salaries below the maximum are much more seriously penalized

PRESIDENT'S OFFICE



CABLE ADDRESS: "VERA"
CODE A.B.C. (5TH ED.)

EDMONTON,
ALBERTA, CANADA

-2-

than those who have already reached the maximum salary. I did not find it possible, however, to have the scale of increases operate during this period. That I much regretted because of the fact that it effects those on low salaries much more seriously than those on the higher salaries. I have the feeling that if you can find it possible to carry on the schedule of increases at the same time that a general reduction is made, it will be taken with much better grace than if the increases are also withheld.

With kind regards,

Very truly yours,

A handwritten signature in cursive script that reads "Robt. C. Wallace".

Robt. C. Wallace,

President.

University of Saskatchewan

Saskatoon, Saskatchewan

PRESIDENT'S OFFICE

February 15, 1932.

Sir A. W. Currie,
Principal, McGill University,
Montreal, Que.

Dear Sir Arthur:-

Replying in the absence of the President to your letter of February 10th, I would offer the following confidential information regarding the scale of salary reductions adopted by the Governors to date:

(1) 5% on the first \$1,000; 10% on the remainder of the salary or wage as from 1st September, 1931 for all University employees paid on the monthly or annual basis with the following exceptions:

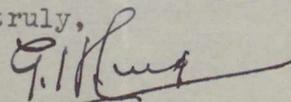
- (a) 20% from the salary of the President.
- (b) In case of members of the staff who are married or have children dependent upon them, and who receive wages or salaries
 - (1) from \$86.00 to \$170.00 per month, that the rate of deduction be 5%;
 - (2) from \$40.00 to \$85.00 per month, the rate be 2%;
 - (3) under \$40.00 per month there be no deduction.

Also, the foregoing rates be applied to employees on the hourly basis who have received, or expect to receive this year more than \$500.00.

With respect to the future, I may say that while there is a cut of about \$135,000 in the Government grant for the coming year, we are making heavy advances in fees. No arrangements have been made for a further cut or for dismissals. The matter is and will be entirely in the hands of the President when he returns. I think he believes that we can go through the next year without additional reductions.

With best wishes.

Yours truly,



G. H. Ling.

Acting President.

DOCKET ENDS:

ECONOMY HELPS IN REDUCING DEFICIT

Total of \$53,773 Saved by
University of Montreal, Dr.
Montpetit States

The \$200,000 approximate deficit in the administration of the University of Montreal has been reduced by \$53,773 by means of the cut in salaries and other expenses, it was announced yesterday by Dr. Edouard Montpetit, general secretary.

The 10 per cent. reduction in the salaries of professors and members of the staff, accepted by the schools and councils of the university, explained Dr. Montpetit, amounts to \$25,991. Besides there are the demands for increases in salaries for the sum of \$6,135, making a total of \$32,126. There was also a reduction in general expenses, or overhead charges for the sum of \$21,647, or a total of \$53,773.

The professors and staff had been thanked by the rector of the university for their co-operation in the plan of readjusting the finances, and the executive of the university is of the opinion that this will be of material aid in reaching the desired goal. The figures, he said, had been furnished by the treasurer of the university to the executive board at its sitting this week.

MINIMUM SALARY UPON



MCGILL UNIVERSITY

April 7th, 1933.

Sir Arthur W. Currie, K.C.M.G., LL.D.
Principal, McGill University.

Dear Sir Arthur:-

I have been turning over in my mind the conversation of yesterday in connection with the reduction in the expenses of each department and I feel that so little progress was made towards the solution of the problem that I would like to offer a suggestion whereby the Head of each Department would be more or less forced to make substantial savings in his Department and the solution of the problem would have to be submitted by him in writing to yourself.

I would suggest that it be definitely stated that his Budget for Salaries and Wages be cut by ten per cent and his Budget for other expenses by twenty-five per cent. If this were done throughout the University, the saving on Salaries and Wages would be approximately \$104,000.00 and the saving on appropriations approximately \$60,000.00. From this would have to be deducted the \$40,000.00 estimated unexpended appropriations so that the nett saving would be approximately \$124,000.00.

I feel that if this method was used, it might save a lot of time and discussion and would put the onus of proof on the Professor in case he contended that it was impossible to continue his Department under such circumstances.

In the particular case of the Salaries and Wages, the Department themselves could decide whether they all took a further ten per cent cut or whether it would be necessary to dispose of some of the staff.

I strongly suspect that we are overstaffed in some departments and I am still convinced that the time distribution sheet as submitted by me at the meeting of the Deans would show up a lot of weak spots, if it were conscientiously and properly answered.

Respectfully submitted,

W. Bentley
Comptroller.

1) Any contemplated
or promised increases
to be made before cuts.
We must be able to
say that all salaries
have been cut.

2) Wages to be cut
100%.

3) Staff to be examined
with view to reduction.

4) What about bachelors
Alberta between 1000
and 4000 - bachelor ^{male} or ^{female}.
Cut was 1% more.

1000	-	3
2000	-	4
3000	-	5
3600	-	6
4250	-	7
5000	-	8
6000	-	9
over		10.

April 12, 1932.

Dean C. F. Martin,
Faculty of Medicine.

My dear Dean Martin,

Let me thank you for your letters
of the 5th regarding the readjustment of salaries.
I am grateful for the sentiments expressed therein.

Ever yours faithfully,

Principal.

MC GILL UNIVERSITY
MONTREAL

FACULTY OF MEDICINE
OFFICE OF THE DEAN

April 5th,
1932.

Sir Arthur Currie,
Principal - McGill University,
Montreal.

Dear Sir Arthur,

May I acknowledge your kind circular letter of April 4th with reference to readjustment of salaries, and may I say how heartily I am in accord with all that is stated in this communication.

Assuring you of my own loyalty and co-operation, I may add that I shall make it my duty to enlist the sympathetic support of all the other members of our medical staff.

Faithfully yours,

C. J. Martin
DEAN.

McGILL UNIVERSITY
MONTREAL

FACULTY OF MEDICINE
OFFICE OF THE DEAN

April 5th,
1932.

Sir Arthur Currie,
Principal - McGill University,
Montreal.

Dear Sir Arthur,

I have had two communications this morning from practitioners offering to turn over part, or all, of their stipend on behalf of the full-time men to whom the cut in salary might mean more than to them.

I merely mention this as an evidence of sympathetic co-operation.

Faithfully yours,

C. Martin
- DEAN.



PETER REDPATH MUSEUM
MCGILL UNIVERSITY

Montreal,.....April 5.....1932

Sir Arthur Currie, Principal
McGill University
Montreal

Dear Sir:

I have just received and read your communication regarding the reduction of salaries at McGill.

None of us, I presume, welcomes the situation. Nevertheless, many of us have realized the futility of continuing long in the deficit producing conditions of the past few years, and have been content to rely upon the good judgment of those in charge of the finances of the University. I, for one at least, have been agreeably surprised that this present step has been so long delayed, and I trust that its help may be greater than anticipated in reviving McGill's well-being.

Nor will any of us, with the best interests of the University at heart, find food for disaffection in the situation. Our disappointments and our sacrifices may well prove to be the foundation stones upon which a greater McGill will be built. To bear them cheerfully will be as oil on troubled waters, but to bear them at all may be a privilege to which in future years we shall look back with particular pride.

Yours very respectfully,

Thomas A. Clark

April 12, 1932.

Dr. Thomas H. Clark,
Peter Redpath Museum,
McGill University.

My dear Dr. Clark,

Let me thank you sincerely for your letter of April 5th regarding the readjustment of salaries which we have found necessary. I was, of course, much depressed over the necessity for cutting the salaries at McGill, but the splendid spirit of members of the staff, who have assured me of their loyalty and support during this trying time, has greatly cheered me, and I feel, too, that this may be made an opportunity for us all to put our best efforts forth and to work harder than ever for the future of the University.

With kindest regards,

I am,

Ever yours faithfully,

Principal.

DOCKET STARTS:

THE ECONOMIC STATUS OF SCIENTIFIC MEN AND WOMEN*

BUDGET NEEDS OF COLLEGE TEACHERS

By Dr. BENJAMIN R. ANDREWS

PROFESSOR OF EDUCATION, TEACHERS COLLEGE, COLUMBIA UNIVERSITY

THE teacher has three groups of personal budget needs: those connected with his profession; those concerned with living expenses of self and family, and those necessary for financial security. Every one must meet his living expenses; every one who spends intelligently tries to provide for financial security; but professional needs represent items that do not appear in the average person's budget. The teacher who does research as well as teaching must keep in close touch with the progress of his subject and his profession, and this involves annual expenses that every teacher knows. He must also be adding to his subject by his own studies and research, and part of their cost with many workers comes back upon the private purse. He must also have a broad mental equipment and the personal and social resources of the traditional college teacher who deals with youth and desires to serve any intellectual or personal need that arises. Since the college teacher is responsible for the increase and dissemination of the knowledge necessary for civilization and for progress, society is concerned that he have personal income adequate to his function and that he administer his funds so as to function efficiently. In his professional expenditures the teacher is a public person, and even his private living conditions and his security are of public concern as far as they affect his work as teacher and researcher.

This paper discusses a few aspects of personal expenditure of college teachers, illustrating them by returns from a schedule of inquiry answered by sixty-four teachers in a metropolitan professional school referred to herein as the first group¹ and by forty-six teachers in three institutions, located in small eastern cities, referred to as the second group. Appreciation is expressed for the contributions of these correspondents which while not adequate for reliable generalizations have helped clarify the problems of spending.

PROFESSIONAL NEEDS

The college teacher must keep in contact with his field through association memberships, professional

* Symposium of invited papers read before a general session of the American Association for the Advancement of Science, New York, December 28, 1928.

¹ In the first group, to whom the schedule had to be submitted in two parts, sixty-four replied to the inquiry on professional needs and forty-eight to that on living conditions and financial security.

meetings, books and journals, and must budget accordingly.

Professional contacts with fellow workers have their peculiarly stimulating value. There is creative power for new ideas in conventions, and in meetings of research committees. There is profound truth for scientific progress in the familiar valuation that the talk in the hotel lobby at a convention is as valuable as the papers read at the sessions. Who draw benefits from such contacts? The young worker surely who meets leaders and who can thereafter attach a face and a personality to what has been so far a mere name, and who may at a convention make an acquaintance on which his whole career may turn. But also the convention has unique values for the mature worker who meets his peers, gets orientated on new research and makes living contact with the movements of thought in his specialty. That man-to-man meeting with time for discussion is prized, is indicated by one correspondent who craves for travel to visit laboratories in other universities, stating that conventions do not meet his needs of protracted and intimate contacts with a limited few. The recent development of committees, councils, boards in specialized fields of research, concerns this need, and ten of the first group furnishing data had personal expenditures last year for committee work.

Membership in professional organizations is prized for these personal contacts, for association journals and printed proceedings and for participation in organized research. Support of such organizations is part of the scholar's faith. The first group of college teachers belong to from one to twelve professional organizations, and the second group from none to seven organizations, with the medians at five and three memberships respectively, and with attendance during the year upon a median of two and one out-of-town meetings respectively. The first group illustrates the gradation in such matters by academic rank; instructors belong to a median of two organizations and attend one meeting; assistant professors belong to three organizations and attend two meetings; associate professors belong to five organizations and attend two meetings, and for professors these numbers are six to seven and three. Here then is one formula of academic ascension—memberships and meetings in ratios 2-1; 3-2; 5-2, and 7-3.

Professional Journals: From one to twenty professional journals are taken by these college teachers, with a median of four to five taken by members of the first group and of three in the second group. The number taken increases with rank from a median of three to four for instructors to eight for professors in the first group. Is the present supply of journals adequate for these teachers' needs? Only twenty-three of fifty-three in the first group and fifteen of thirty-nine in the second group, or 41 per cent. of both groups, find their present contact with journals adequate. Fifty-nine per cent. of the groups desire from one to twelve additional journals, enough to raise the median desired to six journals for the first group and four journals for the second.

The teacher may of course use journals in the institution library, but usually only at a cost both of time and convenience that makes it a poor kind of economy. Are the institution library's journals adequate in the particular fields concerned? Thirty-two per cent. of the first group and 48 per cent. of the second suggest that more journals are needed in their fields at their college libraries.

Viewing private budget needs, it is always a fair question, can needs be met more adequately by a group service? Could books and journals be circulated from college libraries into offices and laboratories so that these would become working centers of library extension, and could private cost for books and journals be thereby lessened? Probably private cost could not be lessened as far as books and journals are concerned—the testimony of these correspondents is that private expenditures for both these professional needs should be much increased. Private professional libraries of a limited size probably meet practical needs, especially if new books can be secured freely, and teachers seem to favor using the institution library for that reserve collection of books which the scholar of an earlier day would have had in his home.

Professional books, just as the journal, are absolutely essential to the college teacher. Members of both groups own libraries that range from ten or fifteen to 2,000 volumes, with a median of 250 professional books, and they bought up to 110 professional books a year with a median of ten or fifteen professional books purchased. In the first group the median library of the instructor is one hundred books; of the assistant professor and of the associate professor, 250, and of the professor, 500 books. Some private collection every teacher needs, but much increase in it would probably show diminishing returns unless library service could be provided. The housemaid who served this notice when the library reached about 1,500 volumes, "Tell the professor if I have to dust

any more books, I'll get another job," struck at about the maximum reported by these correspondents. The question was asked, assuming that the number of books available for personal use were to be increased, what per cent. of the increase should go into the private library and what per cent. into the institution's library? The median preference for the two groups was that 20 per cent. to 25 per cent. of the increase should go into the personal library and 75 per cent. to 80 per cent. into the college library. Less than one fourth of these teachers would want over one half of such a hypothetical increase in their own libraries.

Are college teachers in touch with all the book resources needed for their work? Asked how much they could wisely increase personal purchases of professional books, the median opinion of both groups was for a doubling of present purchases of personal professional books and for the same doubling in the institution's purchase of books in their special field. A fourth of the group would add 200 per cent. to their own book purchases if possible. This indicates that present book allowances are inadequate in personal budgets.

Does the institution library need more books or better service? The answer, of course, is both, but, assuming that the institution were contemplating library expansion, how should the expansion be distributed between purchasing more books, and increasing service and efficiency? The opinions of the two groups on this question varied from a ratio of 0 per cent. for book increase and 100 per cent. for service increase, through a middle point of 50 per cent. for book expansion and 50 per cent. for service expansion, to 100 per cent. for book increase and 0 per cent. for service increase. The first group's median opinion was 50 per cent. for books and 50 per cent. for service; members of the other group in all three colleges had a median choice of 75 per cent. for book expansion and 25 per cent. for service expansion. This point of interrelationship of the teacher's and the institution's book and journal resources is one that merits detailed study. College book collections commonly need expansion, but also the library can come into closer service relations with student and staff and such an expanded service might possibly relieve a little the pressure on the teacher's budget at this point or rather allow for its expansion for other books and journals needed.

Other Professional Expenditures: What personal expenditures are there for professional needs, in addition to books, associations and meetings and journals? The correspondents report personal expenditure for assistance, for research, for equipment, committee work, etc.

Assistance employed for assignable tasks frees the teacher for his specialized service and increases his output. It is wise institutional policy to provide assistance on its budget for those teachers who know how to use it; it is wise for the teacher to consider putting personal funds into assistance.

One half the first group and a quarter of the second group state that they desire personal funds for professional assistance of some kind. These personal needs for professional assistance, when specified, are for secretarial help, research assistant, technician, computation assistant, drawing assistant, abstractor, filing clerk, the sort of service that many colleges furnish as far as they can, but which teachers generally feel the need of in addition to aid thus given. Many are already putting personal funds into such assistance. Thus half (thirty-three) the first group of sixty-four spent from \$5 to \$1,000 each, with a median of \$50, for assistance; half spent from \$25 to \$150; one spent \$500, and one \$1,000. Of the second group, eight of forty-six report paying from \$20 to \$400 each for assistance. Such expenditures are doubtless often a way of accomplishing supplementary tasks as writing, etc., that pay their own way. A recommended policy might be: One who can afford it, will wisely use assistance at his own cost to multiply his professional production. One who must earn extra income beyond his salary may find that hiring assistance with personal funds is a way to earn extra income and at the same time conserve his energy and meet the full requirements of his position as teacher.

Do college teachers use personal funds for research? Seventeen of sixty-four in the first group and four of forty-six in the second, or about 20 per cent. of all, report expenditures within the year, and 15 per cent. report their desire for additional personal funds to be spent for research. Of twenty reporting an expense for research, the range was from \$15 to \$2,600, with the median at \$100 and half the group spending from \$50 to \$300. Should private expenditure for research become common practice? No doubt there should be almost complete reliance upon institution budget for assistance, equipment and other costs in one's institutional work. Nevertheless, an active worker is likely to have some private project under way, or there will be features of his general program on which he will spend personal money at least occasionally. There is good ground for saying that the teacher's private budget should carry every year an item for research; it will make possible self-initiated studies important for his own advancement and wider service.

Wider Professional Needs: The college teacher needs a well-furnished mind with broad interests and con-

tacts. Is he buying non-professional books and magazines? The first group buys from none to one hundred non-professional books a year with a median of ten, and takes from none to twelve general non-professional magazines with a median of three. From instructor up, these medians increase from one book and two magazines, to ten books and five magazines for professors. The second group buys from none to fifty books a year, with a median of three to four, and from none to fifteen magazines with a median of four. The purchase of five to ten books and three or more magazines may be considered typical of the groups reporting; it is a meager allowance and is supplemented one may hope through library and book club. One would desire for college teachers some experience with luxury defined as "money enough to order the books I want after reading the weekly book reviews."

One's budget should be so administered as to make the best use of vacations for uninterrupted study, writing and travel. There is certainly need for opportunity "to catch up," to get broader views, to plan syllabi and to organize one's material, to make contact with social or industrial conditions, to work on bibliography or to collect specimens, to give oneself continuously to some professional task. The sabbatical leave is a fruitful opportunity to this end, whether for a year at half pay, an arrangement which not all private budgets make possible, or the more easily managed half-year on full pay. The twelve monthly salary payments is an advantage over the ten monthly payments from this point of view; the quarter system in the academic year, with one quarter off on an accumulative basis, is another advantage. The forty-two sabbatical leaves reported by thirty of the 110 in the two groups have been spent as follows: in study, nine; travel and study, nineteen; teaching abroad, two; illness or resting, five; writing, five; teaching, one; government service, one.

In summarizing professional needs one may note that the most common recommendation of correspondents "to the young instructor regarding his professional needs" is: Make professional contacts, join the associations, attend meetings, read the journals, buy monographs, abstracts and books. Several say, "Devote at least 10 per cent. of income to professional development"; and one refines the advice thus, "If you think you have ability, raise this allowance to 25 per cent. and gamble on your own future." Another says, "Sacrifice for professional expenditures—I have lost opportunities by failure to spend earlier." And another says, "Spend freely for professional needs in your early years, the proportion will be less later as you earn more."

LIVING CONDITIONS

The budget needs in connection with living expenses can only be understood by a complete examination of expenditures such as Professor Peixotto has made at the University of California and Messrs. Henderson and Davie at Yale.² The present paper raises only a few general points in this field.

Do college teacher's salaries meet their needs by providing adequate living conditions? If not, what are the shortages? Of the first group of forty-eight (the number replying to the remaining questions), 60 per cent. answered "fairly adequate"; 20 per cent. "entirely adequate." Of the second group, of forty-six, 58 per cent. reported "fairly adequate"; 28 per cent. "inadequate," and 13 per cent. "entirely adequate." The prevailing verdict is therefore that there is fair adequacy or better in living conditions, with a fifth or a fourth feeling that their living conditions are inadequate. Stated in another way, a fifth or less have living conditions that they consider entirely adequate.

Is this inadequacy subjective or objective? A Solomon would be needed to answer. But there were 137 objective shortages reported by sixty-seven of ninety-four persons, of which the more numerous were: recreation, thirty-three; service, nineteen; vacation, nineteen, and housing, fourteen. Among the other important shortages are: clothing, seven; doctor, one; family needs, three; children, two, and health, nine. The definite question as to whether health was safeguarded by living conditions was answered negatively by seven of forty-eight in the first group and by four of forty-six in the second group, or 11 per cent. of all who felt their health to be endangered by living conditions.

Probably most teachers would agree that living conditions should provide the college teacher a study at home, even if adequate space is also provided at the college building. Of forty-three in the first group, twenty-six have studies at home; seventeen have not. Of thirty-four in the second group, twenty-four have home studies; eight have not. Thus two thirds of those reporting have studies at home. Doing away with the home study would reduce housing costs, as one correspondent points out, and there is something to be said for doing one's work in an eight-hour day at college and using home as a leisure place. But there is certainly need for an undisturbed work place and for most teachers home provides this better than the college office. There are times for solitary work,

²Jessica Peixotto, "Getting and Spending at the Professional Standard of Living." Macmillan. 1927. Henderson and Davie, "Incomes and Living Costs of a University Faculty." Yale University Press. 1928.

times for working with students and times for meeting them socially.

Do college teachers maintain the old practice of welcoming students in their homes? Of these teachers, 72 per cent. do and two thirds of those who entertain students do not entertain as frequently as they would like to do.

What is the attitude of college teachers toward contributions to religious, charitable and social welfare enterprises? Of ninety-one teachers giving information, sixty-six gave to church, sixty-eight to charity, fifty-seven to alumni funds, thirty-two to non-family dependents, thirty-six to agencies of scientific progress, thirty-eight to causes related to social reform and eleven to other objects. In all, the ninety-one contributed to 312 objects as just defined, or 3.4 types of giving per person, although the individual objectives were many more. Society has a right to expect of the college teacher leadership in wise giving that will promote welfare, advance science and handle distress constructively. That two thirds give to alumni funds is worthy of note.

What rules the teacher's spending? Available income, large or small, and occupation are doubtless important controlling influences. The two groups were asked, "Income and occupation aside, what influences seem to determine your standard of living?" The forty-five metropolitan teachers ranked in order of importance seven influences, and on summarizing their ratings, "Our own choices and decisions" were accounted the most important influence, followed by these other influences in the following order: (2) usages of our academic community; (3) the mechanical age—auto, radio, etc.; (4) usages of our non-academic community; (5) the husband's parents' standards of living; (6) the wife's parents' standards of living; (7) our children's pressure for more expensive standards. The second group agreed in making personal choices the most important influence on standards of living, in putting the academic community ahead of the non-academic community and in putting parental and children's influences near the foot of the list. The judgments of married men in the two groups, counted separately in order to segregate cases where there were probably children, showed the same order of ranking.

But is personal planning and deciding as influential in standards of living as these teachers think it to be? Perhaps not—but personal ideals need be fundamentally influential if college teachers are to meet their professional budget needs and provide for their financial security in the face of community pressure for luxurious spending. The fact that teach-

ers feel that they control their choices in spending is a hopeful fact for the profession.

FINANCIAL SECURITY

Security in time of emergency is a searching test of any standard of living. Security requires an adequate income and the saving of a considerable part of it through insurance, annuity accumulation and reserves. The chief financial emergencies for which provision is necessary are interruptions to earnings through sickness, permanent disability, age-retirement and death of income provider, and also those occasional situations throughout the earning period which call for immediate outlays beyond the amount of current income and which can be met only by reserves or by personal credit. A program for security calls for life insurance that protects income in case of death of the earner; sickness and disability insurance or other provision of income for these periods; a retirement annuity that provides income after one has ceased to work regularly, and savings that give growing reserves, together with personal credit that enables one to borrow. Such a program of security is easy to state but it is impossible to realize unless current income is adequate. College teachers' incomes have often been declared inadequate. What facts do these groups of teachers present as to income and its adequacy for financial security?

First of all, as a group they have not found it possible to live on their academic incomes and are seeking supplementary incomes. Of forty teachers reporting in the first group, fourteen had only their college income and twenty-six had an income of 1.1 to 3 times their college salary, that is, they had supplementary income equal to from one tenth of to two times their salaries; the median salary of the forty was 1.25 times their stated salaries. Of forty-four teachers reporting in the second group, twenty had additional income and twenty-four did not; the median of all the group is 1.0 times the academic salary; but of the twenty having extra income the median salary is 1.25 times academic salary.

The incomes reported are "family incomes" and the supplementary amounts may come from the husband's extra earning, or from property of either husband or wife. Several correspondents stressed the need of supplementing teachers' incomes in order to meet pressing current needs; one advised, "Budgeting is of no avail, marry rich."

The most common supplement to current income is home ownership which adds to income the interest value, or a little more, of one's investment. Of forty-eight large-city teachers (the first group) ten own residences, one a cooperative apartment and twelve country places or camps; of forty-six teachers

in smaller cities, twenty-two own residences and two own country places.

Income During Disability: Home ownership is protection in sickness or other emergency. What income could these teachers command at such a time? In the first group, twenty-two reported a possible sickness income of from 5 to 55 per cent. of salary with a median of 25 per cent. of salary, and twenty-one reported a median income during permanent disability of 40 per cent. of present salary. In the second group ten of forty-six reported a median sickness income of 20 per cent., and twelve reported a median disability income of 25 per cent. of regular income. What of those who do not report? Here is a serious emergency apparently not prepared for. Some life insurance policies carry a disability clause whereby the policy matures in case of disability. The fact that group life insurance with its inexpensive supplementary life insurance often provides also for sickness and disability income insurance, and the fact that teachers' retirement annuities provide also for disability income, are important considerations in one's program for personal security. Of course whatever the teacher can accumulate is a reserve in sickness and in disability.

Are college teachers generally using the familiar institutional retirement annuity plan of paying 5 per cent. from salary and having 5 per cent. added by the institution? Or, if individuals are not utilizing it, are they buying an annuity elsewhere? The returns from both groups indicate that the annuity has not yet been accepted by college teachers universally as financial opinion has advised should be done. In the first group, of thirty-seven reporting, twenty-six are buying annuities (eighteen in the college plan and eight elsewhere), and eleven are not buying annuities. In the second group, of twenty-one reporting, eleven are buying annuities and ten are not. Probably somewhere between 40 per cent. and 60 per cent. of these groups are buying annuities.

Are these college teachers hoping to accumulate funds privately, by the time of retirement? They were asked how much personal capital or principal they anticipated saving by the age of sixty-five in addition to the annuity: the estimates from thirty of forty-eight in the first group vary from one half of to forty times the present income, with the median expectancy of five times the present income for retirement capital. Of the second group twenty of forty-six estimate this accumulation at a median of four times present income. The importance of some retirement capital in addition to a retirement annuity can not be overstressed because of probable emergency costs of illness and the like after retirement.

May teachers anticipate success in private accumu-

lation or are investment losses common in this group? For both groups, 26 per cent. have experienced investment losses. The losses mentioned were: stock, four times; real estate, three times; bonds, twice; real estate bonds, twice; cooperative banks or building loans, once; farming, once.

How much are college teachers able to save? Last year's balance between income and expense for forty-four of the first group showed seven persons with deficits, two breaking even, and thirty-five with surplus of from 5 per cent. to 150 per cent. of salary with a median for all of a surplus of 20 per cent., counting as surplus all payments for insurance, for annuities, home purchase, savings, etc. In the second group, thirty-four reported; three with deficits, six breaking even and twenty-five with surplus up to 100 per cent., the median for all being a surplus of 10 per cent.

What causes these deficits when they do occur? Of thirty-four persons giving reasons for deficits, twenty-eight mentioned illness, hospital, birth or death costs, including such devastating items as illness and hospital bills for \$1,000 and \$2,000. Further social planning regarding these emergency costs due to illness is needed for teachers and all workers. The plan of one college of an officers' emergency fund, to which contributions of one fifth of 1 per cent. of salary are made, to be drawn upon either for loan or for outright grants if grants are justified, is one constructive plan providing defense at this dangerous point. Other emergencies causing annual deficits were: costs of moving; costs for family dependents, and education of children.

Life insurance seems to be universally used for protection in case the income-provider is taken away. Of forty-eight in the first group, thirty-nine reported their insurance to be in amount from one fifth the annual income to ten times that income with the median insurance at three times the salary, with half carrying from one to four and one half times the amounts of their salary. Of forty-six in the second group, thirty-five reported insurance from one half to six times the annual income. The median and the mode is three times, eleven of the thirty-five carrying that amount. An insurance fund of three times the income at .6 per cent. interest would produce only 18 per cent. of the salary as an income for beneficiaries, and unless largely supplemented by savings is not adequate protection. The insurance facts for twenty-three married men teachers showed protection ranging from .5 to six times the amount of salary with the median and the mode at three times the salary, the same ratio as for the whole group.

The teachers of one institution, in addition to personal life policies, carry group insurance of from \$2,000 to \$5,000, approximately equal to the amount

of the salary; with a provision for sickness income of from \$25 to \$40 for twenty-six weeks, and for disability income insurance for five years of one fifth of the face of the policy per year. This group policy is paid partly by the college but largely by the insured, costing them, for example, \$67 and \$84 a year for the \$4,000 and \$5,000 policies, respectively. The institution as employer usually buys such insurance, but a club or cooperative group including 75 per cent. of a staff can secure this at about \$8 a \$1,000 for each life policy plus charges for sickness and disability insurance.

Financial security of the teacher depends partly, we have seen, upon supplementary income, but especially upon such measures as: home ownership, life insurance, sickness and disability provision, retirement annuities and plans for saving. Based on the preceding facts there is offered in conclusion a tentative program of allowances for the budget needs of college teachers.

TENTATIVE BUDGET

The essential problem of the college teacher's budget is to find the wise balance between: (1) professional needs; (2) the requirements of daily living, and (3) necessary provision for financial security of self and family. As a tentative plan the suggestion is offered: (1) a minimum of 10 per cent., more or less, for professional needs; (2) 15 to 20 per cent. for financial security; (3) 75 per cent. or thereabouts for living expenses. Such a formula may not be workable on a small income, but it is suggested here to illustrate essential expenditures for professional needs and security.

Professional needs call ideally for a minimum of from \$300 to \$400 a year, or more, to provide:

- (1) Membership in from four to five or more professional organizations costing from \$10 to \$25 up.
- (2) Attendance upon professional meetings, one or two or more, costing from \$50 to \$100 up.
- (3) Professional books, about fifteen or more, costing from \$30 to \$50 up.
- (4) Professional journals, four or five or more, costing from \$10 to \$25 in addition to association memberships.
- (5) Expenditures for personal professional work, including clerical assistance, research, equipment, committees, etc., \$100 a year or more.
- (6) Professional travel and cultural expense which if unexpended is to accumulate for the sabbatical leave, \$100 a year or more.

The fundamental justification of professional expenditures is that the teacher is a productive worker who should every year reinvest in his work part of his annual income. Every successful business plows in part of its surplus to increase its productivity; a

progressive teacher will do the same. The precise items of professional need and the sums of money required can be determined only by a more extensive research. This suggestion runs counter to the idea that a teacher should depend entirely upon his institution's budget for professional expenditures. The institution should of course carry the ordinary costs of clerical assistance, assistance in research, research equipment and the like. But any individual who grows will have some self-initiated research for the cost of which he is himself responsible.

Financial security for the college teacher calls ideally for 18 per cent. of income, more or less, distributed as follows:

- (1) Retirement annuity, 5 per cent. of income, with the institution contributing 5 per cent. more; and the annuity's reserve accumulation available in case of permanent disability or death before retirement.
- (2) Life insurance costing 6 or 7 per cent. of salary, to give a minimum protection of about three times the amount of salary; increased by term insurance during dependency of children and until annuity reserve accumulates; or increased by group life insurance costing $1\frac{1}{2}$ per cent. of salary and giving life insurance equal to one's salary, plus disability and sickness insurance.

- (3) Sickness and disability income provided: (a) by group insurance as just mentioned; (b) by disability provision through a disability clause in one's regular life insurance policy; (c) if desirable by a special sickness and disability insurance of \$100 a month, costing about \$50 a year; (d) a provision against unusual emergency expenditures provided (1) possibly in part by an officers' emergency fund through pooling $\frac{1}{5}$ of 1 per cent. of salary; (2) or by some insurance for family sickness costs yet to be worked out; and (3) at any rate by hedging against these emergency needs by a personal reserve fund (see 4 below).
- (4) Additional financial reserves, of 5 per cent. of salary, to accumulate safely in a form available as collateral for loans in emergency needs; and to provide some retirement capital in addition to annuity.

Living conditions, for the college teacher, should be appropriate to his professional and social responsibilities, and for this about 75 per cent. of the budget should be allotted. This expenditure, in addition to meeting the usual costs of living for self and family, should provide for the teacher a home study properly equipped, facilities for entertaining students and other guests and, in general, conditions which will promote efficient service in his double function of teacher and scholar.

SALARIES AND SUPPLEMENTARY EARNINGS OF COLLEGE TEACHERS

By FRANK P. BACHMAN

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A LETTER of 1919 from Mr. John D. Rockefeller, transmitting funds to the General Education Board, contained these significant words:

It is of the highest importance that those entrusted with the education of youth and the increase of knowledge should not be led to abandon their calling by reason of financial pressure or to cling to it amid discouragements due to financial limitations. It is of equal importance to our future welfare and progress that able and inspiring young men and women should not for similar reasons be deterred from devoting their lives to teaching.

In view, therefore, of the vital relation between adequate financial support and the achievement of the high aims of education, it becomes important from time to time to study the salaries of college teachers. The General Education Board has provided for two such studies within recent years—Occasional Papers, No. 7, 1921, and Occasional Papers, No. 8, 1928, by Mr. Trevor Arnett, now president of the General Education Board.

This paper on "Salaries and Supplementary Earnings of College Teachers" is based on the data contained in Occasional Papers, No. 8.

The data on teachers' salaries to be presented hereafter were drawn from reports received from 302 colleges of arts, literature and science or corresponding colleges or departments of universities, representing all parts of the country. Of these, 262 are men's and coeducational institutions and forty are women's colleges. The data presented cover the salaries for 1926-1927 of 15,361 liberal arts teachers, of four professional ranks: (1) professors, (2) associate professors, (3) assistant professors and (4) instructors.

The average salary of all liberal arts teachers in the 302 institutions under consideration in 1926-27 was \$2,958. This is an increase over 1919-20 of 30 per cent.

The average salary paid in 1926-27 varied according to geographical divisions:

New England States	\$3,385
Middle Atlantic States	3,214
Southern States	2,660
Middle Western States	2,808
Western States	2,960

It will be noted that the average salary paid liberal arts teachers in 1926-27 was the highest in New England (\$3,385) and the lowest in the southern states (\$2,660).

The average salary paid in 1926-27 to liberal arts teachers naturally varied with professional rank:

Professors	\$3,798
Associate professors	3,256
Assistant professors	2,669
Instructors	1,941

These in turn varied according to size of institutions:

Rank	Class A	Class B	Class C
Professor	\$4,573	\$3,444	\$2,748
Associate professor	3,514	2,702	2,457
Assistant professor	2,812	2,440	2,146
Instructor	1,997	1,888	1,639

If comparison is made between the average salary paid teachers of the same professional rank by men's and coeducational institutions and by women's colleges of the same size—for example, Class A—it will be found that the average salary is somewhat higher for all professional ranks in men's and coeducational institutions than in women's colleges.

A comparison of average salaries of teachers in colleges of arts, literature and science with the average salaries of teachers in professional and technical schools, such as agriculture, commerce, education, engineering, is both illuminating and instructive. The average salary paid teachers in schools of different types in 1926-27 was as follows:

Type of institution	Number of teachers included	Average salary
Liberal arts colleges.....	302	\$2,958
Agriculture	32	3,149
Commerce	38	3,307
Education	48	3,438
Engineering	73	2,989
Fine arts	21	2,633
Law	57	5,197
Medicine	46	3,391
Music	26	2,388
Theology	22	3,889

It thus appears that the lowest average salary (\$2,388) is paid in schools of music; the next lowest (\$2,633) is in schools of fine arts, and the third lowest (\$2,958) is in colleges of arts, literature and science. The highest (\$5,197) is in schools of law.

Up to this point we have been dealing with average salaries. Quite as significant, if the salary status of teachers in colleges of arts, literature and science is to be made clear, is the distribution of teachers, irrespective of rank, at the several levels of a given

salary scale. In 1919-20 the median salary of teachers in the 302 institutions under consideration was \$2,066. That is, in 1919-20 half the teachers in these institutions received an annual salary of \$2,066 or less, and half received more. By 1926-27, the median salary of teachers in these institutions had risen to \$2,704. The significance of this increase over 1919-20 lies in this fact: In 1926-27, 50 per cent. of all teachers in these 302 institutions received an annual salary of more than \$2,704, whereas in 1919-20 only 27 per cent. received as much as \$2,704. In other words, not only has the average salary increased since 1919-20, but also the median salary, and in consequence a larger proportion of teachers received the higher salary in 1926-27.

A study of the range of salaries is equally significant. Of the 15,361 teachers in the 302 colleges of liberal arts under consideration, 92 per cent. receive less than \$5,000; 99 per cent. receive less than \$7,500; and only 16, or .01 per cent., receive \$10,000 or more. These sixteen most favored are all of professorial rank and are the chosen out of 4,728 teachers of this rank in the institutions under consideration.

Whether the salaries of teachers in the institutions under consideration have actually increased over 1919-20 depends, of course, on what has happened in the meantime with the cost of living and the purchasing power of the dollar.

Reliable studies have been made of these questions. On the basis of information provided by these studies, it appears that there has been a decrease in the cost of living for the period covered in this study. Therefore, the increases in teachers' salaries between 1919-20 and 1926-27 are real increases. Teachers have profited in two ways—by the decreased cost of living and by the increase in the number of dollars received for their services. Their economic status in 1926-27 is clearly an improved one, but what can be said of it as compared with the economic status of teachers in 1914-15, which was used as the basis of comparison in the previous study of teachers' salaries made by Mr. Arnett?

The average salary of teachers in the 302 institutions under consideration, as previously stated, was for 1926-27 \$2,958, and for 1919-20 it was \$2,279. The average salary in 1914-15, as computed from the data given in Occasional Papers, No. 7, for the corresponding professional ranks was \$1,724. When the nominal average salaries for the respective years are equated in terms of the purchasing power of the dollar for the corresponding years—\$1.00 for 1914-15, \$.489 as of July, 1920, and \$.617 as of July, 1927—the nominal average salaries and the real average salaries for teachers in the institutions under consideration for these years are as follows:

Year	Nominal average salary	Real average salary
1914-15.....	\$1,724	\$1,724
1919-20.....	2,279	1,114
1926-27.....	2,958	1,825

There was a distressing depreciation, it appears, in the real average salaries of college teachers from 1914-15 to 1919-20. The increase in 1926-27 over 1919-20 has been material and is gratifying. Nevertheless, despite all the efforts exerted in recent years to improve their economic status, teachers in the 302 institutions under consideration were only slightly better off financially in 1926-27 than like workers in 1914-15. However, the emergency existing in 1919-20 has been met, and the salaries of teachers in higher educational institutions, it appears, are at least again on a pre-war basis.

Salaries for the regular school session are not the only earnings of teachers. They supplement their regular earnings, as we shall see, in different ways. Information was acquired from 11,361 teachers as to the character and extent of these supplementary earnings. The data previously presented with regard to teachers' salaries from the 302 institutions under consideration were practically complete for all teachers in these institutions. Data now to be presented on the supplementary earnings of teachers were supplied by the teachers themselves, but replies were by no means obtained from all the teachers in the 369 institutions from which reports were received. Replies from teachers on which the subsequent discussion is based are therefore only a sampling; nevertheless, we have reason to believe that, so far as they go, they are reliable.

Of the 11,361 teachers replying, 7,557, or 67 per cent., reported that they supplement their salaries by earned income. That such a large proportion of teachers in colleges of arts, literature and science engage in activities in addition to their regular duties raises a serious and fundamental question. Is teaching in liberal colleges a full-time or a part-time job?

The proportion of teachers supplementing their regular salaries apparently increases, contrary to what might be expected, with professional rank. For, when the replies are tabulated by professional rank of teachers replying, the per cent. supplementing their salaries is as follows:

	Per cent.
Professors	76
Associate professors	70
Assistant professors	63
Instructors	52

Apparently, the higher the professional rank, the greater the economic pressure.

What, now, do teachers find to do in their efforts to add to their earnings?

Their supplementary activities are numerous, but may be classified under writing, extra teaching or institutional services, lectures, consulting and miscellaneous activities. Of the 7,072 teachers from whom we have complete information, both as to regular salary and as to amount and character of supplementary earnings, 70 per cent. do extra teaching or institutional services either in their own or other institutions and earn by extra teaching practically one half of all supplementary earnings. However, this does not mean that those included in this group do no other kind of supplementary work. For example, part of the group may also lecture. The next most popular field after teaching is writing, with 25 per cent.; 20 per cent. lecture; 10 per cent. do consulting work, and 25 per cent. engage in miscellaneous services. Teachers reporting from urban institutions apparently find greater opportunity for writing, extra teaching and institutional services and consulting work than teachers reporting from rural institutions. In lecturing and miscellaneous services the comparison is in favor of teachers reporting from rural institutions.

The total supplementary earnings of these 7,072 teachers who do extra work is equal to 24 per cent. of their regular annual salaries. The range of such earnings is very wide, ranging from less than \$100 to \$10,000 or more. The median supplementary earning is \$522. Less than one fourth make as much as \$1,000 or more, and 7.7 per cent. as much as \$2,000 or more. A very few succeed in earning considerable sums: seventy-seven out of 7,072 earn \$5,000 or more, and thirteen earn \$10,000 or more. It also appears that the higher the professional rank and the higher the regular salary, the larger the amount earned by additional work.

In view of the relatively low salaries of teachers in liberal arts colleges, it might be inferred that teachers in general who undertake supplementary work do it entirely from economic necessity. This, however, is not altogether borne out by the facts. For of 6,550 teachers who gave definite replies as to whether they did outside work from necessity or from choice, 72 per cent. stated that they preferred to do regular work only, and 23 per cent. did additional work from choice. That is, about one fourth of all teachers who supplement their salaries prefer to do this rather than devote their entire energies to their regular work. On the other hand, about three fourths apparently feel that teaching in a liberal arts college is a man-sized job, worthy of their energies and full devotion.

Nor does appreciable private income apparently have much effect upon whether teachers do or do not undertake additional work. Teachers reporting were left to define in their own terms what they considered appreciable private income. Of the 2,132 teachers reporting appreciable private income, 65 per cent. supplemented their salaries, as compared with 69 per cent. of those who presumably do not have appreciable private income. Of those who reported appreciable private income and who supplemented their salaries, 45 per cent. stated that they did it from necessity.

Of the many factors compelling teachers under present salary conditions to supplement their regular incomes, perhaps none is more important than family responsibility. Of the 7,776 married teachers replying, 77 per cent. supplement their regular salaries, as compared with 47 per cent. of the 3,927 single teachers. When comparisons are made by rank, 82 per cent. of the married professors replying do additional work, as compared with 52 per cent. of unmarried professors. The corresponding percentages for married and unmarried instructors are 66 and 43.

A study of the supplementary earnings of teachers and of the reasons why additional work is undertaken, therefore, shows that, while a goodly proportion of teachers claim to undertake outside work from choice, and a small proportion may not need to do additional work because of appreciable private income or because they are unmarried, the fact remains that under present salary conditions teachers in general are compelled to supplement their salaries by outside work, and for the majority this means more teaching.

To conclude: There is indisputable evidence that the salaries of teachers in colleges of arts, literature and science increased about 30 per cent. from 1919-20 to 1926-27, and that the average annual salary of all such teachers has risen from \$1,724 in 1914-15 to \$2,958 in 1926-27. It is, however, equally clear that the real average increase has only been from \$1,724 in 1914-15 to \$1,825 in 1926-27. Nevertheless, slight as this real increase has been, it has been sufficient to meet the salary crisis of 1919-20, and sufficient to give teachers a slightly more favorable financial position than heretofore. Favorable as their present financial status appears in comparison with the past, it yet remains that present salaries are inadequate, and that almost two thirds of the teachers in colleges of arts, literature and science are compelled to take on additional work to meet their economic needs. Those entrusted with the education of youth and the increase of knowledge still follow their high calling amid financial discouragements, and, because of unfavorable financial prospects, able and inspiring young men and women are still deterred from devoting their lives to teaching.

SALARY SCALES OF TRAINED MEN AND WOMEN

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THE organization of the Committee of One Hundred on Scientific Research at the Washington meeting marked an interesting departure from the usual policy of the American Association for the Advancement of Science. It had always concerned itself directly with the consideration of problems of research in the several sciences, but had not taken cognizance of the conditions of research. The Committee of One Hundred was organized to study the problems of the researcher. Among the several factors that weigh heavily in determining his success are those of adequate equipment, free time to devote to the work and a mind free to apply itself to the rather exacting work of research.

We are told that financial resources have now been enlisted sufficient to adequately supply the needs of a large body of high-grade research work and that universities and colleges are giving more generous support to this aspect of their work.

We are also told that in some universities and colleges the teaching load and other duties crowd into the resources of time and energy to such an extent as to greatly reduce or even extinguish research.

We hear from many quarters that inadequate salaries are being paid in academic institutions with consequences hostile to research. We hear that the denials forced on college and university teachers by salary inadequacy force them to sell more or less of their time to earn added income, to the detriment of research. We hear the opinion expressed with emphasis that this has now gone on long enough to have its effect on the class of men and women filling academic positions. It is asserted that second-rate and third-rate men are now more numerous in our faculties than heretofore with the disconcerting outlook toward lower standards in our higher educational institutions facing us.

The subcommittee on the economic status of the scientific worker has sought to investigate the questions of salary in the hope of establishing the facts in the case.

A survey of salaries actually paid to members of college and university faculties will give us something definite to work with. Whether these salaries are equal to those paid to trained men and women in other lines of work likely to compete with colleges and universities for the efforts of the best of the young leaders who may be choosing for themselves a life work may in a measure be shown by a comparison of academic salaries with those paid elsewhere for trained men.

The sum of money received does not always permit one to judge whether or not the income is adequate. The needs must be set up against the purchasing power of the income in order to judge adequacy. Consequently a study of the budgets of academic families seems to be needed if we are to assert much regarding the adequacy or inadequacy of salaries.

In the following paper are presented data gained from a study of the salary scales paid to trained men and women in several lines of work. A variety of academic institutions are considered in appropriate groupings, commissioned officers of the army and navy, the civil service employed by the national government in Washington and in the field, and a considerable group of manufacturing enterprises that form the final training school and goal for great numbers of young men who go into business.

The figures here tabulated have been carefully collected from official or other sources believed to be trustworthy and are thought to be substantially correct for the present time. Certain of these groups have undergone considerable change within the last year or two and may be changed again, hence these figures are of temporary accuracy.

ACADEMIC INSTITUTIONS

The situation with the academic group from different parts of the country will be indicated first. State universities, endowed universities, found chiefly in the east, colleges mainly located east of the Mississippi River and agricultural colleges from all parts of the country have been dealt with. The list is not always complete but is believed to be long enough to be fairly representative.

In the list of salaries, positions from the president to the instructor have been included, since the college or university is an organized enterprise and obeys much the same psychological laws regarding the distribution of responsibility as army units or manufacturing enterprises.

State universities. The state universities form a rather natural group because of the official character of their support, because of their necessarily close relation to the school systems of which they are the crown and because of the possible political and other influences to which they are in some measure subject. Since these institutions are usually of rather late origin, they are most strongly developed in the younger and often times more vigorous states.

In Table I are shown the salary ranges reported from thirty-six state universities for the several

faculty grades indicated. In most institutions there is a salary that is regarded as "normal" for each grade. Sometimes this is near the medium range, sometimes below it. This sum was set by the authorities replying to the questionnaire.

TABLE I
SALARIES PAID BY 36 STATE UNIVERSITIES

	Minimum	Maximum	Average
President	\$5,000	\$22,800	\$11,597
	Average Minimum	Average Maximum	Average Normal
Deans	\$3,916	\$ 6,331	\$ 5,085
Professors	3,024	5,321	3,813
Associate professors.....	2,670	3,878	3,100
Assistant professors.....	2,106	3,388	2,510
Instructors	1,436	2,695	1,869

Some very interesting results would come out of various analyses of the data at hand, but this task must be deferred.

Agricultural colleges. Closely allied to the state universities are the colleges of agriculture and mechanic arts. These institutions are wholly or in large part supported by state and federal funds, and for a special type of training stand in a similar relation to their constituency as does the state university to general education. Owing in part to the late origin of these schools and in part to the differing importance of agriculture in different sections, these schools have been more strongly developed in the great agricultural states of the middle west than has been the case in the manufacturing east.

TABLE II
SALARIES PAID BY 20 COLLEGES OF AGRICULTURE AND
MECHANIC ARTS

	Minimum	Maximum	Average
President	\$6,000	\$17,000	\$9,150
	Average Minimum	Average Maximum	Average Normal
Deans	\$4,110	\$5,381	\$4,992
Professors	2,792	4,350	3,609
Associate professors.....	2,379	3,310	2,871
Assistant professors.....	2,032	3,042	2,406
Instructors	1,482	2,332	1,822

It is difficult to get a complete picture of this group, owing to the fact that some of them are corporate parts of the state universities and can not be separated in any clear-cut way from them. For

present purposes only those schools that are maintained as separate institutions are included here.

Data are presented from twenty such schools, five from each of the four large areas of the country.

Endowed universities and colleges. Among the older states higher education was often begun and supported by private gifts. These institutions were sometimes established to support the opinions of special groups or parties. As time has passed they have largely lost the group label but have continued to rely on the gifts of friends. In so doing they have kept out of certain entangling alliances and have become powerful in the academic family. For historical reasons, they are strongest, generally speaking, where state support has been undeveloped, and have their maximum growth in the east.

Full data concerning privately supported institutions have not always been obtainable for this study. Why salaries should be regarded as a matter of secrecy is a proposition that might lead to speculation. No attempt has been made to secure data from all endowed colleges and universities, but the group here presented is believed to offer a fair comparison with the other groups dealt with. It is realized that in the other classes the small private colleges have no homologs and hence are not adequately represented in this presentation.

TABLE III
SALARIES IN 12 ENDOWED UNIVERSITIES AND COLLEGES

	Minimum	Maximum	Average
President (3)	\$11,500	\$12,000	\$11,833
	Average Minimum	Average Maximum	Average Normal
Dean	\$	\$	\$
Professor (12)	4,571	7,033	5,856
Associate prof. (11).....	3,855	4,368	4,293
Assistant prof. (12).....	2,730	3,996	3,356
Instructor (12)	1,617	2,823	2,180

TABLE IV
COMPOSITE FOR ACADEMIC SALARIES

	Average Minimum	Average Maximum	Average
President	\$7,500	\$17,267	\$10,860
Dean
Professor	3,462	5,568	4,425
Associate professor	2,964	3,852	3,421
Assistant professor	2,289	3,509	2,757
Instructor	1,512	2,616	1,957
Averages for teaching faculty	2,557	3,886	3,140

In order to get a general view of the salary situation as it stands with the groups of academic institutions here dealt with, I have averaged the average rates given in the first three tables. I realize that this resulting average is not strictly a weighted average but offer it as an approximate summing up of the situation.

The average salary of a member of the teaching faculty drawn from the records of the groups here dealt with, in all sixty-eight institutions, is about \$3,140. This is only an approximate result because of the small number of institutions included.

PROFESSIONAL AND SCIENTIFIC SERVICE OF THE UNITED STATES GOVERNMENT

The scientific and technical services of the national government require the most varied kinds of scientific training and experience and constitute probably the largest organized body of scientific workers in the world. The Department of Agriculture, the Bureau of Standards, the Geological Survey and the Bureau of Mines among others form important sources of demand for men and women trained in the colleges and universities. The government service has suffered from low salaries and from various weaknesses due to methods of administration. The salary situation is improving as a result of the Reclassification Act of 1923 and the recent amendment growing out of the Welch Bill, until the average salary of workers in the professional and scientific grades in Washington belonging to the Department of Agriculture has reached the sum of \$3,894, an amount greater by \$754 than the average salary of members of the teaching faculties in the sixty-eight colleges and universities above considered. This advantage seen in the government service is a relatively recent one, due largely to the average advance of over \$500 since 1924.

When the Reclassification Act went into effect, the kinds of work having approximately similar requirements were brought together into a series of grades for which duties were broadly defined and for which compensation was fixed on a sliding scale. I have brought together in Table V the several grades designated in the Amending Act of 1923 with the salary range in each grade. Since shifts are constantly being made within the grades, no attempt has been made to establish a weighted average for the employees of these grades, but there are brought together the figures indicating the limits between which salaries in the grade vary. Since the requirements for filling these positions through civil service examinations are based more or less definitely on the formal steps in college or university education,

the latter equivalents are indicated in order to give the academic latitude and longitude of these groups of government employees.

TABLE V
SALARY RANGE OF GRADES IN THE PROFESSIONAL AND SCIENTIFIC SERVICE OF THE NATIONAL GOVERNMENT

Grade	Designation of grade	Minimum salary	Maximum salary
9	Special professional grade	\$9,000	above \$9,000
8	Chief professional grade Heads of large bureaus	8,000	9,000
7	Head professional grade Assistant bureau head	6,500	7,500
6	Principal professional grade Head of smaller organizations	5,600	6,400
5	Senior professional grade Project leaders	4,600	5,200
4	Professional grade under general supervision	3,800	4,400
3	Associate professional grade Investigator (Ph.D.)	3,200	3,700
2	Assistant professional grade (M.A. or M.S.)	2,600	3,100
1	Junior professional grade (College graduate)	2,000	2,500

Assisting the investigators in the professional and scientific grades are workers whose previous education and experience are less than that of a graduate from a college or university of recognized standing. This is called the subprofessional service and interests us here chiefly because of the salaries paid. Again eight grades are indicated with duties decreasing in requirements from Grade 8. These are usually laboratory assistants who have had training in college or in high school or its equivalent elsewhere.

It will be noted that these laboratory assistantships filled by men and women who have gone beyond the high school but who have not graduated from college command salaries varying from \$1,800 to \$3,100, overlapping the salaries paid to instructors and even that usually paid to assistant professors. Associate professors, on the average, do not exceed the maximum of Grade 8 of the subprofessional service at Washington.

UNITED STATES ARMY

The commissioned officers of the army constitute another group of trained men. Many of them are West Point graduates, while many others have gained their rank through other training. The army is one

of the vocations to which young men of ambition turn. In it are steady pay, a chance for advancement and perhaps for stirring adventure. The social position of the officer is a strong inducement to many. The living expenses are in considerable part met outside of salary, and after retirement, at an age that leaves

TABLE VI
SALARY RANGE OF SUBPROFESSIONAL SERVICE
(SCIENTIFIC GROUP)

Grade designation	Minimum	Maximum
Grade		
8 Chief, subprofessional most difficult technical work, two years college	\$2,600	\$3,100
7 Principal subprofessional very difficult technical work..	2,300	2,800
6 Sr. subprofessional difficult technical work	2,000	2,500
5 Main subprofessional responsible technical work	1,800	2,100
4 Asst. subprofessional ordinary technical work, one year college	1,620	1,920
3 Jr. subprofessional supervised usual work high school	1,440	1,740
2 Under subprofessional supervised simpler work common school	1,260	1,560
1 Minor subprofessional simplest routine work common school	1,020	1,320

one still much to look forward to, the retirement allowance of three fourths of the last salary will keep the wolf from the door. Some having no fondness for the bloody side of the business may see little chance for either killing or being killed and appreciate the good points sufficiently to join. Here length of service is recognized by longevity pay, and allowances for rental and subsistence are added to the pay. Moreover the liberal reduction in prices at the government stores or commissaries do much to "stretch" the salary income.

In Table VII is shown the pay scale of the commissioned officers of the army. In calculating minimum and possible maximum pay rates, I have added to the base pay the allowances for rent and subsistence and such additions as come with length of service. In calculating minimum pay allowances I assume no dependents. In the case of maximums, dependents are assumed. No account has been taken of advantages derived from buying at the commissary owing to the great number of variable factors.

TABLE VII
PAY SCALE OF COMMISSIONED OFFICERS OF THE ARMY

Rank	Minimum pay	Maximum pay
General	\$13,500 plus confidential allowances	
Major-general	9,176	\$9,700 (legal limit)
Brigadier-general ..	7,176	7,500 " "
Colonel	4,676	7,200 " "
Lieutenant-colonel ..	3,936	7,200 " "
Major	3,336	7,200 " "
Captain	2,696	5,348
First lieutenant	2,196	4,992
Second lieutenant ..	2,196	4,150

UNITED STATES NAVY

The pay scales of the commissioned officers of the U. S. Navy are subject to the same general considerations as have been advanced in connection with those of the army officers. Length of service is recognized in ranks below the rear admiral, substantial allowances for rental and subsistence are made and retirement on a generous pension are found. The navy too has its commissary at which officers may buy at a marked reduction in price.

In view of the pay scales seen here for the officers of the army and the navy, the question occurs to one, why do the ambitious and in this case not too idealistically inclined young men turn to these lines of activity for their life work? Apart from the possi-

TABLE VIII
PAY SCALES OF COMMISSIONED OFFICERS OF THE NAVY

	Without dependents	With dependents
Admiral	\$11,379	\$11,900
Vice admiral	9,679	10,200
Rear admiral (upper half)	9,179	9,700
Rear admiral (lower half)	7,179	7,500
	Minimum	Maximum
Captain	\$4,679	\$7,200 (legal limit)
Commander	3,939	7,200 " "
Lieut. commander	3,339	7,200 " "
Lieutenant (senior) ..	2,699	6,357
Lieutenant (junior) ..	2,199	4,998
Ensign	2,199	4,158

bility for adventure that may appeal to some, the financial inducement is greater than shows on the pay scales. Officers are retired at three fourths of the pay received at the time of retirement. When one sees what these pensions are equivalent to as success-

fully invested savings in the case of the teacher, it is clear that the pension is a very potent financial argument.

A major with dependents in the active service after twenty-four years draws in pay and allowances \$6,988. Such a major retires on \$3,675, three fourths of his pay (allowances being excluded). For a teacher to provide himself a similar income would mean a saving of \$73,500 safely invested at 5 per cent. How many teachers in academic circles could see their way clear to saving that amount in a teaching period of twenty-four years or more on the salary scales now prevailing in American colleges and universities?

The Public Health Service employing a considerable number of medically trained investigators in many respects parallels the situation seen in the navy; while the higher ranking officers are less well paid, the terms of retirement are similar for the body of the service.

BUSINESS ENTERPRISES

The statement is frequently heard that now as never before the ambitious and alert young man is "going into business." The sons of teachers and other professional parents are seeing in the money game something more interesting than they see in the life of the teacher and researcher of the college and university. The term "business" includes many kinds of work, but in all of them the financial gain is the common motive. Not all going into business, however, expect to become wealthy. Many are indeed content with the outlook for a comfortable and ample income, but value highly the independence or opportunity for self-dependence offered by business.

It was deemed to be a matter of importance for this study to ascertain the rates of pay met with in one great line of business, that of the manufacturer. The scale of pay above the lower grades is considered to be significant, because up this scale the young college man must climb, and one of his great incentives in going into business is the thought that even the president's position may perhaps one day be his. In other words, the scale of opportunity in a business enterprise competes with that of the college or university in the mind of the young man laying his plans for life.

Through the great kindness of the chief executive of a well-known American manufacturing enterprise, I have been able to present here the salary scales of twenty business enterprises, a majority of them dealing with the making and selling of some kind of desired product. These enterprises range in magnitude from one having 400 employees to another commanding the services of over 35,000 persons. One

does an annual sales business of three million dollars; another sells products valued at over 150 million dollars. The materials dealt in cover, among others, oil, paper, rubber goods, leather, automobiles, chains, locks, machinery, cotton and life insurance.

Getting the effort of individuals directed and coordinated requires the distribution of responsibility. Such an effective distribution when set in working order constitutes an organization, and reflects the same laws of psychology and of motive whatever may be the product developed. Thus, a university, an army or navy unit, a manufacturing establishment obey the same laws of the human mind and form

TABLE IX
ENTERPRISES GROUPED ACCORDING TO ANNUAL AMOUNT
OF SALES

Amount of Sales	Number of Enterprises
Up to \$10,000,000.....	6
\$ 10,000,001 to \$20,000,000	1
20,000,001 to 30,000,000	2
30,000,001 to 40,000,000	2
40,000,001 to 50,000,000	0
50,000,001 to 60,000,000	0
60,000,001 to 70,000,000	1
70,000,001 to 80,000,000	1
100,000,000	2
160,000,000	1
Three billion dollars	1
Not given	3
Total	20

structures of more or less definitely homologous parts. As responsibility broadens down from the head through the various grades of subordinates, similarities appear in all these types of organization. I believe it would be possible to find the homologue of the university president, dean, professor, instructor, etc., in the organizations here dealt with. However, in order to avoid distracting considerations that might enter were that to be attempted here, I have accepted the positions as ordinarily named in these enterprises and have not attempted to draw a close parallel between manufacturing and academic enterprises.

In order to give an idea of the various sizes of the concerns here dealt with, I have grouped them according to the number of employees on their rolls and the amount of sales made in a year.

In the tables that follow are shown the sums received by the various officers so grouped as to present the information in compact form. Range of payment is given and an average sum for the group is usually added.

TABLE X
ENTERPRISES GROUPED ACCORDING TO NUMBER OF
EMPLOYEES

Number of employees	Number of enterprises
Up to 1,000	3
1,001 to 2,000	2
2,001 to 3,000	3
3,001 to 4,000	0
4,001 to 5,000	2
5,001 to 6,000	1
6,001 to 7,000	0
7,001 to 8,000	4
8,001 to 9,000	0
9,001 to 10,000	1
15,000	1
38,000	1
Not given	2
Total	20

President. The presidents and other higher officers of these twenty concerns in some cases receive salaries indicated as such, and in some cases bonuses are added to the sums specified as salaries. These bonuses are sometimes fixed sums and, added to the sums known as salaries, form the equivalent of salaries of academic faculty members. In some cases the bonus varies between specified limits.

TABLE XI
SALARIES OF PRESIDENTS

Salary range	Number of concerns
\$ 20,000 to \$ 30,000	3
30,001 to 40,000	1
40,001 to 50,000	0
50,001 to 60,000	0
60,001 to 70,000	4
70,001 to 80,000	2
100,000 to 115,000	1
150,000	1
Unknown	8
Total	20
Lowest salary given	\$ 20,000
Highest salary given	150,000
Average of known salaries	48,958

Vice-president. In a majority of cases, the organization includes from two to as many as nine vice-presidents. These several vice-presidents usually form a graded series in magnitude of salaries. In the following table the total number of vice-presidents

is given, their salary ranges and a weighted average salary.

It will be seen later that in some concerns one of the vice-presidents constitutes the general sales manager, while in others there is a special officer so designated.

TABLE XII
SALARIES (INCLUDING BONUSES) OF VICE-PRESIDENTS

Range of salaries	Number of vice-presidents
\$ 8,000 to \$10,000	2
10,001 to 20,000	4
20,001 to 30,000	3
30,001 to 40,000	7
40,001 to 50,000	2
25,000 to 30,000	4
30,000 to 33,000	1
30,000 to 60,000	9
35,000 to 40,000	4
36,000 to 40,000	1
40,000 to 45,000	1
Unknown	7
	45
Lowest salary given	\$ 8,000
Highest salary given	125,000
Weighted average for vice-presidents	36,135

Treasurer. The treasurer's office sometimes forms the point of attachment for assistant treasurers, controllers and auditors, and salaries of this group of assisting officers are here given in Table XIV as well as those of the treasurers. (Table XIII.)

TABLE XIII
SALARIES (INCLUDING BONUSES) OF TREASURERS

Salary range	Number of treasurers
\$ 5,500 to \$10,000	2
10,001 to 15,000	1
15,001 to 20,000	4
20,001 to 25,000	0
25,001 to 30,000	2
30,001 to 35,000	3
50,000	1
24,000 to 27,000	1
Unknown	6
	20
Minimum salary	\$ 5,500
Maximum salary	50,000
Average salary for treasurers	24,464

TABLE XIV
SALARIES FOR ASSISTANT TREASURERS, AUDITORS
AND CONTROLLERS
(No bonuses given)

Salary range	Number of officers
\$ 4,500 to \$10,000	9
10,001 to 15,000	3
15,001 to 20,000	1
20,001 to 25,000	1
25,001 to 30,000	1
	15
Minimum salary	\$ 4,500
Maximum salary	30,000
Average salary paid	11,579

The officers above dealt with form the apical group of these organizations. Under general direction from this group are the main lines of development of these enterprises. One line has to do with the manufacturing processes, plant and machinery, headed by the works manager. The sale of the product is carried on by another suborganization headed by the general sales manager or merchandise manager.

General sales manager. The salaries paid to general sales and merchandise managers are frequently on a sliding scale supplemented by a range of bonuses likewise on a sliding scale. This makes it somewhat difficult to condense the data at hand into a compact table. Hence in cases some assumptions

TABLE XV
SALARIES PLUS BONUSES PAID TO GENERAL SALES AND
MERCHANDISE MANAGERS

Pay rates	Number of men concerned
\$ 7,500 to \$10,000	3
10,001 to 15,000	4
15,001 to 20,000	12
20,001 to 25,000	2
10,000 to 21,000	5
15,000 to 25,000	8
Up to 20,000	175
32,000 to 41,000	10
	219
Unknown	3
	222
Minimum rate	\$7,500 to \$ 8,000
Maximum rate	41,000
Weighted average paid per man	19,930

are necessary that render any summary statement an approximation only. I believe, however, that the chief features here brought out are near enough to the truth to be of value.

The lowest sum mentioned is \$7,500 to \$8,000; the highest, \$41,000. The average minimum rate is \$14,071; the average maximum rate of ranges given equals \$19,925. The average of definitely fixed salary rates listed is \$18,777. A weighted average of money paid to these officers is \$19,930 per man. This condition exists because concerns having a large number of sales managers pay higher amounts than those hiring a smaller number of managers. The unweighted average of rates paid gives \$17,331. It is believed that the weighted average per man, \$19,930, represents a fair norm for this group with extremes much below and much above this sum. The distribution of rates is given in Table XV.

There is little information at hand concerning assistant general sales managers. In the instances at hand the range of pay runs from \$4,900 to \$13,000, the weighted average being \$7,350. Very likely the duties here concerned are discharged by officers bearing other designations in most cases.

District managers. In the case of district managers, remuneration is still on the basis of salary plus bonus. The salary ranges lie between widely separated extremes, but sliding scales are less often seen. In some cases, a commission bonus introduces a very important and probably highly variable factor. The distribution of salaries is shown in Table XVI.

TABLE XVI
SALARIES PLUS STATED BONUSES PAID TO DISTRICT
MANAGERS

Pay rates	Number of men
\$ 4,000 to \$10,000	109
10,001 to 15,000	6
38,000	1
4,000 to 40,000	700
5,000 to 20,000	40
5,980 to 17,250	not known
Minimum salary stated	\$ 4,000
Maximum salary stated	40,000
Weighted average per man	8,708

In attempting to get a sum that might represent a normal salary for this type of position, I have been obliged to work with those cases in which definite sums and definite numbers of men are indicated. In doing this, it has been necessary to neglect 700 men in one concern working on a scale varying from \$4,000 to \$40,000. In one case, an unstated number of men are receiving from \$6,500 to \$12,000. In

another, forty men receive from \$5,000 to \$20,000, \$10,000 to \$12,000 "constituting the average pay for half the group." Thus it is clear that only an approximate average salary can be found.

Salesmen. In the case of salesmen, a fixed salary is sometimes named with a bonus depending in size on the amount of sales made. It is out of the question to learn with any satisfactory degree of approximation what men receive in such cases. However, from the sliding scales given and the fixed figures named, the expectation of salesmen may perhaps be learned within wide limits of variation.

A study involving 1,943 men is not as complete as I wish it were, but data on others are frequently indefinite and I have been obliged to make certain assumptions in order to arrive at a generalized result.

Minimal salaries run as low as \$1,800 to \$2,000; maximal up to \$60,000 in one case. The high figure usually lies between \$10,000 and \$14,000. A probable normal figure seems to lie at about \$6,150.

With this group we seem to reach the bottom rung of the sales department ladder. The minimum sums just mentioned probably represent the pay given to beginners entering the employ of the sales branch of the business.

Works manager. This position concerns itself primarily with the manufacturing side of the enterprise and constitutes the head of this part of the business development, as the sales manager stands at the head of that part of the enterprise that deals with the disposal of the product.

In the following table the salary rate plus bonus is given for works managers.

TABLE XVII

Salary	Number of men
\$ 8,500 to \$10,000	2
10,001 to 15,000	7
15,001 to 20,000	7
20,001 to 27,300	2
Unknown	4
	22
Minimum salary	\$ 8,500
Maximum salary	27,300
Weighted average per man	15,295

Assistant works managers seem not to be usual, but in so far as reported receive a salary varying from \$5,600 to \$9,100, averaging \$7,400.

Division superintendents. The division superintendent is in some cases assistant works manager and in general is subordinate to the works manager in the production branch. Salaries again are often supple-

mented by bonuses that in many cases exceed the salaries themselves.

The distribution of incomes is given in the following table.

TABLE XVIII
SALARIES, PLUS BONUSES, PAID TO DIVISION
SUPERINTENDENTS

Salary range	Number of men
\$ 3,000 to \$ 5,000	8
5,001 to 10,000	84
10,001 to 15,000	9
3,000 to 6,000	50
4,800 to 13,500	3
9,000 to 13,500	4
	158
Minimum salary	\$3,000 to \$ 4,500
Maximum salary	13,500
Weighted average per man	5,345

Department heads. Department heads as a rule receive stated salaries and are less concerned with bonuses than those ranking above them.

Foremen. The salaries of foremen seem to be little influenced by bonuses and fall within a rather definite range, between \$2,000 and \$4,000, with an exceptional man receiving from \$5,000 to \$6,000. Owing to the lack of data it has been difficult to strike an average paid per man. However, the salary rates are more

TABLE XIX
SALARIES, PLUS BONUSES, PAID TO DEPARTMENT HEADS

Range of salaries	Number of men
\$2,000 to \$ 5,000	225
5,001 to 10,000	6
3,600 to 6,000	17
4,000 to 7,500	30
	278
Minimum salary	\$2,000 to \$3,500
Maximum salary	7,500
Weighted average per man	4,097

easily dealt with. The average minimum calculated on the basis of the number of establishments is \$2,726; the average maximum, \$3,650. A rather risky attempt to get the average salary paid foremen gives \$3,139, a figure that is probably not far from the truth.

Purchasing agent. The purchasing agent is one of the important members of the staff, sometimes sharing

in a bonus based on the evidence of saving in purchasing, I have been told. While extremes of salary are far apart, as a rule the scale for this officer varies less than that of many others. The minimum

TABLE XX
SYNOPTICAL TABLE OF SALARIES IN MANUFACTURING ENTERPRISES

	Minimum	Maximum	Normal
President	\$20,000	\$150,000	\$49,958
Vice-president	8,000	125,000	36,135
Treasurer	5,500	50,000	24,464
Asst. treasurer } Auditor } Controller }	4,500	30,000	11,579
General sales manager	\$7,500 to 8,000	41,000	19,930
District manager	4,000	40,000	8,708
Salesman	\$1,800 to 2,000	10,000 to 14,000	6,150
Works manager	8,500	27,000	15,295
Division superintendent	\$3,500 to 4,500	13,500	5,345
Department heads	\$2,000 to 3,500	7,500	4,097
Foreman	2,000	4,000 to 5,000	3,139
Purchasing agent	\$3,000 to 4,000	25,000	12,437
Asst. purchasing agent	4,000	12,000	5,491
Employment manager	\$3,300 to 3,600	13,500	7,330
Office manager	\$3,900 to 4,500	13,500	7,676

falls in one or two instances between \$3,000 and \$4,000, while the maximum rises to \$25,000. The average salary paid to twenty purchasing agents was \$12,437.

Assistant purchasing agents. The salary of assistants varies from about \$4,000 to as high as \$12,000 in one case, the average of fifteen salaries being \$5,491.

Employment managers. This officer seems not to share in the bonus usually and works at a salary that seems to vary between wide limits. The minimum seems to lie at \$3,300 to \$3,600, with a maximum of \$13,500 seen in one case. The average received by ten employment managers is \$7,330.

Office manager. The office manager receives a minimum of \$3,900 in one case, the lower range lying between \$4,500 and \$5,000; the higher range lies between \$13,500 and \$14,500. The average paid nine such officers is \$7,676.

SUMMARY

A comparison of salary scales of trained men shows rather clearly at the present time that

(1) The pay scale of endowed and state universities and agricultural colleges is approximately like that of the commissioned officers of the army and the navy, but lacks the advantage of the retiring pension of three fourths pay. This pension often relieves the military and naval officer of the necessity of saving for old age. The saving required of the academic man to give him an equivalent retiring fund is not practicable at the present salary scale.

(2) It shows that the academic salary scale is appreciably lower than that of the professional and scientific services of the national government at Washington. The retiring allowance of the government employee, though small, and in part contributed by the employee himself, gives him a distinct advantage.

(3) The salaries of all groups above mentioned are very much lower than those paid in manufacturing enterprises to positions above the wage-earners.

In order to make a concrete comparison, I will enumerate the positions that on the average command salaries of \$3,000, \$6,000 and \$9,000 respectively in these different lines of work.

THREE THOUSAND DOLLARS WILL BUY

A. Manufacturing enterprises

- a. Young or unsuccessful salesman
- b. Low-grade department head
- c. Almost the average foreman

B. Universities and colleges

- a. Low-grade associate professor
- b. High average assistant professor

C. U. S. Army

- a. Low pay captain
- b. Young first lieutenant
- c. Sub-average second lieutenant

D. U. S. Navy

- a. Low-rate senior lieutenant
- b. Medium rate ensign

E. U. S. Civil Service

- a. High assistant in professional grade
- b. Low associate in professional grade
- c. High assistant in sub-professional grade

SIX THOUSAND DOLLARS WILL BUY

A. Manufacturing enterprises

- a. Low assistant treasurer
- b. Low district manager
- c. Average salesman
- d. Good average division superintendent
- e. Good average assistant purchasing agent
- f. Low average employment manager
- g. Low average office manager

B. Universities and colleges

- a. Well-paid dean
- b. High professor

C. U. S. Army

- a. Medium colonel

- b. Well-advanced lieutenant colonel
- c. Well-advanced major

D. U. S. Navy

- a. Well-advanced captain
- b. Well-advanced commander
- c. Well-advanced lieutenant commander
- d. Very high senior lieutenant

E. U. S. Civil Service

- a. High average principal in professional grade

NINE THOUSAND DOLLARS WILL BUY

A. Manufacturing enterprises

- a. High average district manager
- b. Low average auditor or controller

- c. High average assistant purchasing agent
- d. Good salesman

B. Universities and colleges

- a. Low average president
- b. High dean
- c. Very exceptional professor

C. U. S. Army

- a. Little less than major general

D. U. S. Navy

- a. Little less than rear admiral (upper half)

E. U. S. Civil Service

- a. Maximum for head of large bureau
- b. Minimum for director of research in a department

DISCUSSION OF PAPERS ON THE ECONOMIC STATUS OF SCIENTIFIC WORKERS

By HAROLD F. CLARK

TEACHERS COLLEGE, COLUMBIA UNIVERSITY

ANY comments which I make are supposed to be in the nature of discussion of the previous papers. The papers which have been read have pointed out in great detail the facts regarding the salaries of university teachers. By implication these papers have said that the salaries were too low. With your permission I should like to confine my discussion to the one point of whether there is a feasible way to raise university salaries.

Some one may respond immediately, "Yes, there is a method, give the universities more money." That, of course, will help temporarily but it can not be a final and satisfactory solution of the difficulty. Under present conditions more money to the universities would lead to more people partially trained for teaching and research who would be seeking positions and it would lead to a continuation of the present pressure bringing about low salaries. We can find no reason for thinking that doing more of the same thing we are doing will lead to a more satisfactory salary situation. It is not more of the same thing that needs to be done; it is a different thing that needs to be done if salaries are to be increased.

Some one else may suggest that we need more agitation, more discussion of higher salaries. We can see no reason to think that agitation will be much more effective in raising salaries than it is in raising the price of wheat. Each farmer in the country might spend an hour a day urging people to pay \$2.50 per bushel for wheat, but the talking would have almost no effect in raising the price of wheat. As long as world conditions of supply and demand remain about as they are, people can buy wheat for less than \$2.50 per bushel and no amount of talking will persuade them to pay more. As long as present conditions of supply and demand of trained or partially trained university people remain about as they are university authorities can obtain about the present level of ability at about the present salaries and discussion will not lead them to pay a great deal more.

Rather careful study has failed to disclose a case of a normal competitive group where discussion has raised wages. When, due to ignorance, a group has been working for less than its competitive worth discussion has raised wages. Also in some cases of underprivileged and exploited workers discussion has led to certain minimum wages on other than direct economic grounds and thereby has raised wages. It seems doubtful if discussion is able to raise the salaries of professional groups or of skilled trades or even unskilled work unless the previous conditions apply.

We know from a large amount of recent work that an increase of supply leads to a lower price in a long list of manufactured commodities and agricultural products. The Department of Agriculture has shown that an increase of 10 per cent. in the peach crop led to a 7 or 8 per cent. reduction in the price per bushel. A 10 per cent. increase in the number of hogs led to about a 7 per cent. decrease in the price per pound. A 10 per cent. increase in the number of farm hands led to a 7 per cent. decrease in the wages per day. We have the case of a large cotton crop in one year being less valuable than a much smaller crop the year before. We would not insist that the same thing holds true in the same rigid way for university salaries; however, a study involving several hundred thousand public-school teachers lends color to the belief that the same basic facts may control in all such cases. A careful study should be made of the relation of supply of trained or partially trained people to university salaries. At present the evidence of the close relation is so strong that one should hesitate to state that as a long-term policy salaries can be controlled by any other method than by a consideration of supply and demand of trained or partially trained people.

L. D. Edie, professor of finance, University of Chicago, says, "Educated labor does not receive relatively high wages because it is educated but because there is a scarcity of educated workmen."

It is possible that it is necessary to plan supply and demand if university salaries are to be raised to a level to attract the best ability in the country. Some people may say that the number of scientific workers must not be limited. But for the future of science it is much more important that the supply be limited to those who can be placed at adequate salaries than it is to train or partially train large numbers and have many of them working for unsatisfactory salaries. The first policy, planning the number and obtaining adequate salaries, will lead to many of the ablest people going into science; the second policy, training or partially training an excessive number, will lead to inadequate salaries and ultimately will react to keep the ablest people from going into science.

If science wants the highest type of minds it must be willing to plan in order to get them. No time, money or ability could be better spent in America to-day than in working out such plans regarding numbers that adequate salaries would be paid, and they would ultimately lead to a substantial proportion of the ablest young people entering science.

DOCKET ENDS:

Salaries

November 16th, 1923.

A. P. S. Glassco, Esq.,
Secretary and Bursar,
McGill University.

Dear Mr. Glassco:-

With reference to letter from the Registrar dated October 31st re salaries of assistants in his office, I shall recommend to the Finance Committee that Miss Weibel's appointment be confirmed at the salary mentioned and that Miss Nicholson's salary be raised to \$95.00 per month; and that the other salaries remain as at present, to be considered when the revision of salaries takes place next summer.

Yours faithfully,

Principal.