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REPORT OF

THE COMMITTEE ON APPRAISAL AND PLAN

Trustees Meeting
December 11, 1934
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For record of changes in program
undertaken as result of the report
See

910 Pro-17   911 Pro-6

Extracts filed: 915 Pro-8, 911 Pro-5, 908 Pro-17, 906 Pro-9, 910 Pro-15

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REPORT OF

THE COMMITTEE ON APPRAISAL AND PLAN

Trustees Conference
Williamsburg, Va
December 11, 1934

Reported at Trustees Meeting
December 21, 1934

THE ROCKEFELLER FOUNDATION

REPORT

of the

COMMITTEE ON APPRAISAL AND PLAN

Raymond B. Fosdick, Chairman
James R. Angell
Walter W. Stewart

Submitted at a meeting of the
Trustees of the Foundation
December 11, 1934

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Report of the Committee on Appraisal and Plan

To the Trustees of the Rockefeller Foundation:

Your committee on appraisal and plan was appointed at the meeting of the Board held on December 13, 1933, and our instructions were to report at the meeting on April 11, 1934. The discussion in the Board which led to our appointment centered around this question put by the Chairman: If the Foundation were now starting with a clean slate, if the capital funds were today placed in our hands for the first time to be used "for the well-being of mankind throughout the world," is our present program the program which we as Trustees would adopt? Has the world so changed in the last five years that the policies and plans which we have been following no longer represent the wisest and most helpful use to which our funds can be put? Has the social and economic situation both in this country and abroad so shifted that we ought to restudy the duty and opportunity of the Foundation in the light of the present? In the course of the discussion, emphasis was laid on the fact that these questions implied no criticism of the officers in charge of the program. The officers work in accordance with general sailing directions laid down by the Trustees. Consequently any critical judgments expressed in this report are judgments of the sailing directions and not of the officers who have tried faithfully to follow them.

It will be remembered that the existing program of the Foundation, as far as its definition and organization are concerned, dates from 1928. For nearly a decade prior to that date the activities of the Foundation had been confined for the most part to two major divisions, i.e., health and medical education, with some attention to the biological sciences. In

1928, the interest of the Laura Spelman Rockefeller Memorial in the social sciences was transferred to the Foundation. At the same time we took over work in the natural sciences from the General Education Board and from the International Education Board. The work of the General Education Board in medical education in the United States was also transferred to the Foundation, together with its program in the humanities and arts. As a result of this assumption of new responsibilities the Foundation was reorganized with a division of International Health and with directors as follows:

(a) Director of Natural Sciences

(b) Director of Social Sciences

(c) Director of Medical Sciences

(d) Director of Humanities (appointed in 1932)

This constitutes our present organization.

The objective, as distinguished from the organization, was defined in 1928 as "the advance of human knowledge." It is obvious, of course, that this was a re-definition. All that we did in 1928 was to bring together in a single mechanism various programs that were related to the extension of knowledge. These programs antedated the merger of 1928, and their roots are intricately interwoven with the early policies not only of the Foundation but of the other Rockefeller boards as well.

SECTION I

HISTORY OF FOUNDATION PROGRAM

In order to obtain a perspective in relation to our present program, it may be useful to review some phases of the history of the Foundation from its establishment in 1913. This history seems to fall logically into three periods:

First period: 1913 - 1916

Second period: 1917 - 1928

Third period: 1929 to date

The Foundation was chartered in May, 1913, "for the purpose of receiving and maintaining a fund or funds and applying the income and principal thereof to promote the well-being of mankind throughout the world. It shall be within the purposes of said corporation to use as means to that end research, publication, the establishment and maintenance of charitable, benevolent, religious, missionary and public educational activities, agencies and institutions, and the aid of any such activities, agencies and institutions already established and any other means and agencies which from time to time shall seem expedient to its members or trustees."

Its capital funds were received as follows:

1913	$ 34,430,430.54
1914	65,569,919.46
1917	25,765,506.00
1917 (treated as income, not as principal)	5,500,000.00
1918 (treated as income, not as principal)	1,000,000.00
1919	50,438,768.50
1927 (treated as income, not as principal)	109,856.40
1929 Received from the Laura Spelman Rockefeller Memorial	53,006,878.84*
	$235,821,359.74

*The principal fund of the Memorial, $53,006,878.84, was composed entirely of gifts from Mr. John D. Rockefeller, Sr., hence it is added above, though strictly speaking it was not a gift to the Foundation.

From 1913 to 1917 the Founder, Mr. John D. Rockefeller, Sr., reserved the right personally to designate $2,000,000 of income annually. This right was relinquished in a letter written July 19, 1917.

The early conception was that the capital fund of the Foundation was to be maintained in perpetuity. This conception, however, was later abandoned in favor of the idea that no attempt should be made to conserve principal, but that principal as well as income should be spent if necessary for whatever worthy objects appealed to the Trustees. This new conception involves at least the possibility of the termination of the Foundation within the period, perhaps, of a generation or two.

The International Health Board

The first significant act of the Foundation (in June, 1913) was the creation of the International Health Commission, which later became the International Health Board and is now the International Health Division. Among the Trustees there was general agreement that the advancement of public health through medical research and education, including the demonstration of known methods of treating and preventing diseases, afforded the surest prospect of permanent and far-reaching usefulness.

It is not difficult to understand the confidence with which the Trustees launched this new enterprise. The Rockefeller Institute for Medical Research had been established in 1901. The Rockefeller Sanitary Commission which had been organized to combat hookworm in the southern states was nearly four years old. Both these institutions had had distinguished success and their achievements were widely acknowledged. The Rockefeller Sanitary Commission in particular was engaged in work the immediate practical value of which was everywhere recognized. Following upon the experience of

this earlier commission the International Health Board was created

> "to extend to other countries and peoples the work of eradicating hookworm disease as opportunity offers, and so far as practicable to follow up the treatment and cure of this disease with the establishment of agencies for the promotion of public sanitation and the spread of the knowledge of scientific medicine."

The International Health Division is consequently the oldest interest of the Foundation. Together with our special interest in China, it is the single thread that binds us to the very beginning. From 1913 to date (December 31, 1933) we have spent $40,266,030.16 through this agency.

Moreover, this International Health Division has been from the start almost exclusively an operating agency. Instead of appropriating funds to an organization outside our own control, we have ourselves built and financed the machinery, and the operating personnel has at all times been our own. In other words, our approach to the field of public health has been direct instead of indirect, and while co-operation with public agencies has been a guiding principle, we have conducted our own experiments and demonstrations.

returning to this?

The Search for a Program

At one of the first meetings of the Rockefeller Foundation, Mr. Jerome D. Greene, the Secretary, presented a singularly significant memorandum dealing with the program to be adopted. The International Health Board had been created, but what other broad projects were to be developed? The following paragraphs occur in Mr. Greene's memorandum:

> "What shall be the attitude of the trustees of the Rockefeller Foundation toward the many and tempting fields in which its resources might unquestionably be used for increasing the health, happiness and general welfare of the human race? Shall they be governed by a purely opportunist policy taking up for the present only one or two lines of work in which opportunities have been clearly presented? It may be urged that the latter policy is the only one that can safely be followed. The time and energy of the

trustees and officers of the Foundation are limited. Most of them have important collateral occupations or preoccupations. To attempt to spread out into more fields of work than can possibly be given adequate study would involve superficiality in everything and would prevent the Foundation from making any really serious contribution.

"I venture to question whether there is no other alternative policy. In the face of vast, incalculable human needs, expressed in ignorance, disease, crime and the dissolution of family life and all the attendant suffering, the trustees of a great foundation like this have a responsibility which it is almost impossible to exaggerate. If the trustees and present officers of the Foundation lack the time or the special training necessary for an organization which is to take a comprehensive view of human needs, can they not at least address themselves to the problem of devising such an organization, using the funds at their disposal for the employment of as varied and as large a staff as may be necessary? The end in view would be the establishment of a sort of University of Human Need, requiring an organization not more complex than that of an educational university and having certain analogies to it, first in the variety of its departments, and secondly, in the importance which scientific research would always have in the prosecution of philanthropic undertakings.

"To bring the foregoing observations to a point, I would suggest that at the October meeting, and at a special meeting subsequent thereto, a discussion should be had on the general question of the attitude of the trustees toward the whole problem of philanthropy.

"With reference to the more specific proposals coming before the trustees at their next meeting, I would make the following suggestions:

1. That a special commission of three persons be appointed to study educational and medical needs in the Far East.
2. That a special commission of two or three persons be appointed to study educational and medical needs in the Near East.
3. That a conference be held by invitation of the Foundation on the subject of alcoholism, provision being made to pay the expenses of participants in the conference coming from Europe or from other parts of this country. The question before such a conference would be - 'How to approach the problem of alcoholism?'
4. That a conference be held on the subject of venereal diseases with special reference to (a) public health control, and (b) provision for hospital treatment.
5. That a conference be held on the subject of mental hygiene. This conference might appropriately be held in connection with the conference on alcoholism.
6. That a conference of economists, sociologists and others be called to discuss the desirability of the suggested research institution to study the causes of economic and social evils."

Only a few of these recommendations were actually adopted, but the meeting of October 13, 1913, apparently set the course of the Foundation program in relation to a number of important items. One of the first results was the organization of the China Medical Board.

The China Medical Board

The China Medical Board was created in 1914 following the report of a special commission that was sent to the Far East. It is our second oldest interest. Since 1913 the Foundation has contributed $32,501,090.19 to this organization, including a special capital grant of $12,000,000 in 1929.* The funds thus supplied have created and maintained the Peking Union Medical College, and have developed a broad program of medical education and public health.

Until the reorganization of 1928, the China Medical Board was essentially an operating unit of the Foundation, although not precisely in the same sense nor to the same extent as the International Health Division. The latter has a wide-flung personnel and program. Moreover it is interested in many types of practical field demonstration, such as yellow fever and malaria. The China Medical Board on the other hand was, until 1928, the branch of the Foundation that administered our educational interests in China. Consequently it was to all intents and purposes merely a special committee of the Foundation with power to make appropriations to specific purposes. In 1929, the Board was separately incorporated; the property of the Peking Union Medical College which had formerly belonged to the Foundation

*This total is made up of expenditures for Peking Union Medical College and other work in China, except for amounts which since the reorganization have been charged against fields of work, as, for example, Natural Sciences in China, Medical Sciences in China, etc. Of the total sum, $17,751,326.45 was spent on the Peking Union Medical College.

was transferred to it; and a capital fund of $12,000,000 was given to it, the income of which is primarily for the use of the Peking Union Medical College, although the Trustees of the China Medical Board have full discretion in determining the objects for which it shall be spent. The Foundation still continues, however, to make supplemental grants to the China Medical Board toward the annual budgets of the Peking Union Medical College.

Other operating agencies

It is interesting to note that in the early days of the Foundation it was evidently the intention of the Trustees that the program to a large extent should be carried on by direct operating agencies attached to the Foundation itself, somewhat similar to the International Health Commission and the China Medical Board. For example, in 1914, the Trustees discussed the desirability of establishing, as part of the Foundation, an organization for the study of social and economic questions. A number of leading economists were consulted, and a committee was appointed, under the chairmanship of Professor Edwin F. Gay of Harvard, "to consider further the desirability of creating an Institute for Economic Research, to make a selection of such problems of economic importance as would in their judgment be advantageously studied through such an agency, to recommend a method of organization, and to present an estimate of the approximate cost of initiating and carrying on the work to be first proposed." This committee reported in August, 1914, unanimously recommending that studies be initiated and be carried on for a year in some chosen field with a view to discovering whether that "would offer a sufficient prospect of fruitful results to justify the establishment of a more permanent bureau or institute." Four of the committee recommended the subject of prices as an object of study while the fifth suggested profit-sharing.

This report was considered by the Trustees but was laid over so as not to conflict with an investigation of industrial relations which the Board had already authorized under the leadership of Mr. W. L. Mackenzie King. Mr. King had been added to the staff of the Foundation a little earlier, and his relationship to the organization illustrates the direct approach to social and industrial problems which the Trustees were contemplating in 1913 and 1914. Instead of a grant to some outside agency, such as an institute or university, the Foundation intended to create its own machinery for survey and research. The Foundation's public announcement of the investigation of public relations is illuminating:

> "In facing the problem of Industrial Relations, the Rockefeller Foundation is deliberately attempting to grapple with what it believes to be the most complicated, and, at the same time, the most urgent question of modern times, and it is precisely for this reason that the investigation has been instituted. The Foundation is not baffled at the outset by the knowledge that the task hitherto has seemed well nigh hopeless, and that the literature on the subject, and the tried experience of the world, is so vast as to be overwhelming. These may be reasons for a gradual approach, and for counselling patience in the matter of results, but they afford no excuse for inaction. It is hoped that an investigation instituted on the scale, and impartially and persistently pursued in the spirit and with the facilities which the Foundation affords, will gradually win for itself the cooperation, not alone of employers and workingmen, of industrial organizations, of individuals, and institutions interested in social reform, but also of universities and Governments throughout the world."

The announcement by the Foundation that it had undertaken an investigation of industrial relations was made the subject of special inquiry by the United States Commission on Industrial Relations under the leadership of Senator Walsh. Public hearings were held and officers and trustees appeared under subpoena. The project in question was widely misinterpreted and misunderstood and was the subject of considerable public criticism. Largely in consequence of this feeling the project was, in 1917,

allowed to lapse. Permission granted Mr. King by the Trustees to publish as his own property the results of his inquiries into industrial relations marked the conclusion of his official connection with the Foundation and brought to an end the Foundation's investigation in this field.

A somewhat similar attempt at a direct approach to social problems was made in the field of mental hygiene. In 1914 Dr. Thomas Salmon was appointed a member of the staff of the Foundation and remained in that capacity until 1921. It was apparently intended at first that he should approach the problem of mental hygiene in the same way that Mr. King was approaching the problem of industrial relations. That is, the projected surveys were to be carried on by the Foundation itself through its own personnel, and it was the intention of the Trustees that "the related fields of heredity, alcoholism and venereal diseases" should be included with mental hygiene and "should be approached as one broad problem, the solution of which would require the effective coordination of the several lines of inquiry subject to adequate scientific supervision." It is interesting to note that in spite of the fact that Dr. Salmon severed his connection with the Foundation in 1921, the concern of the Trustees in the field of mental hygiene continued until 1929, expressing itself in contributions to the National Committee on Mental Hygiene, in the support of a number of surveys, and in fellowships in mental hygiene. During this period from 1921 to 1929, $383,881.62 was spent for this purpose, bringing the total mental hygiene expenditures from 1914 to 1929 up to $805,709.11.

The minutes of the Foundation record another attempt to find a direct way of grappling with current social and economic evils. In October, 1915, the Trustees appointed a committee "to study the correlation of actual

or desirable activities of the Rockefeller Foundation for the promotion of social health and welfare." Among the evils referred to as possible objects of attack were:

Insanity	Child labor
Feeblemindedness	Illegitimacy
Alcoholism	Pauperism
Drug habit	Divorce
Prostitution	Bad milk and other foods
Crime	Bad housing
Venereal disease	Tuberculosis
Infant mortality	Typhoid fever

There is apparently no record of the report of this committee.

Miscellaneous activities

While the Trustees in the early years of the Foundation were exploring questions of policy, gifts were made to a wide variety of institutions and projects, for example:

The Palisades Interstate Park	$1,000,000
Rockefeller Institute	6,263,105*
American Academy in Rome	100,000
Committee on Reference and Council of the Foreign Missions Conference	500,000
Wellesley College	750,000
Association for Improving the Condition of the Poor	168,000
Colorado State Committee on Unemployment and Relief	100,000

Another interest that attracted the Trustees was scientific studies in governmental problems. A special advisory committee, not connected with the Trustees, was appointed to supervise expenditures, and from 1915 to January, 1917, when the work was terminated, $152,500 was appropriated for this purpose, most of the money being spent on the publications of the Institute of Government Research in Washington and the Bureau of Municipal Research in New York.

*Of this total sum $2,933,355 was designated by the Founder, Mr. John D. Rockefeller, Sr.

The war work

The efforts of the Trustees in the early days of the Foundation to arrive at a definite program were embarrassed by the outbreak of the World War in 1914. From the very beginning the Foundation played a tremendous part in war relief activities. Here was an insistent demand that cut across every attempt to develop a coordinated, forward-looking program. It absorbed the energies and organizing abilities of the officers and trustees. Over $22,300,000 was spent for this purpose from 1914 to the end of the war. The wonder is that in such an atmosphere of strain and compulsion any kind of program, outside of war work, could have been developed.

It is, therefore, interesting to find the Secretary of the Foundation, Mr. Jerome D. Greene, presenting to the Trustees early in 1916 a memorandum on research which foreshadowed the work of Dr. Rose nearly a decade later.

He reported in part:

> "The useful services of the Foundation in the future, as the useful services of the related boards have been in the past, are likely to be divisible into two main divisions, the discovery of new knowledge bearing on human welfare, and the dissemination of this knowledge by various educational methods. The best examples of these two kinds of work are afforded by the Rockefeller Institute for Medical Research and the hookworm work in the southern states. In the development of the Rockefeller Institute, the Trustees and Scientific Directors have wisely determined that the work of the Institute should not be confined merely to investigations having the most obvious, direct bearing on the treatment and prevention of disease, but should also include research into chemical, physical, and biological problems that might be assigned to the realm of pure science rather than applied science, were it not for the repeatedly demonstrated importance of maintaining this distinction. It may fairly be maintained, therefore, that scientific truth is not only worthy of search for its own sake, but is almost certain to have sooner or later practical applications to the use and enjoyment of man, ... The great argument for aiding research is that knowledge breeds knowledge, it might almost be said in geometrical proportion, and the reward of prompt aid where it is really needed is to be found in the enormous and far-reaching fecundity of the ensuing benefit."

But 1916 was too early for work of this type. It had to wait for quieter and less absorbing years.

End of the First Period (1913-1917)

During this period two outstanding projects were launched: the International Health Commission and the China Medical Board. Moreover, certain techniques were explored, notably the direct approach to difficult human problems through the use of the Foundation's machinery and personnel. The experience with the industrial relations study was an unhappy one, and out of it a very definite conviction developed among the Trustees that except as regards a narrow range of non-controversial subjects, notably public health and medicine, the Foundation's participation in the projects it wished to assist must be limited to financial aid. In other words, the Foundation must become primarily not an operating agency but a fund-dispensing agency. This new policy obviously did not imply that the Foundation would avoid all controversial questions. It meant that its approach to such questions, when made, would take the form of grants to agencies outside the Foundation itself and over which the Foundation exercised no control. A decade later this principle was definitely stated by the Trustees of the Laura Spelman Rockefeller Memorial and the statement was adopted by the Foundation at the time of the merger in 1928. We shall have occasion to refer to it again in this report.

The Second Period (1917-1928)

Dr. Vincent's appointment as President of the Foundation in 1917 marked the beginning of a more concentrated program. The four years of experience and experimentation had convinced the Trustees of the wisdom of a limited and clearly defined field of operation.

In his first annual report, submitted at the end of 1917, Dr. Vincent wrote as follows:

> "It is obvious that the resources of the Foundation, measured by the needs of governments and large social undertakings, are relatively limited. Widely disbursed in aid of a large number of existing agencies, the income would have little appreciable effect; it might even chiefly replace rather than supplement gifts from other sources. Only by concentrating its funds upon a few convincing demonstrations and statesmanlike programs can the Foundation justify its existence, and constructively 'promote the well-being of mankind throughout the world.' .....
>
> "Government activities are, for the most part, necessarily and properly deliberate; they are limited by legal and administrative restrictions. A Foundation has, within the provisions of its charter, relatively a free hand. Only such an institution could, for instance, select the world's leading authority on a certain disease, provide a staff and all necessary funds, and send him to foreign countries in order to eradicate from the world one of the deadliest of infectious maladies. It would be a mistake, therefore, for The Rockefeller Foundation to hamper itself by adopting inflexible rules, or to tie its own hands with red tape.
>
> "Yet there are things which it cannot successfully or wisely do; such as, for example, give money or make loans to individuals, or invest in securities which have a philanthropic rather than a business basis, or assist in securing patents, or aid altruistic movements which involve private profit. It must also refrain from supporting propaganda which seek to influence public opinion about the social order and political proposals, however disinterested and important these may be. Thus, appeals to finance in whole or in part a speakers' bureau in behalf of the war, the teaching of patriotism in the public schools, and an advertising campaign for national prohibition have been denied on principle. .....
>
> "The aim always kept in mind is not to assume governmental or social functions, but to show that certain things can be done successfully, and then as soon as may be to turn these over to the community."

← No PRIs

Development of the new program

The new concentrated program centered around the idea of public health and medical education. The International Health Division, the China Medical Board, and the newly created (1919) Division of Medical Education under Dr. Pearce, absorbed the preponderant support of the Foundation. This last named Division, from the time of its establishment to 1929, when the name was changed to Division of Medical Sciences spent roughly $25,000,000.

The General Education Board for this same purpose of medical education has spent $80,000,000. The combined gifts of the two boards for this object exceed $105,000,000.

The interest of the Foundation in this general health and medical field led the Trustees into allied fields such as nursing education, dispensary and hospital administration, medical research, etc. In 1923 an appropriation of $1,250,000 was made to the New York Academy of Medicine. An appropriation of $500,000 was made to the Woods Hole Laboratory. That the Trustees did not consider themselves rigidly bound by this new program is shown in such appropriations as were made to the Shakespeare Memorial Trustees ($6,750), the purchase of the site for the University of London ($1,995,000), etc. But these, generally speaking, were exceptions to the rule, and the rule for the most part was medical education and public health. However, the Trustees were obviously aware that a concentrated program devoted exclusively to these two objectives was not without its dangers. The minutes of the meeting of the Trustees in February, 1925, record the following comment by President Vincent:

> "The Trustees naturally desire from time to time to review what has been accomplished and to make general forecasts for the future.
>
> "The present work of the Foundation lies almost exclusively within the fields of public health and medical education. These are large areas and are at present by no means intensively cultivated. There are a great many opportunities for expanding existing programs within these general divisions of scientific knowledge and activity. It would be easy to drift into the tradition of declining to aid all projects outside the fields of public health and medical education or the Trustees might by vote or agreement limit the activities of the Foundation to these fields.
>
> "If, however, flexibility is one of the principles upon which the Foundation was created, it is a question whether flexibility would not be sacrificed by a determination to confine the Foundation's work to health and medical education. If such a decision were reached it might easily result in a completely professionalized staff. In such circumstances, it would be hard to avoid a permanent crystallization about a restricted program."

As a result of the discussion that developed, the following resolution was carried:

> "RESOLVED, that the officers be requested to keep in mind the importance of constant vigilance in the appraisal of work already in progress, in withdrawal from projects as soon as these are in a position to develop independently, in the termination of administrative units, whether Boards or Divisions, when conditions justify, and in the consideration of new opportunities whether these are closely related to present activities or extend into other fields."

Interest in other fields

This point of view had already been adopted, at least in part. The year 1919 saw the beginning, a modest beginning, of the support of physics and chemistry, through fellowships administered by the National Research Council. This interest has been maintained up to the present date. Moreover, in 1923, a Division of Studies was created and a start was made, through fellowship grants, in the biological sciences. This interest in biology was expanded through the next four or five years to include grants to biological laboratories, visiting professorships, research aid to universities, as well as grants for studies in anthropology, etc. When in 1929 the Division of Studies was discontinued and its activities taken over by the Division of Medical Sciences, commitments had been made totaling approximately $1,500,000.

Influence of other boards

The program of the Foundation has been profoundly influenced by developments in other Rockefeller Boards. In 1923 Dr. Rose resigned as head of the International Health Board and became President of the General Education Board and of the newly created International Education Board, the latter organization being formed, through gifts from Mr. John D. Rockefeller,Jr., to widen the scope of the work of the General Education Board which by its

charter is limited to activity within the United States. Dr. Rose brought to his new posts a profound conviction that human progress in the long run is dependent upon the advancement of knowledge, and that the advancement of knowledge can best be furthered by developing the natural sciences. "This is an age of science," he wrote. "All important fields of activity, from the breeding of bees to the administration of an empire, call for an understanding of the spirit and technique of modern science. ..... Science is the method of knowledge. It is the key to such dominion as man may ever exercise over his physical environment. Appreciation of its spirit and technique, moreover, determines the mental attitude of a people, affects the entire system of education, and carries with it the shaping of a civilization." Consequently Dr. Rose threw the weight of the support of the General Education Board and the International Education Board behind research in mathematics, physics and chemistry and the biological sciences. Mathematics and physics at Göttingen, physics and chemistry at the California Institute of Technology, the extension of the natural sciences in Spain - this was the kind of project that under Dr. Rose's regime was systematically and elaborately developed. The philosophy behind this program was succinctly stated in the annual report of the General Education Board (1925-1926): "The increase of knowledge upon which human welfare depends comes largely from the laboratories dealing in the most fundamental fashion with the physical and biological sciences. In cultivating these, universities make, therefore, a notable contribution not only to knowledge, as such, but to the art of living."

During this period from 1923 to 1929 the General Education Board appropriated roughly $12,000,000 for natural science projects and the International Education Board $16,000,000.

The Social Sciences in the Laura Spelman Rockefeller Memorial

At the same time, the Laura Spelman Rockefeller Memorial, under Dr. Beardsley Ruml, was developing on an extensive scale research in the social sciences, with the same objective in view: the advancement of knowledge. Social control through increasing knowledge of the processes and techniques by which men are governed was the guiding star of the Memorial's program. Within a six-year period from 1923 the Memorial appropriated $20,000,000 to this objective. The development of university centers of research, both in America and abroad, and assistance to research councils and conferences through fellowships and otherwise, constituted the two main divisions of its work. The London School of Economics, the University of Chicago, the Social Science Research Council, the Brookings Institution illustrate the type of institution aided.

The field of the social sciences presented to the Trustees of the Laura Spelman Rockefeller Memorial perplexing difficulties. It was a new field and it involved serious possibility of public misunderstanding. In May, 1924, the Executive Committee of the Memorial was requested by the Trustees to examine carefully certain questions of policy which had been raised and to discuss them with Dr. Vincent, President of the Foundation, Dr. Buttrick and Dr. Rose of the General Education Board, and Dr. Abraham Flexner also of the General Education Board. A memorandum which met the views of all concerned was prepared and submitted to the Trustees of the Memorial who adopted it as a statement of their official policy in the field of the social sciences. This memorandum in part reads as follows:

"The present memorandum proposes to indicate principles which affect the ability of the Memorial to become associated with projects in the field

of social science. Certain principles would seem to make association undesirable. It appears advisable

1. Not to contribute to organizations whose purposes and activities are centered largely in the procurement of legislation. Examples: National Child Labor Committee, National Consumers League, National Women's Party.

2. Not to attempt directly under the Memorial to secure any social, economic or political reform. Examples: more playgrounds, less unemployment, extension of the merit system in civil service.

3. Not to contribute more than a conservative proportion toward the current expense of organizations engaged in direct activity for social welfare. Examples: International Migration Service, Playground and Recreation Association.

4. Not to carry on investigations and research directly under the Memorial, except for the guidance of the Memorial. Examples: Handbook on Camping, Opportunities in Vocational Education of Women, Relations between Immigration and the Business Cycle.

5. Not to attempt to influence the findings or conclusions of research and investigations through the designation of either personnel, specific problems to be attacked, or methods of inquiry to be adopted; or through indirect influence in giving inadequate assurances of continuity of support.

6. Not to concentrate too narrowly on particular research institutions, incurring thereby the danger of institutional bias.

"Certain principles would seem to make assistance from the Memorial desirable. It appears appropriate

7. To offer fellowships to students of competence and maturity for study and research under the supervision of responsible educational and scientific institutions.

8. To contribute to agencies which may advance in indirect ways scientific activity in the social field. Examples: Social Science Research Council, National Research Council.

9. To make possible the publication of scientific investigations sponsored by responsible institutions or organizations through general appropriations to be administered in detail by the sponsoring agency.

10. To contribute toward the expenses of conferences of scientific men for scientific purposes.

11. To make possible, under the auspices of scientific institutions, governmental agencies or voluntary organizations, demonstrations which may serve to test, to illustrate or to lead to more general adoption of measures of a social, economic or governmental character which have been devised, studied and recommended by responsible agencies.

12. To support scientific research on social, economic and governmental questions when responsible educational or scientific institutions initiate the request, sponsor the research and assume responsibility for the selection and competence of the staff and the scientific spirit of the investigations. Examples: University of Chicago, Carnegie Institution of Washington."

In 1928, another statement of policy by the Trustees of the Memorial contained, in addition to the foregoing points, another point of significance:

> "Subjects of a controversial nature cannot be avoided if the program is to concern itself with the more important aspects of modern social life. In fact, successful treatment of issues of a controversial sort would be so important a contribution to the fundamental objectives of the program that the existence of militant differences of opinion can not be thought to preclude the promotion of inquiry under appropriate auspices."

This second statement of policy was officially adopted by the Foundation at the time of the merger with the Laura Spelman Rockefeller Memorial.

The resulting program in the Foundation

This brings us to the merger of 1928. It was a merger not merely of organizations but of personnel and programs. The reason for the merger was stated in the report of the inter-board committee on reorganization, dated May 22, 1928.

"In the course of years, the four foundations, (i.e., the Foundation, the General Education Board, the Laura Spelman Rockefeller Memorial and the International Education Board) established at different times and for different purposes, have developed various programs of activity often intimately related. At least they are separate parts or sections of a larger and more general program. These parts, however, have been headed up under different sets of officers and different boards of trustees, and while the four boards have worked together in an admirable spirit of cooperation, the more or less fortuitous distribution of programs has unfortunately caused some degree of confusion, not only as between the boards themselves but also in the public mind.

"For example, medical education is divided geographically between the General Education Board and the Rockefeller Foundation. The natural sciences are found in the General Education Board, the International Education Board and, in some aspects, in the Rockefeller Foundation. The Humanities and Arts have been dealt with by both the General Education Board and the Laura Spelman Rockefeller Memorial. The social sciences, while confined to the Laura Spelman Rockefeller Memorial, have certain bearings upon the college and university policies of the General Education Board. Public health in its government relations is a function of the Foundation, while the Memorial, in cooperating with private health agencies, has had some relation to this field.
.....

"It is axiomatic that if we were today considering the creation of machinery necessary to carry on certain general programs in medicine, health, education and the other activities of the four Rockefeller boards, we would not set up the rather confusing organization which we now have. As the Founder of the Rockefeller boards said in his letter to Mr. John D. Rockefeller,Jr., dated May 4, 1926, 'If the whole thing were to be done today, you have rightly understood me as feeling that it should be done and doubtless could be done through a single organization.' .....

"As the central core of its plan of reorganization, your committee recommends that all the programs of the four Rockefeller boards relating to the advance of human knowledge should be included within a single organization. The main proposal is that without in any way modifying the fundamental objective of the Rockefeller Foundation as expressed in its charter, i.e., 'the well-being of mankind throughout the world', all the work relating to the extension of knowledge that is now scattered in the various boards should be concentrated in the Foundation. This change will make possible a coherence of program and a unity of approach which cannot be achieved under present circumstances."

In consequence of this amalgamation, the Laura Spelman Rockefeller Memorial with its social science program was merged with the Foundation; and the Foundation also absorbed the natural science program from the General

Education Board and the International Education Board, and the humanities program from the General Education Board.*

At the same time, a drastic change was made in the program of the Division of Medical Education. A study of the work of this division by a committee under the chairmanship of Dr. Edsall (November 1928) resulted in a shift of emphasis from the general support and development of medical teaching institutions to special departments or groups in this field, which showed promise of adding significantly to human knowledge. Primarily therefore this new policy, like the policy in the other divisions of the Foundation, was centered around research.

The year 1929 marked the beginning of a new era. A new objective had been defined: "the advance of knowledge," and research became the chief tool by which our newly acquired program was promoted.

The Third Period (1929 to date)

In October, 1930, at a special meeting of the Trustees held at Princeton, an attempt was made to define the phrase: "advance of knowledge." President Mason who initiated the discussion expressed the question as follows:

> "The advancement of knowledge is the sailing direction given the officers by the Board. We would like to feel that not too great rigidity is implied. In fundamental facts there must be research in the narrow sense; but advancement of knowledge demands also interest in educational processes. There are certainly three elements: research, educational processes, and in many cases the demonstration or application of existing fundamental knowledge. A threefold attack is increasingly necessitated if we concentrate on fields. Further, knowledge is gained by applying; and sanity and value brought to research."

*The International Health Division was allowed to conduct its work as before. The Spelman Fund, with $10,000,000 capital fund contributed by the Laura Spelman Rockefeller Memorial before the merger, was created to carry on certain older programs of the Laura Spelman Rockefeller Memorial which did not fall strictly within the classification of social science, but which it was felt desirable should be promoted.

Dr. Day, speaking for the field of the Social Sciences, expressed the idea as follows:

> "It is quite necessary, as I see it, to abandon any narrow interpretation of the general objective of advancing knowledge. It is important to set an objective and then utilize in the attainment of that objective every device which promises any important contribution. That may mean in some instances a broad program of education. It may mean the support of a school of business or a school of law, some professional institution which gives promise of turning out a type of professional practitioner who will have important contributions to make in the program after he is actually on his job. It may mean in another instance the dissemination of information already available to the experts, but information which needs to be given much more general circulation in order to create a favorable condition for the attainment of the objective. It may mean in another instance some experimentation under conditions which assure practical results, a demonstration of some method which is provisionally indicated by findings already in hand. It may mean any number of different devices, as I see it, many of which could not possibly be blanketed under the designation of acquisition of new knowledge but all of which have very important contributions to make perhaps in getting to the objective."

After discussion, the Trustees unanimously concurred in the idea that research was not to be taken in the narrow sense of the word. If the demonstration or application of knowledge is neglected, research becomes a barren process. On that point there was no difference of opinion.

The desire for a more concentrated program

Not only did the officers ask for a redefinition of the word "research" but they recommended a concentration within each field on certain specific objectives. To push out the boundaries of human knowledge, wherever there is opportunity, is too vast an undertaking. As President Mason said at the Princeton meeting above referred to: (October 1930) "The problem is one of resisting indefinite expansion." He further said:

> "With practically all phases of the advance of knowledge recognized as fields of interest for the Foundation and with the opportunity for assistance throughout the world there exists inevitably a tendency to a large spreading of effort, which the officers have

> recognized clearly. To counteract this it seems desirable to concentrate somewhat within these fields, choosing special phases of high importance within the fields and also attacking problems which will demand the co-operative effort of several directors, and thus utilize to the full the advantages of group study and common understanding."

At this Princeton meeting, therefore, the following were among the new fields of concentration that were discussed and approved: mental health and personality, filterable viruses and the possibility of experiments in community development through the extension of International Health Board activities into broader cooperation.

In approving a policy of concentration in the natural sciences the Trustees in a sense reversed the program of Dr. Rose. Dr. Rose believed in the extension of the pure sciences, i.e., mathematics, physics, chemistry and biology. He felt that human progress in the long run was rooted in these sciences. But in 1930 the Trustees, by adopting the new policy of concentration, discontinued the elaborate support which the General Education Board and the International Education Board had given to the laboratory sciences.

At the meeting of the Trustees in April, 1933, further impetus was given to the idea of a concentrated program. The report of the officers was phrased as follows:

> "In attempting to formulate programs which will recognize both immediate and long-range values, the officers of the Foundation have been unanimous in recommending that the range of interests be much more restricted than formerly. There are strong reasons for this suggested concentration. In the first place, the resources of the Foundation are significantly large if they are applied over a narrow front, but they become ineffectual and unimportant if they are widely scattered. In the second place, efficiency of administrative procedure is greatly increased if activities are confined to relatively narrow fields within which the staff can reasonably be expected to reach a high competency. In the third place, a unique characteristic of the Foundation is the mobility and freedom of its action. Institutional and state sources of funds are, for the most part, restricted to relatively sluggish readjustments, while the Foundation is entirely free to change its strategy at any moment. The Foundation, moreover,

> is in a position to choose just those difficult and critically important fields which other agencies must or do neglect. Such freedom of action carries with it high responsibilities for constructive leadership. This leadership should evidence itself in deep and powerful thrusts, strategically directed and sufficiently conclusive to open the way for and induce a powerful following."

The specific objectives announced for the various divisions (apart from items of general support such as fellowships, grants-in-aid, etc.) were as follows:

Medical Sciences: psychiatry

Natural Sciences: vital processes and earth science

Social Sciences: (apart from its general program of support to research centers)

(a) Economic planning and control
(b) International relations
(c) Community organization and planning

Humanities: Support of the American Council of Learned Societies and international cultural relations

It can be said that the meeting of April, 1933, gave us the sailing directions which we are now employing. The projects as outlined at that meeting seemed to represent a coherence of effort, a unity of program which had perhaps been lacking in earlier plans. President Mason in the docket expressed himself as follows:

> "The salients of concentration, as they are proposed here, are directed to the general problem of human behavior, with the aim of control through understanding. The Social Sciences, for example, will concern themselves with the rationalization of social control; the Medical and Natural Sciences propose a closely co-ordinated study of the sciences which underlie personal understanding and personal control. Many procedures will be explicitly co-operative between divisions. The Social Sciences and the International Health Division, for example, may have common interest in the expansion of health control units into the broader service of community centers. The Medical and Natural Sciences will, through psychiatry and psychobiology, have a strong common interest in the problems of mental disease. The details will be presented by the separate officers, but it should be recognized that the program is pointed toward a structural unity."

SECTION II

FINANCIAL IMPLICATIONS OF PROGRAM

Recapitulation of Expenditures

Such is the story of the development of Foundation program in the twenty-one years of its existence. It is interesting to note that during this period it has expended $225,291,675, a sum almost as large as the capital funds originally received from Mr. John D. Rockefeller, Sr. If we add, as we properly should, the expenditures of the International Education Board and the Laura Spelman Rockefeller Memorial, whose programs we have absorbed, the total expenditure becomes $298,468,987.

Where and for what has the money been spent?

The table on Page 27 answers the question.* The bulk of the fund → 61% has been spent in the United States, and public health and the medical sciences have absorbed over 40% of it.

In this connection it would seem proper to take into consideration the expenditures of the General Education Board which by its Charter is limited to work in the United States. If the expenditures of the General Education Board from its organization in 1901 to December 31, 1933 (i.e.,

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*The total expenditure for Western Europe (i.e., $41,837,299) can be broken down as follows:

Great Britain (excluding Irish Free State)	$18,795,113
Irish Free State	189,234
Belgium	5,761,842
Denmark	1,490,574
France	6,191,991
Germany	3,471,158
Italy	2,682,188
Iceland	5,435
Netherlands	718,146
Norway	573,617
Portugal	13,267
Spain	697,499
Sweden	610,375
Switzerland	636,851

EXPENDITURES DURING THE PERIOD MAY 22, 1913 TO DECEMBER 31, 1933 BY GEOGRAPHICAL AREAS

SUMMARY

	ROCKEFELLER FOUNDATION								INTERNATIONAL EDUCATION BOARD					Laura Spelman Rockefeller Memorial	
	Public Health	Medical Sciences	Natural Sciences	Social Sciences	Humanities	Miscellaneous	Administration	Total	Science	Agriculture	Miscellaneous	Administration	Total		Totals
North America	$28,889,388	$19,960,814	$ 9,434,259	$15,642,062	$1,588,836	$40,966,364	$ 8,980,772	$125,462,495	$4,030,671	$ 117,095	$4,468,719	$421,876	$ 9,038,361	$48,124,945	$182,625,801
Central America	910,397	936	-	-	-	-	-	911,333	-	-	-	-	-	-	911,333
South America	5,501,747	988,076	8,153	-	-	2,500	-	6,500,476	2,311	-	-	-	2,311	-	6,502,787
West Indies	1,043,562	68,585	-	-	-	-	-	1,112,147	-	-	-	-	-	-	1,112,147
Europe															
Western Europe	7,283,161	15,529,270	2,981,962	2,148,950	300,501	3,725,370	693,638	32,662,852	2,865,392	3,280,672	1,001,400	279,480	7,426,944	1,747,504	41,837,300
Central and Eastern Europe	3,273,239	1,276,619	767,633	375,679	41,800	398,345	-	6,133,315	297,238	420,760	500,000	-	1,217,998	2,814,349	10,165,662
Unclassified	57,938	1,260,652	81,501	69,100	28,378	1,774,544	-	3,272,113	-	-	-	-	-	-	3,272,113
League of Nations	1,487,533	-	-	100,425	-	-	-	1,587,958	-	-	-	-	-	-	1,587,958
Africa	942,643	10,871	6,436	8,154	-	-	-	968,104	2,312	2,450	3,000	-	7,762	-	975,866
Asia															
Near East	355,792	1,296,063	-	58,117	219,545	1,415,504	-	3,345,021	-	-	-	-	-	757,614	4,102,635
Far East	1,069,313	38,218,717	1,755,718	766,977	-	80,458	363,241	42,254,424	18,496	22,053	70,241	-	110,790	1,895,397	44,260,611
Australasia	324,491	450,844	119,033	187,069	-	-	-	1,081,437	16,184	17,153	-	-	33,337	-	1,114,774
	$51,139,204	$79,061,447	$15,154,695	$19,356,533	$2,179,060	$48,363,085	$10,037,651	$225,291,675	$7,232,604	$3,860,183	$6,043,360	$701,356	$17,837,503	$55,339,809	$298,468,987

Expenditures for fellowships have been entered on basis of average cost per fellow.
International Health Division expenditures include those reported in 1934 against grants for the year 1933.

$210,847,412) are added to those of the Rockefeller Foundation (including the International Education Board and the Laura Spelman Rockefeller Memorial), the grand total is $509,316,399 of which $385,042,663 was spent in the United States and $124,273,736 in other countries - or 75.6% as against 24.4%. Taking the total expenditure of the Rockefeller Foundation by itself without including the expenditures of the other boards, the amounts spent in the United States represent 52.0% of the total - while the amounts spent abroad represent 48.0%. Over the last three years (1931, 1932 and 1933) the proportions have been 64.0% in the United States and 36.0% outside the United States. These figures furnish a basis for answering the question whether we are spending too large a proportion of our income and principal outside the United States.

Analysis of Fields

An analysis of the table on Page 27, which gives, as we have seen, the total expenditures of the Rockefeller Foundation, the International Education Board and the Laura Spelman Rockefeller Memorial, shows that of the total expenditure of $298,468,987, $130,200,651 or 43.6% has been spent in the general field of medical education and public health; $26,386,695 or 8.8% in the general field of the social sciences; $22,387,299 or 7.5% in the natural sciences; and $2,179,060 or .7% in the humanities.

These figures show a preponderating interest on our part over twenty-one years in medical education and public health. If we add the $80,000,000 spent by the General Education Board for medical education, the evidence of interest in this field becomes even greater. And finally if we view the picture from the standpoint of all the Rockefeller boards, and include the Rockefeller Institute for Medical Research with its $67,000,000 principal funds,

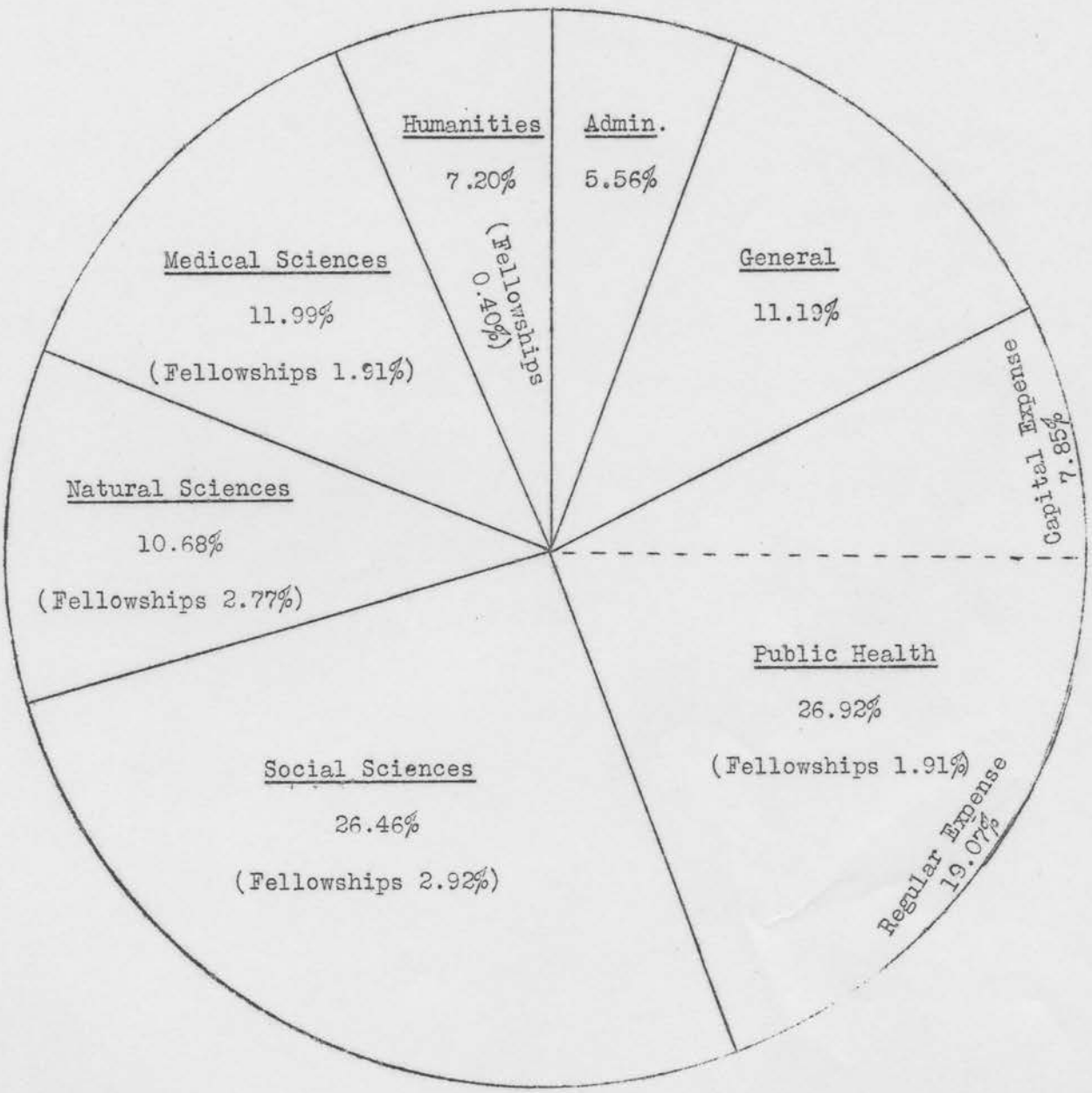
we are confronted with an interest in this single field of health and medicine which far out-distances any other interest.

We do not pretend to say that this preponderant interest in medicine and public health has been distorted or unbalanced. It is a fair question, however, whether in view of the present outlook around the world this proportion of expenditure would continue to represent the wisest use of funds. Is physical health the outstanding need of the world today? Do we best serve the welfare of mankind by devoting a substantial percentage of our contributions to disease? As a matter of fact the Foundation and the General Education Board have already attempted to meet these questions. Grants for medical school projects have been generally eliminated, and the work of our medical science division has been largely shifted to psychiatry. In 1933 the Foundation's program in public health absorbed 19% of our expenditures exclusive of roughly 8% more for non-recurring capital expenditures. The medical sciences took 12% of our total expenditure, part of which went for the psychiatric program. It will thus be seen that these figures are considerably below the average expenditures by these divisions over the past years, and that the trend of Foundation program is toward other fields.

Expenditures today

This brings us to the consideration of our expenditures at the present time, and the chart and table on Pages 30 and 31 are illustrative. Roughly speaking, out of every dollar spent by the Foundation in 1933, 19 cents went to the International Health Board, 26½ cents to the social sciences, 12 cents to the medical sciences, 10½ cents to the natural sciences, 7 cents to the humanities, 5½ cents to administration, 11 cents for general purposes that are not easily classified within any of the above divisions,

ROCKEFELLER FOUNDATION - EXPENDITURES - 1933



NOTES

General is made up as follows: Family Welfare, $150,000; Unemployment Relief, $650,000; New York Hospital, $126,128.81; Child Welfare, $330,914.02; Playground and Recreation Association, $50,000; Miscellaneous items under $50,000, $343,473.19. Many of these items represent inherited obligations from the Laura Spelman Rockefeller Memorial through long term pledges.

Capital Expenditures, International Health Division, in 1933 were unusually large. The average percentage for four years is 3.81.

ROCKEFELLER FOUNDATION

APPROPRIATIONS AND EXPENDITURES - 1933

	Appropriations		Expenditures	
Medical Sciences	$ 1,198,853.50	12.12%	$ 1,769,518.51	11.99%
Natural Sciences	782,250.00	7.91%	1,575,461.28	10.68%
Social Sciences	2,225,000.00	22.50%	3,904,501.96	26.46%
Humanities	847,500.00	8.57%	1,062,021.72	7.20%
Public Health				
Regular Work	2,350,000.00	23.76%	2,813,505.55	19.07%
Capital Projects	1,275,000.00	12.89%	1,157,806.68	7.85%
General	325,000.00	3.28%	1,650,516.02	11.19%
Administration	887,202.81	8.97%	820,490.33	5.56%
	$ 9,890,806.31	100.00%	$14,753,822.05	100.00%

and 8 cents as a capital expenditure for purposes within the program of the International Health Board.

The appropriations, as distinguished from the expenditures (given in table on Page 31), show certain slight variations in terms of percentages. These variations, however, cannot be said to indicate any definite trends of policy.

It is not easy to say that the relative relationship of these various fields, as shown in the diagram, is out of balance. As we shall point out later, the fellowship program is larger than we had supposed. The natural sciences in relation to the social sciences absorb less than we anticipated. We shall have occasion in later sections of the report to discuss more at length the work in the various fields.

The trend in Foundation income

The table on Page 33 gives some idea of the trend of income. It will be noted that the peak of "income producing assets" was reached in 1929 when $214,485,390.46 earned $14,139,743.40, a yield of 6.59%. Between the close of 1929 and the close of 1933 these income producing assets had dropped 9% (assuming 1929 equals 100%) to a total of $195,951,042.68, while the corresponding income dropped 42% (assuming 1929 equals 100%) to a total of $8,248,673.97. Thus it is evident that the rate of income yield decreased to a greater extent than the amount of funds producing income. This is further shown by comparing the yield rates for 1929 and 1933 which are 6.59% and 4.21%, respectively.

It is estimated that the income for 1934 will be in the neighborhood of $8,100,000. Estimates for 1935 are, of course, impossible to forecast, but the Treasurer's office feels that there is reasonable hope of an income as large as 1934. Probably we shall never get back to the days of 1929; but it is

THE ROCKEFELLER FOUNDATION

	Income Producing Assets			Income
	Securities Ledger Value	Cash	Total	
Dec.31, 1924	$162,423,343.01	$ 7,730,272.77	$170,153,615.78	$ 8,191,008.84 - yield 4.81
" " 1925	152,707,365.61	17,011,990.98	169,719,356.59	8,237,303.59 - " 4.85
" " 1926	155,078,379.15	14,131,861.31	169,210,240.46	9,075,022.38 - " 5.36
" " 1927	143,105,057.83	23,427,262.66	166,532,320.49	9,221,986.21 - " 5.54
" " 1928	127,602,161.41	27,162,271.83	154,764,433.24	9,175,550.13 - " 5.93
" " 1929	176,807,903.41	37,677,487.05	214,485,390.46	14,139,743.40 - " 6.59
" " 1930	193,282,221.00	18,225,388.98	211,507,609.98	12,433,778.95 - " 5.88
" " 1931	191,805,665.55	13,770,367.99	205,576,033.54	11,072,771.86 - " 5.39
" " 1932	183,272,182.76	18,882,306.36	202,154,489.12	10,323,978.64 - " 5.11
" " 1933	187,215,840.07	8,735,202.61	195,951,042.68	8,248,673.97 - " 4.21

conceivable that barring accident or catastrophe, an income more or less stabilized in the neighborhood of $8,000,000 is not beyond reason. Obviously until there is a better prospect of stabilizing income, general programs should be planned and appropriations made within conservative estimates of income.

SECTION III

GENERAL PROBLEMS IN RELATION TO PROGRAM

In this section we shall discuss, under appropriate headings, certain general ideas in relation to the policy of the Foundation which bear upon our immediate program.

Limitations and definitions of policy

As will be seen from the historical sketch of Foundation development, appearing as a preface to this report, various principles have been enunciated from time to time in an attempt to define or limit our policy. In the following paragraphs we discuss four or five of those principles that seem to us to be still valid in their application to our present problems.

(1) The funds of the Foundation cannot wisely be applied to general charity or relief. This principle was established in the earliest days of the Foundation and has been reiterated by the Trustees on a number of occasions. If used to ameliorate human distress caused, for example, by famine or flood or earthquake or some other calamity, our funds would soon be exhausted with no permanent result. In 1913, Mr. Greene, the Secretary of the Foundation, expressed the principle as follows:

> "As between objects which are of an immediately remedial or alleviatory nature, such as asylums for the orphan, blind or crippled, and those which go to the root of individual or social ill-being and misery, the latter objects are preferred - not because the former are unworthy, but because the latter are more far-reaching in their effects. Moreover, there are many charitably disposed persons to whom remedial and alleviatory agencies make the more effective appeal."

This principle was reiterated by Dr. Vincent in 1918, and remains to this day a rule of policy which, in our opinion, is wisely conceived.

(2) The single exception to this rule which has occasionally been admitted is the contribution to the combined relief agencies of New York City. This has been done on the theory that the Foundation has a special obligation in New York State from which it holds its charter and by which it is granted exemption from taxation. Moreover the Foundation is a resident of New York City. In a discussion of this matter by the Trustees in 1918, the following agreement was reached:

> "(a) That a special obligation to New York City and State did exist.
>
> "(b) That in meeting this obligation there was no reason for departure from the general policy of the Foundation (that a program of general charity or relief, for instance, would not be wise or effective).
>
> "(c) That the officers should make a study with a view to presenting for the consideration of the Board a constructive program in public health or some other field for New York City and State."

In the last two or three years, however, since the depression began, the Board has adopted the policy of a contribution directly to the combined charities of New York City. In view of the sweeping character of the depression, this is doubtless a wise step; but your committee believes that a more desirable method of discharging our special obligation to the State and City is contained in the suggestion of the Board of Trustees in 1918.*

(3) The most significant contribution which any foundation can make, particularly a foundation with funds as large as ours, lies in long-range objectives which attack the causes of human ills and maladjustment

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*The $22,300,000 spent for war work was largely in the field of relief. This was regarded as a special emergency.

rather than their effects. There are two general lines of policy either of which a foundation can follow: one is to engage in projects which with better perspective are seen to be of temporary significance; the other is to select problems which lie at the root of human difficulties, and which require for their solution patience, tenacity, research, careful planning, generalship and adequate and continuing funds. Because projects of this latter type are always difficult to discover, the temptation which every foundation constantly encounters is to take the easy road, to do the obvious thing - even if it is something which because of its popular appeal other agencies might support, or which ultimately would be taken care of anyway by the slow but inevitable application of existing knowledge. The difference between these two courses is the difference between the superficial and the fundamental, between a policy of scattered activities and a policy of concentration.

Your committee admits the difficulty of applying this principle to concrete projects, but as we look at the history of the Foundation we realize that its outstanding successes have occurred when the long-range principle has been rigidly followed.

(4) Except in a narrow range of non-controversial subjects, notably public health and medicine, the Foundation's participation in the projects it wishes to assist must be limited to financial aid. In other words, the Foundation must be primarily not an operating agency, but a fund-dispensing agency. The experience of the past has taught us the wisdom of this policy. The work of the International Health Board is, of course, an outstanding exception to this rule. Your committee does not say that there are no other

exceptions; we merely advise that exceptions be examined with care and approached with caution.

(5) There are some things which no foundation can wisely do, either directly or indirectly, either as an operating agency or as a fund-dispensing agency. Dr. Vincent's words in 1917 are as true today as they were then. "The Foundation must refrain from supporting propaganda which seeks to influence public opinion about the social order and political proposals, however disinterested and important these may be." We cannot take sides on questions of this kind. Indeed we must be scrupulous to avoid the appearance of taking sides. This does not mean, however, that the Foundation is debarred from participation in controversial subjects where funds can be employed to promote disinterested inquiry under appropriate auspices. The rule cited on page 20 adopted by the Foundation in 1928 when it took over the social sciences from the Laura Spelman Rockefeller Memorial, is, we believe, of permanent validity.

(6) The Foundation is not limited in its expenditures merely to its income. It may spend from principal as well. This rule of policy, first enunciated in 1917, has been consistently followed by both the Foundation and the General Education Board. To date the Foundation has appropriated $81,469,717.75 from its principal; the General Education Board has appropriated $127,028,353.32.

(7) The broadly stated objective of the Foundation is the welfare of mankind <u>throughout the world</u>. We underline the last three words so wisely written into the Charter of the Foundation because it seems to us that the outstanding contribution of this organization has been its relationship to human need on a world-wide scale. The Foundation has visualized its aim in terms of human welfare in a world without boundary lines. It has followed yellow fever wherever it was to be found, even when it led to South American jungles

and the west coast of Africa. In medicine, in the humanities, in the natural and social sciences this has been its constant technique. It has not considered the flags and frontiers which proclaim that we live in a world of separated states. We go where there is the largest opportunity of advancing human welfare. We are not deterred by the political or economic complexion of nations except as it may handicap what we desire to do. The Foundation can always afford to take the broad view, the long view - and if we fail to do this, we fail those who dreamed of this Foundation in liberal and comprehensive terms.

(8) The need of complete adaptability in Foundation matters - both program and organization being subject to constant adjustment to changing conditions - has from the beginning been stressed by the Trustees. On no other principle has so much emphasis been placed. If our work is to be kept out of ruts, if we are to avoid frustration and stagnation, our programs and our methods must be kept elastic, fresh, alive and open-minded. To achieve this result constant vigilance and continued self-appraisal are necessary both by the officers and by the Trustees.

Disadvantages of a Rigid Program

It will doubtless be acknowledged that without a fairly definite program, the activities of any foundation are apt to be scattered and haphazard. The enthusiasms of the moment are too easily adopted, and interests range over wide and unrelated fields. There is, in consequence, little concentration, and the total result is apt to be thin and superficial. The success of the International Health Board over many years is in no small measure due to its refusal to be drawn into interesting but unrelated

by-paths. It has kept to a definite line, concentrated largely on definite diseases, and has not been tempted by the attraction and glamor of side-shows.

But there is another side to the argument. A program that is too narrowly fixed and definite can become ineffective and even sterile. First class projects are not always easy to find, and the temptation is to accept less worthy projects because they meet a test of words. Sharply defined limitations of program, of course, simplify the administrative burden. Only those suggestions need be considered which clearly fall within the formula. Everything outside the formula is outlawed. When the project is on the border line, there is, of course, a demand for a judicial interpretation, but under such a regime as we are describing, borderline projects are apt to receive scant sympathy.

This is, of course, an extreme picture, and we do not imply that it represents the present policy of the Foundation. Nevertheless we are inclined to believe that the program which we are following at the moment: i.e., the advance of knowledge - or at least the method by which we have elected to develop that program - is too narrow and too exclusive. In spite of the endeavors of the officers at the Princeton meeting in 1930 to broaden the approach, it is still, in our opinion, too rigidly confined within the conception of pure research. It sounds somehow unreal to hear the officers, in their examination of a project which seems to them worthwhile, declare that one particular portion can be taken care of by the Foundation because it is research, while another part cannot be handled because it is not research. It is a bit discouraging, too, to realize that even our approach to the

humanities must be largely by way of research. There is reason to think that we are perhaps bearing down too hard on research. Certainly there are other methods, equally important, by which knowledge can be advanced.

Moreover we believe that the advance of knowledge is in itself too confining an objective for a foundation with resources as large as ours. Dr. Buttrick used to say that the program of the General Education Board was to have no program. This remark, perhaps, was not strictly accurate. The General Education Board under his administration always had a program. But it was never a rigid one, and Dr. Buttrick never hesitated to recommend a project that was entirely divorced from anything that the Board had ever considered, if it seemed to him the wise thing to do. Thus at a time when the General Education Board had a policy to the effect that it was not interested in secondary education, it established the Lincoln School. At a time when it was confining its attention largely to higher education, it entered the field of industrial art. Dr. Buttrick's attitude was frankly opportunistic. He had a definite program, but he was on the alert for any worthwhile situation where there was a real opportunity to do something for American education.

The Foundation's field is the welfare of mankind throughout the world. Assuming that the advance of knowledge interpreted in broad terms, represents perhaps as effective a contribution as we can make at the moment, we cannot be sure that there will not occasionally be opportunities in other fields where the need is great and the chance for distinctive service is unique. We believe that these occasional opportunities, when they present themselves, should be sympathetically examined whether they fall within present program

or not. It seems to us that Dr. Buttrick's opportunism is a wise policy for the Foundation. We do not urge any scattering of effort, and we are aware of the dangers of superficiality that arise from lack of concentration in a foundation's program. But a middle course seems to us to be distinctly possible - a course that will follow a definite program, but will not be blind to opportunities for service in other fields. The resolution adopted by the Foundation in 1925, to which attention has already been called, will bear repeating:

> "RESOLVED, that the officers be requested to keep in mind the importance of constant vigilance in the appraisal of work already in progress, in withdrawal from projects as soon as these are in a position to develop independently, in the termination of administrative units, whether Boards or Divisions, when conditions justify, and in the consideration of new opportunities whether these are closely related to present activities or extend into other fields."

Research as an Objective

Perhaps a further word is advisable on the subject of research. We are not advocating its elimination from the program of the Foundation. We are raising the question whether it is being supported too exclusively. It is open to debate whether the welfare of mankind can more wisely be served by more knowledge or by the better dissemination and the more thorough application of existing knowledge. Developments around the world in the last twenty years raise sharply the question whether the civilization which we are building can utilize the knowledge which it has. The growth of propaganda as an instrument of education, the rise of dictatorships, the arbitrary challenge to democracy as a method of social control - it is phenomena of this type that give pause to those who have believed that the primary need of our age is more knowledge.

Moreover the limitations of research in influencing public thinking on social problems are, in times like these, vividly demonstrated. Research leads to publication, and publication as a device has at best restricted possibilities. The mere accumulation of facts, untested by practical application, is in danger of becoming a substitute rather than a basis for collective action. Under the impetus of the scientific method, scholarship is inclined to become over-interested in the collection of facts for their own sake, and under-interested in the problem of the philosophy implied by the facts. The president of a prominent college remarked the other day that nine-tenths of the money that foundations spend does not come to grips with public needs. This fraction, of course, was a guess on his part; but it can confidently be said that large amounts of money are spent by foundations and universities alike on research projects that are unrealistic, unproductive, and often unrelated to human aspiration or need.

This condition is frequently the result, perhaps, of the very specialization which research makes necessary. The sense of proportion which comes from some appreciation of the unity of knowledge is lacking; and shut up in his water-tight compartment the research worker is often unable to span the gap between his output and reality. Specialization has its legitimate place, and we do not underestimate its importance; but an equally pressing need today, it seems to us, lies in the development of a broad and comprehensive type of intelligence that can see the field of human knowledge in clearer perspective. Perhaps as much as anything else scholarship requires what Professor Whitehead has called totality of vision - a capacity for synthesis and integration, an ability not only to enumerate and describe but to evaluate. The end of knowledge is, among other things, the better understanding of the world. That goal will not be reached by the mere multiplication of men able

to collect more facts, but by the increase of those who know, first, what facts need to be collected, and, second, what value those facts have when assembled.

That the Foundation - and other foundations as well - must share some of the responsibility for this emphasis on specialized research can scarcely be denied. We have given wide encouragement to the idea of research. We have stimulated it by such mechanisms as fellowships, grants-in-aid and fluid research funds. We have held research conferences and have created research centers and institutes. It is an entirely understandable phenomenon that a university or other institution that desires to expand will expand in the direction in which there are funds to support it. We do not have to be cynical to admit that if a foundation announces an interest in anthropology or astronomy or physico-chemical reactions, there will be plenty of institutions that will develop a zeal for the prosecution of these studies. The responsibility which this inescapable fact throws upon a foundation is enormous. The possession of funds carries with it power to establish trends and styles of intellectual endeavor. With the best will in the world the trustees of a foundation may select unwisely or place emphasis where it should not be placed or initiate movements which serve only to close men's eyes to more promising avenues. To guard against these evils requires critical judgment, common sense, wide understanding and eternal vigilance; and frankly, in this matter of promoting research your committee is inclined to believe that the Foundation has followed its enthusiasms too far.

In making this comment we would say again that we are by no means suggesting that research be omitted from the Foundation's activities. We assume that the Trustees will continue to be interested in explorations in the various

fields of knowledge, and research will continue to be an effective weapon. But in our opinion we should avoid research for the sake of research without regard to its relevance. Moreover, there should be no exclusive interest in research as an end and aim. Indeed we would strongly advocate a shift of emphasis in favor not only of the dissemination of knowledge, but of the practical application of knowledge in fields where human need is great and opportunity is real. As a means of advancing knowledge, application can be as effective an instrument as research.

In the final report of the Laura Spelman Rockefeller Memorial, reviewing its work in the ten years of its operation, a paragraph occurs on the subject we have been discussing which aptly expresses the point of view we have tried to develop:

> "Each program was dominated by a practical motive, to achieve concrete improvement in the conditions of life and to contribute realistically to the public welfare. That scientific research occupied an important place in each program was the consequence of the belief that the practical attack on social problems is the scientific attack broadly conceived, that more understanding was needed than could be obtained from an appeal to tradition, expediency, or intuition. The Memorial had no interest in the promotion of scientific research as an end in itself; its motive was not sheer curiosity as to how various human and social phenomena came to be and are; the interest in science was an interest in one means to an end, and the end was explicitly recognized to be the advancement of human welfare."

Practical limitations of program

A final point should be stressed under this heading of "General Problems." It relates to the obvious principle that the program of a foundation should be related to the possibilities of maximum accomplishment. Thus a plastic condition in a particular country or area offers opportunities for service which are not to be found where through tradition or because of some

political or social development the situation is rigid and frozen. For example, it would be futile for us at the present moment to attempt to carry on an extensive program in the social sciences in Germany or in any other country where the governmental system has clamped down so completely on the growth of free thought. We would be wasting money with little hope of adequate return. Again there are countries or areas that are either so backward in development that there is too little soil for seed, or relatively so advanced in development that the Foundation could make only a limited contribution. Thus scanty returns would be obtained from an attempt to build up the natural sciences in certain eastern European countries, while on the other hand it would be useless for us to extend to Europe a broad program in the humanities, partly because Europe is advanced in this respect and partly because we would have little to offer.

This point, in spite of its obviousness, deserves to be made because of what seems to us an occasional misunderstanding of our present objective: the advance of knowledge. As your committee sees it, the Foundation is not concerned with any idea of a uniform advance of knowledge, geographically speaking. Just because given countries are backward in respect to any of the branches of knowledge, it does not follow that we should try to introduce programs there. In spite of the fact that we are limited by no boundary lines we cannot cover the entire world even in the specific fields which represent our own avowed interests. All that we can do is to introduce our selected programs in a few of the areas where conditions are peculiarly favorable, hoping that by example the influence will spread.

Not only in terms of geographical areas but in terms of the world of knowledge we are limited by practical considerations. We are not and cannot be interested in fertilizing the whole field of scholarship. The field is much too vast; the resources of the Foundation would be scattered in an attempt to

cover it. We mention this point because the argument is sometimes advanced that we have a broad responsibility to maintain or at least to refresh the stream of knowledge as a whole, and this argument is used as a justification for broad programs of fellowships, grant-in-aid and research funds which lie far outside of any interest or field of concentration which the Foundation has adopted. If this idea represents the present sailing directions, then we believe those directions should be changed. Large as are our resources, they are totally inadequate for so broad a task, and in attempting to make small contributions here and there, we fritter away our assets and opportunities. As will be emphasized throughout this report, there is, in our opinion, but one method by which any single program of the Foundation can be effective, and that is by giving it a sharply defined objective. This is no new conception. It has been emphasized repeatedly by President Mason and the officers. The various programs which the Foundation adopts should be pushed with incisiveness and with an eye on the goal. This does not mean rigidity. It does not preclude the consideration of other programs or projects in utterly unrelated fields where unexpected opportunities for human service present themselves. It means that our specific activities will not be aimed at too broad a target. They will not be rendered ineffective because they are trying to accomplish too much.

SECTION IV

DIVISIONAL PROGRAMS

In this section of the report we shall discuss the various parts of the present program under the following headings:

I. International Health Division

II. Medical Sciences

III. Natural Sciences

IV. Social Sciences

V. Humanities

* * * * *

I. The International Health Division

This Division, as we have seen, represents the oldest interest of the Foundation, and from 1913 to date roughly $40,000,000 has been spent under its direction. The budget today stands at $2,200,000, which represents a scaling down from 1928 when the budget was approximately $3,500,000. The broad classifications of the budget are as follows:

State and local health services	$ 250,000
Public health education	350,000
Control of specific diseases and investigation	640,000
Field service	770,000
Fluid Fund	190,000
Total	$2,200,000

The program is concentrated on the following items:

(a) education of public health officers and public health nurses through aid to institutions and by fellowships.

(b) aid to local, state and national health administrations by means of the adviser system and by demonstrations.

(c) field research in yellow fever, malaria, tuberculosis and similar problems, placing increasing emphasis on the need for studies of disease in its environment, but with closely related laboratory investigations in order to define the problems with greater accuracy and to search for more effective and less expensive methods of control.

The program of the International Health Division has always had the confidence and support of the Trustees of the Foundation. The world-wide reputation which the Foundation enjoys is probably the result more largely of the work of this division than of anything else we have done. It has created a new technique in the attack on disease and has lifted the whole discussion and practice of public health around the world to a new plane. The implications of this work in terms of stimulated thinking on the problem of human relations can scarcely be over-emphasized. It has set up an example of what can be accomplished when constructive intelligence is employed on a world-wide scale. The success of its work has encouraged the faith of people in every corner of the globe that dirt and disease and the other enemies of human life are not inevitable, and that a rational system of living is possible for mankind if vision and brains are harnessed in what might be called a planetary kind of thinking.

The International Health Division has been singularly fortunate in its consistent leadership. Two men, Dr. Rose and Dr. Russell, have between them spanned a quarter of a century, and in consequence the work has shown a logical, progressive development which under other circumstances might not have been possible.

The institution in 1929 of a board of scientific directors under whom Dr. Russell works has also represented a happy and successful arrangement. Prior to 1929 the Trustees of the Foundation constituted the instrument of control, not only as regards budget but as regards scientific matters also.

That is, the Trustees were frequently called upon to confirm or reject the recommendations of the Director in matters of policy involving scientific considerations about which many of them were frankly ignorant. That the system worked at all and that we avoided drastic mistakes was due to the wisdom of the Director rather than to any guidance on the part of the Trustees. In 1929 the method in force in the Rockefeller Institute was incorporated in the International Health Division. We now have a board of scientific directors in charge of the technical work. The Trustees of the Foundation continue to hold the purse strings. It is our right and obligation to determine the size of the budget. But the technical control of the work is in the hands of the board of scientific directors. This board at the present consists of the following:

Dr. Albert J. Chesley
Dr. Rufus Cole
Dr. Alphonse R. Dochez
Dr. John G. FitzGerald
Dr. Frederick F. Russell
Dr. Wilson G. Smillie
Dr. Lewis R. Thompson

The board is appointed by the Foundation, and the members serve for three-year terms. An interesting provision in their by-laws makes it impossible for a member to succeed himself at the end of his term. He may be reelected, however, after the interregnum of a year. This ensures a constant influx of fresh material to the board and provides a method by which members whose service has not been particularly effective may be dropped.

The research activities of the International Health Division are particularly significant in view of our comments on this topic in an earlier section of this report. These activities are directly related to the work which the Division itself is carrying on. Problems which arise in the field are brought to the laboratory, and research is concentrated on efforts to

discover new knowledge, new methods and techniques, which when applied to the Division's field work will make it more effective. In other words, the research activities of the International Health Division are not scattered over a wide area of interesting subjects; they are aimed at a single target.

The same remark applies to the Division's use of fellowships. They are confined to those countries in which the Division has a program. If in a country like Syria, for example, there is no program, then Syria has no fellowships. A high degree of concentration is practiced, the Division's activities throughout are integrated with its own projects.

We admit, of course, that this policy is easier to pursue in a division that is itself an operating agency than in a division like the social or natural sciences which must carry on a large part of its program through instruments outside its own control. At the same time this concentration of effort is, in our opinion, highly commendable, and as we shall point out in later sections of this report we believe it is possible to apply it more successfully in other branches of Foundation effort.

Your committee has no recommendations to make in relation to the International Health Division. The gradual scaling down of its budget is in line with the realities of our decreasing income. Whether necessity will force a cut below the present budget level, we cannot of course foretell. That action, however, is not recommended at the moment.

II. Medical Sciences

As will be remembered, the plans of the Division of Medical Sciences to concentrate on psychiatry received emphatic support from the Trustees at the meeting in April, 1933. Here is a field that is the most backward, the most needed, and the most fruitful in medicine. It is a field that has received,

relatively speaking, very little support from foundations. And yet in the civilized countries of the world, as Dr. Gregg has pointed out, the number of hospital beds devoted to the care of mental disease exceeds the number of hospital beds for all other diseases put together.

Apart from fellowships and grants-in-aid the principal appropriations by the Foundation in support of this program since its inception in 1933 are as follows:

(a)	Johns Hopkins Medical School - Research in psychiatry (to be spent over a four-year period).....	$80,000
(b)	University College, London (Researches of Dr. A.V. Hill).....	16,400
(c)	Washington University - School of Medicine - Nerve psychology (to be spent over a five-year period).....	58,500
(d)	Harvard Medical School and Massachusetts General Hospital - Research and teaching in psychiatry	80,000
(e)	University of Colorado Medical School and Colorado Psychopathic Hospital - Teaching aid	10,000
(f)	Northwestern Medical School - Neuroanatomy research .	4,000
(g)	University of Pennsylvania - Neuroanatomy research ..	7,500
(h)	Survey of neurophysiology in Europe by R. W. Gerard .	5,000
(i)	Johns Hopkins Medical School - Cooperative research in pediatrics and psychiatry	14,600
(j)	University of Michigan - Teaching and research	15,000
(k)	Behaviour Research Fund, Chicago - Delinquency study.	22,500
(l)	Institute of Pennsylvania Hospital - Teaching and research	18,000
(m)	Worcester State Hospital - Research	16,500
(n)	New York University and Bellevue Hospital - Experimental neurology	5,000
(o)	Walter and Eliza Hall Institute, Melbourne - Research on nerve virus - (to be spent over three-year period)	12,600

(p) University of Rochester - Habit Training Clinic ... $13,000

(q) National Research Council - Committee on Drug Addiction 50,000

A minor activity of the Medical Science Division is concerned with the teaching of public health to medical students. Relatively little has been done in this second field, and it requires preliminary study and planning to a considerable degree before it will be wise to launch an active program.

Dr. Gregg, the head of the Division, is also responsible for projects under the old program in medical education which we are no longer supporting, but which are continuing under long-term initial grants. In January, 1931, for example, when Dr. Gregg became director, there were 116 such going projects.

Your committee has every reason to express its confidence in the program in psychiatry under Dr. Gregg's leadership. His approach to it seems to us to be sane and balanced. In a subject like psychiatry no immediate results, of course, can be expected. Personnel is lacking and there is much spade work to be done. What is necessary here is vision, patience and tenacity; and in our opinion the Trustees must be prepared to allow plenty of time for the program to develop, with no expectation of quick tangible results. This is a field in which years of patient effort will be necessary.

We would warn against the use of the word "psychiatry" in any narrow sense. As Dr. Gregg has pointed out, there is no single word satisfactorily comprehensive of the fields embraced by this major interest. The Trustees already understand that it leads into physiology and psychology. Psychobiology is a name by which this generic group of subjects is occasionally known. In any event it is a broad field - far broader than the traditional

interests of the clinical psychiatrist. We believe that there are many possibilities still to be tried out along this line, notably in connection with the more effective teaching of psychiatry to the medical personnel in State insane asylums, in the development of superior psychiatric nursing, in the liaison between competent psychiatrists and men training for the professions of teaching, ministry and law. It is possible, too, that the field of psychiatric social work represents a valuable approach.

This means exploratory operations backed by funds. It is important, in our opinion, that the decks of the Medical Science Division should be cleared for this work and that with the exception of the minor interest above noted (i.e., teaching of public health to medical students) and such collaboration as may be necessary in the program of vital processes, psychiatry should represent the sole preoccupation of the Division. To achieve this end fellowships and grants-in-aid in other medical fields should, we believe, be reduced at the earliest practicable moment, so that time, energy and money will not be consumed on small matters that do not fall within the limits of this highly important enterprise. Only by a determined kind of concentration can substantial progress be made.

In this field, as in all others in which the Foundation is engaged, the Trustees would expect the officers to give them definite warning when, in their opinion, the threshold of diminishing returns is reached in relation to a particular approach. Definite sailing directions can always be changed if the course proves to be unwise.

III. The Natural Sciences

At the meeting of the Trustees of the Foundation in April, 1933, a program was adopted in the natural sciences involving two fields of concentration:

1. Vital processes

2. Earth sciences

Our discussion follows this classification.

The Vital process program

By this title is meant, in briefest form, the bringing to bear of the quantitative techniques of mathematics, physics and chemistry onto the basic problems of biology. The sub-fields in biology indicated in the program are:

(1) Internal secretions
Hormones, enzymes, etc.

(2) Nutrition
Vitamins, etc.

(3) Radiation effects
Ultra violet, X-rays, cosmic rays, mitogenetic rays, etc.

(4) Biology of Sex
Physiology of sex, fertility, etc.

(5) Experimental and chemical embryology
Fertilization and sex determination, transplantation, regeneration, organizers, etc.

(6) Genetics
Chromosomes, genes, cytology, etc.

(7) General physiology
Cell physiology, nerve conduction, electrical effects, osmosis, permeability, etc.

(8) Biophysics and biochemistry
Spectroscopy, microchemistry, basic studies.

As the officers have conceived this program it is linked with the program of psychiatry in the Medical Sciences Division and with the work of the Social Science Division. To use their words, it represents the support and

stimulation of research in the sciences underlying the behavior of man. They report that "certain researches have already progressed to the point where they may at once be applied to relieve physical and mental distress"; while "a vast array of problems and methods are emerging, but have by no means reached application and are not likely soon to do so except under the stimulation of large and continued support."

Illustrative examples of what this program has involved since April, 1933, follow:

University of Chicago
Grant for research in biology during 1934-35 ..... $ 50,000

California Institute of Technology
For research work in biology under the direction of Professor T. H. Morgan 50,000

Roscoe B. Jackson Memorial Laboratory
Emergency assistance to safeguard, for one year, the research group in mammalian genetics under the leadership of Dr. C. C. Little 11,000

California Institute of Technology
In support of research in electron diffraction methods 10,000

University of Chicago 11,750

University of Michigan 8,800

McGill University 10,000

Harvard University - Massachusetts Institute Technology . 4,000

These four grants represent support, each over a 1-year period, for cooperative researches on the application of spectroscopic methods to biological or medical problems.

American Society of Naturalists
Toward the support, over a 5-year period, of a Drosophila Stock Center at Cold Spring Harbor 9,000

Columbia University
A grant to purchase upwards of a gallon of so-called "heavy water" and to provide for full-time research assistants in a program of investigating the biological and physiological effects of the heavy isotope of hydrogen 22,500

In addition, the program has been supplemented by fellowships and grants-in-aid.

Your committee did not feel itself competent or qualified to pass judgment on a program in this highly technical field. We therefore sought the aid of an expert group to advise us in the matter. The group was made up as follows:

Dr. Simon Flexner, Chairman
Director, Rockefeller Institute for Medical Research,
New York City

Professor Walter B. Cannon
Professor of physiology, Harvard Medical School,
Boston, Massachusetts

Dr. Henry D. Dakin
Director, Institute of Pathology, Russell Sage Foundation,
New York City

Dr. William H. Howell
Physiology, Johns Hopkins University,
Baltimore, Maryland

Professor Frank R. Lillie
Dean of Division of Biological Sciences, University of Chicago,
Chicago, Illinois

Your committee met with this advisory group, and the vital process program was presented by Dr. Mason and Dr. Weaver. Thereafter, after consultation, each member of the advisory group filed a report. In addition to these reports, your committee has sought counsel in other quarters, and as a result of the information and advice which we have received, we are presenting the following conclusions:

(1) The term "vital processes" appears to be unhappily chosen. The impression which it conveys is vague and its implications are troublesome. Professor Lillie suggested as a substitute "Experimental Biology" - a designation which seemed to meet with the general concurrence of the other experts

whose advice we sought. By this term would be meant the application of experimental procedures to the study of the organization and reactions of living matter.

(2) In general, this field, thus defined represents a promising area for exploration and development. It is not a new field nor is it based on a new idea. In the Foundation, biology is an interest running back nearly fifteen years. The subjects proposed for study are of world-wide interest, and, with exceptions, are engaging the close attention of laboratories, both academic and industrial. Thus, there is a large commercial side to investigations of vitamins and hormones.

(3) We believe that development in this field of experimental biology will follow the course of comparable undertakings: namely, that there will be a slow, painstaking accumulation of knowledge which in a decade or in a few decades will prove perhaps of profound importance. We do not believe that quick or startling results are to be anticipated, and we would deprecate any idea that the Foundation was building its hopes on such expectations. The prompt solution of important biological problems cannot be prophesied, nor can it necessarily be hastened by large expenditures. In other words, we have no confidence that large efforts would be so rapidly productive as to justify a program conceived in ambitious terms.

(4) Our recommendation would be that this program in experimental biology be conducted on a modest, tentative, and opportunistic basis. This would involve appropriations in moderate amounts similar to those already made in the development of the program. It would particularly involve the use of fellowships and grants-in-aid for purposes of exploration. The

strategy would be to feel out the area, to proceed cautiously, to be misled by no preconceived hopes, and to maintain a detached and healthy kind of skepticism in relation both to the program as a whole and to its constituent parts. Specifically, your committee would expect that expenditures made on this basis might in the aggregate over a period of years reach a reasonably large amount; but we wish to make it clear that we would not expect an elaborate program to be launched which would involve large individual items; nor would we recommend, for the time being at least, annual totals measurably above the present level.

(5) The nature of the program, i.e., the application of experimental procedures to biological problems, involves the necessity of wide knowledge and acquaintance in the fields of both the physical and biological sciences. While the Foundation's program is headed up in the Division of Natural Sciences, the broad scope of the projects demands not only cooperation between that Division and the Division of Medical Sciences, but collaboration and participation as well. Otherwise we might be placed in the position of asking experts in the physical sciences to assume responsibility for technical competence in biology and medicine. The officers are fully conscious of this difficulty, and your committee understands that collaboration between the two divisions in question is being developed.

(6) Two or three of our advisory group questioned whether the Foundation was not assuming an unwise responsibility in indicating, even to the limited extent found in our annual reports, what type of work it viewed with favorable consideration. It was suggested that the subtle influence arising from such a statement of preference might have undesirable consequences. Dr. Howell expressed the matter as follows:

> "It seems to me highly desirable that the Division, or the Foundation in general, should avoid as far as possible the appearance of controlling the direction of biologic investigations, or of taking any steps that

would seem to threaten the freedom of research. The course of events in recent years has seemed to me to have a trend of this character. In many of our institutions biologic research is subsidized by industrial organizations along specified lines, and the appropriations from foundations have had somewhat the same general effect, in the sense that the problems worked upon are set from the outside, so to speak, instead of arising out of the interests of the workers themselves. One outcome has been the development of a sort of competitive struggle for tangible results which gives to scientific research something of the character of a business proposition. I realize that competition of this nature is very stimulating to activity and probably accelerates the acquisition of useful results. Moreover it is probable that many investigators of the technician type do better work when their problems are set for them than when left to their own devices. But the system tends to lower the idealism and independence of scientific research, and in the long run may prove to be a misfortune."

Dr. Cannon, on the other hand, was equally outspoken on the other side:

"I do not share the fear expressed that a great foundation may seriously skew scientific progress by expressing and supporting an interest in some and not in other research projects. The generous contributions of the Rockefeller Foundation to public health, for example, have had, I believe, no demonstrably retarding effect on activities which were not favored - the positive influence was not the occasion for a negative influence elsewhere. In science the genuine investigator is so deeply interested in his own ideas and plans that he is not readily diverted by possible financial support in strange directions; and this would be more and more true as his labors lie distant from the favored fields."

Your committee raises this point because we referred to it in a previous section in our discussion of research. That there is at least an element of danger in the situation, no one who is acquainted with the influence of foundations can easily deny. It seems to us that this is a point which the officers in their relations with the fields should constantly keep in mind. Dr. Howell's apprehensions would perhaps be realized by too ardent a championship of a particular line of research. With a modest approach, with no attempt to "sell" an idea to scientific groups or institutions, or push the development of any particular program, the danger, it seems to us, can certainly be minimized and perhaps avoided altogether.

The Earth Sciences

At the meeting of the Foundation in April, 1933, the officers presented a program in the Earth Sciences which was accepted by the Trustees. Since that time, pending the report of your committee, it has been held largely in abeyance. By earth sciences were meant projects in geo-physics, including meteorology, seismology, earth currents and magnetism, and atmospheric electricity. This was by no means a new interest for the Foundation; in previous years oceanography and geo-physics had received grants totaling about $2,750,000.

Your committee is not inclined to believe that this program should continue to represent one of the interests of the Foundation. There are several reasons for this belief. In the first place, our income is now far below its former figure and the Foundation is forced to exercise a severe kind of choice between desirable programs and opportunities. In our opinion the field of the earth sciences is interesting but not vital. In the second place, the range of subjects included under this head are already obtaining support from other sources. The support is not as large as it could be, but it cannot be claimed that these are starved and neglected fields. Our additional support would doubtless hasten the development of the earth sciences, but with time and with the impetus they now have they will catch up anyway. In the third place, the Foundation should not attempt to cover too many fields. A few programs, sharpened and well-directed, are better than many programs which because of sheer pressure on the officers cannot receive adequate administrative attention.

We therefore recommend that the program in earth sciences be definitely discontinued.

IV. The Social Sciences

In approaching the social sciences we are approaching a most difficult field. It is difficult because the very name is a generic title which includes many areas of thought and discipline. As an illustration we list the fellowships awarded by the social science division in 1933, showing the fields of study.

Field of Study	Number of Fellows
Economics	43
Sociology	24
Political science	16
History	13
Anthropology	10
Psychology	8
Agricultural economics	7
Jurisprudence	6
Human geography	4
International law	4
Statistics	4
Criminology	3
Social anthropology	3
Cultural anthropology	2
Geography	2
International relations	2
Social psychology	2
Social work	2
Criminology and sociology	1
Cultural and social anthropology	1
Education	1
Business administration	1
Political science (philosophy)	1
Sociology and economics	1
Sociology and social work	1
Historical geography	1
Total	163

If a foundation starts out, as the Rockefeller Foundation has done, to support the field of social science as a whole, it is bound to find itself in an area so broad and inclusive, that the sharp driving edge of a particular program stands in danger of being blunted.

If the capital expenditures made by the International Health Division are excluded, the Social Science Division represents the largest single activity which we are now carrying on. From 1929, when this activity was taken over from the Laura Spelman Rockefeller Memorial, through 1933, a total of $17,812,675 has been appropriated for this work, including fellowships, grants-in-aid and fluid research funds. By years, the appropriations are as follows:

1929 - $5,164,000

1930 - $2,617,000

1931 - $5,810,275

1932 - $2,604,900

1933 - $1,616,000*

The appropriations for 1934 will be in the neighborhood of $1,150,000.

Of the $17,812,675 appropriated from 1929 to 1933, the general classifications are as follows:

I. General social science (which includes research conferences, fellowships, grants-in-aid and publications) $2,712,500

II. Institutional centers for research and advanced training (which includes fluid research funds, buildings and equipment, faculty appointments, research and instruction)..... 4,420,000

III. Economic planning and control (which includes grants to universities and institutions, both for the support of continuing institutional programs and for specific research projects)..... 2,373,725

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*In addition to this figure for 1933, the Special Trustees' Committee on the Study of Pressing Social Problems appropriated $589,000.

IV.	Community organization and planning (which includes public administration, schools of social work, community plans, etc.)	$ 3,451,400
V.	International Relations	1,950,250
VI.	Cultural anthropology	717,500
VII.	Unclassified (including behavior and personality research, legal research, etc,)	2,187,300

* * * * *

It will be seen at once that this is a very wide program. It stretches over many fields of human thought and activity. Under its aegis in the past five years the Foundation has maintained research centers at Columbia University, Harvard, Chicago, North Carolina, Virginia, Texas, Stanford, McGill, Copenhagen, Stockholm, Brookings, the London School of Economics, and other places.* We have donated buildings, equipment and libraries for research purposes. We have given funds for new research faculties and new facilities for research instruction. We have contributed to the research activities of such widely diverse organizations as the following:

Institute of Ethnology in Paris
American Geographical Society
National Institute of Industrial Psychology
Behavior Research Fund of Chicago
Heidelberg Institute of Social Science
The Science Advisory Board of the United States Government
School of Citizenship and Public Affairs at Syracuse University
Dutch Economic Institute at Rotterdam
International Institute of African Languages and Cultures
International Institute of Public Law, Paris
American Institute of Mining and Metallurgical Engineers
Yenching University
Roumanian Institute of Social Science
American Law Institute
Massachusetts Society for Mental Hygiene
American University at Beirut

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*Further comment on this support of research in universities will be found under the heading "Fluid Research Funds."

Association for the Study of Negro Life
Institute of Pacific Relations
Etc., Etc.*

In all this broad program, the stimulation of research has been our primary objective. Only a scattering project here and there has looked toward the practical application of the results of research. Of the nearly $18,000,000 appropriated for the social sciences since 1929, considerably more than 95% has been concentrated on the gathering of facts, with considerably less than 5% spent to determine whether those facts could with any degree of effectiveness be applied to contemporary problems.

This course has been followed deliberately by the officers on the basis of a principle inherited from the philosophy of the Laura Spelman Rockefeller Memorial. That principle was that the technique of the social sciences has lagged far behind that of the natural or laboratory sciences, and that concentrated efforts would have to be made if the old classical methodology of social science was to be broken down. In other words, just as the natural sciences three hundred years ago were brought into a new era of realism, so the social sciences must be led to see that the understanding and control of human phenomena lies in the scientific analysis and appraisal of facts. It was to stimulate this new point of view, to give impetus to a new kind of realism in social research, that the Foundation embarked in 1929 in so broad and comprehensive a research program.

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*Under the plan for greater concentration, adopted in April 1933, the Foundation is no longer interested in the field of cultural anthropology. Schools of social work have also been dropped. At the present time, in addition to our interest in the general field of the social sciences, there are three definite fields of concentration:

1. Economic Planning and Control
2. International Relations
3. Community Organization and Planning

Your committee does not believe that the Trustees have thoroughly understood how broad and comprehensive the program has been or what large total sums have been invested in it. We frankly find ourselves in sympathy with the ideal behind the program. There is much that can be said for it, and Dr. Day, the director of the division, has handled his heavy task with judgment and discrimination. We believe, however, that the time has come for a shift of emphasis. The Foundation has accentuated the development of a point of view which is today well established. It seems to your committee that we now have the opportunity to see whether we cannot assist in applying to concrete problems of our social, political and industrial life some of the ideas and data which research all over the world is rapidly developing. This would not mean, of course, the relinquishment of research as a method. It would mean that we have no interest in the promotion of research as an end in itself. We are interested in it as a means to an end, and the end is the advancement of human welfare. Instead of supporting general research in the whole field of the social sciences, we would concentrate research on those particular fields of application which the Trustees of the Foundation might decide to enter. We would center our fire on a few particular targets in the hope of making a realistic contribution to certain contemporary problems.

* * * * *

Your committee is primarily a committee of appraisal; and our belief is that suggestions for new programs should in the first instance be developed by the officers for submission to the Trustees. We have, however, given some thought to possible fields of activity if the emphasis in the social sciences is to be shifted from research to application. These ideas we submit tentatively with the thought that they may serve as illustrations or types of conceivable projects.

They are involved in the following areas in which it can confidently be stated that developments of significant moment can be expected to occur:

1. The functions of government
2. The relations between governments
3. The development and maintenance of minimum standards of security and decency in the living conditions of the mass of people.

I. The functions of government

The first area relates to the functions of government. The responsibilities of government are certain to increase, and probably to increase rapidly. Unfortunately the responsibilities already borne by governmental agencies tax to the utmost their resources of intelligence, integrity and technical competence. It is of the greatest importance that the quality of governmental services be raised to a higher level just as rapidly as is humanly possible. The significance of the work which is already under way along this line in the program of the Spelman Fund can scarcely be exaggerated. In so far as the work of that Fund can be made even more effective and fruitful if more ample funds are made available, supplementary appropriations to Spelman Fund projects from the Rockefeller Foundation should be considered.

But the program of the Spelman Fund in this field can effectively be reenforced by corollary programs under the Foundation's own initiative. The field of criminology, for example, with its implications in terms of government intelligence and initiative, presents wide opportunities for service. The beginnings in this direction made by the Bureau of Social Hygiene can, in our opinion, be explored and developed. Similarly the judicial field, in both criminal and civil law, presents a wide opening in a needy area. Again, in the

legislative field, there is a demand, through the Library of Congress, and perhaps in some of the states, for funds by which adequate source material and expert library service can be made available for harassed and over-worked legislators. The technical field of government has never received from any foundation the attention which its importance deserves. We believe that substantial amounts of money could profitably be invested in this field alone.

II. The relations between governments

The second area brings us into the field of international affairs - a field in which the Social Science Division is already operating. The importance and significance of this field in terms of the welfare of mankind it is impossible to overstate, and the point does not have to be elaborated. We admit that the field is difficult to enter, but anything that the Foundation can wisely and effectively do in the way of understanding and education should, in our opinion, be eagerly and zealously followed. We are glad to commend this type of work that is already in progress under the Social Science Division, and we urge further study by the officers to see whether the approach cannot be broadened and strengthened.

III. The development and maintenance of minimum standards of security and decency in the living conditions of the mass of people.

The third suggested area concerns the establishment and maintenance of minimum standards of security and decency in the living conditions of the masses. The paramount interests of the economic order, at any rate on the American side, have shifted from problems of maximum productivity to problems of minimum stability. Here we are confronted with the necessity of developing appropriate long-range undertakings relating to such matters as

(a) Unemployment reserves

(b) Old age pensions

(c) Accident and sickness insurance

(d) Slum-clearance

(e) Low-cost housing

The possibilities of constructive Foundation program in this broad area are manifold. The program would presumably relate to experiment, demonstration, and certain continuing activities of both private and public agencies. It would also, of course, include research in selected fields. In view of the underlying movements in the present social situation, there would seem to be in this general area a challenge to possible Foundation program which might well have the attention of the trustees and the officers.

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These three points are presented merely as illustrations of the possibilities of a new emphasis in the social sciences. We offer them with the suggestion that together with any other ideas of this type they be digested and developed by the officers into an integrated program of action for submission to the Trustees. A program along this line would differ substantially, of course, from the Foundation's present program for the advancement of knowledge by means of research. At the same time, it should be recognized that a venture into the fields outlined would conform rather closely to the earlier and somewhat traditional interests of the Foundation. Certainly a program relating to the establishment and maintenance of minimum standards of living would bring the Foundation into contact with many of the problems encountered in the oldest of the Foundation's interests, namely, that of public health. Furthermore, it is to be noted that

were the Foundation to develop program along the lines indicated, there would be a vital interlocking of interests on the part of the three Rockefeller boards, i.e., the Foundation, the General Education Board and the Spelman Fund. Satisfactory integration of programs in general education, economic security and stabilization, and public administration would offer possibilities of a broad concerted attack upon areas within which it would appear that the most crucial issues of our present social order are to emerge. In any event, the time has come, in the opinion of your committee, for a concentrated drive upon a few, selected social problems in regard to which intelligence and initiative are needed.

V. The Humanities

The program in the humanities was initiated in 1926 by the General Education Board. It was taken over by the Foundation at the time of the reorganization in 1928. Roughly $700,000 a year is now allocated to this purpose. Its program is largely in the field of research. The broad general classifications of the program are as follows:

I. Preservation and development of American cultural traditions.
(Under this heading grants have been made to the Library of Congress in connection with source materials in American history; to the Virginia Historical Index; for the work in drama at the University of North Carolina; etc.)

II. Cultural understanding among nations.
(Under this classification, grants have been made to the Orthological Institute in London in connection with the Basic English project; and, through the American Council of Learned Societies, to the training center for Far Eastern studies at the Library of Congress; etc.)

III. Underlying Support.
(Grants to universities and to the American Council of Learned Societies in support of programs of research.)

Your committee approaches this subject of the humanities with considerable uncertainty. In any balanced and well-conceived scheme of human welfare the important place of all those values which the humanities represent is not open to question. In a memorandum on this subject prepared at the request of your committee by Mr. Jerome Greene, this point is made with clarity and force. He says:

> "An interesting test of the importance most men unconsciously attribute to the intellectual and artistic aspects of life may be applied by observing the characteristics that spring most readily to their lips when describing a community which they regard as remarkably fortunate and enviable. When asked to justify such an opinion of a city they will hardly fail to mention its salubrity and prosperity - the physical and material basis of its life; but its special distinction will almost invariably be described in terms of its intellectual and aesthetic resources, the beauty of public buildings and dwellings, of avenues and parks; the richness of art collections, the excellence and popularity of music and drama; schools, universities and institutes of learning; and finally the diffused culture which is at once the cause and the expression of all these amenities. It is true that they all testify to the practical applications of science and to the material prosperity without which many of them might not have been obtained; but they also testify to a disposition to make material welfare not the end but the means of a larger, higher and happier life, and to make that life less dependent on its material satisfactions."

The difficulty is one of method. How is this desirable end to be put into effect? By what process can the resources of the Foundation be used to develop the type of public appreciation which will lead to the results described by Mr. Greene?

The answer upon which the Foundation is placing its great emphasis is <u>research</u>. This is the answer which we have given since 1926 when the Division of the Humanities was first developed. In line with this answer our work is spread over the widest possible fields. The genesis of Coleridge's poetry; Indonesian Customary Law; the Dictionary of American Biography; mosaics, lamps

and vases of Olynthus; exegetical commentary on the 4th book of Virgil's Aeneid; life and work of Hans Burgkmair; studies in Aeschylus; folk-lore of the Finns; studies in Balzac's realism; dictionary of Indo-European synonyms; Byzantine lyrics; administration of justice from Homer to Aristotle; Anglo-Saxon poetry; Roman economic history; Franco-American literary relationships; American Indian languages "including the Quileute and Tonkawa grammars, and the Nitinat, Zuni and Dakota texts" - these topics are random selections from a great range of research projects which the Foundation is supporting either directly, or through grants-in-aid to universities, or by blanket aid to the American Council of Learned Societies.

The question naturally arises: what does all this activity accomplish in stimulating aesthetic appreciation except in a limited number of highly specialized students? What connection is there between this concentration on research and the kind of public appreciation which will result in the community pictured by Mr. Greene? It frankly appears to your committee that a program in the humanities, based on a cloistered kind of research, is wide of the goal which the Trustees of the Foundation should have in mind. It is getting us facts but not necessarily followers. We have more detailed information about a great number of rather abstruse subjects, but that does not logically mean that the level of artistic and aesthetic appreciation in America has been measurably raised.

This comment is not made in criticism of the officers. It is the Trustees who have set the sailing directions here. It is quite apparent that the officers have been conscious of the desirability of bringing the humanities from books, seminars and museums into the current of modern life. Nor would your committee claim that the work that has been done thus far has completely failed of its purpose. In this field, as in every other, research has a definite

contribution to make, and the stream of aesthetic appreciation would run dry without it. Some of the work which we have done in this direction has been excellent - notably, perhaps, in relation to oriental studies. We believe, too, that the library projects have been soundly conceived.

Our only point is that concentration on research as almost the sole method of approach runs a grave danger not only of sterility but of missing the center of the target. We would urge that the sailing directions be changed. Research is but one method and we have already done much to stimulate it. Let us no longer be cramped by that formula. In our opinion, the officers should be asked to study other methods by which cultural appreciation can be developed and the values of the humanities brought more directly into contact with daily living. In the judgment of your committee, no new developments in this program should be encouraged until, through a fresh survey of all available techniques and methods, it has been determined whether there may not be new and more fertile directions for the stimulation of the humanities - and this with particular regard to increasing the area of public appreciation.

SECTION V

MECHANISMS IN AID OF RESEARCH

In this section of the report we shall discuss three mechanisms by which the Foundation is stimulating research - as follows:

I. Fellowships

II. Grants-in-aid

III. Fluid Research Funds

I. The Fellowship Program

As we have already pointed out, your committee was somewhat surprised at the size to which the program in fellowships has developed. It now absorbs about 10% of our annual expenditures, amounting in 1933 to $1,462,666.51.

The fellowship device as a means of training competent personnel runs back, as far as the Foundation is concerned, to 1915. Starting with our work in China, it was taken over as a technique by the International Health Board in 1917 and by the Division of Medical Education in 1920. Thereafter the idea was borrowed by the other divisions, until now it is the recognized practice of every branch of the Foundation. In the early days the fellowships were handled exclusively by the Foundation. Later, intermediary agencies like the National Research Council, the Social Science Research Council and the American Council of Learned Societies, were introduced into the picture. Today fellowships are handled in part by these outside agencies on funds which we supply, and in part directly by our officers.

The growth in volume of fellowship expenditures by years is shown in the chart on page 76. The table on Page 77 shows the number of new fellowships by years from 1915*

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*It is to be noted that the figures contained in this table relate to new fellowships only. If renewals of old fellowships are added, the number of fellowships existing at any one time is considerably increased.

We are indebted to the study of fellowships prepared by Mr. Thomas B. Appleget in 1932 for much of the information which we have gained in the matter. With the aid of the material which he gathered, and with additional material which we have obtained from other sources, we make the following comments:

(1) The fellowship program of the Foundation shows no great evidence of any attempt at concentration. It covers the widest conceivable areas. Some of the specific objects for which fellowships were granted by the officers in 1934 are here listed, not for criticism but for purposes of illustration.

Relativistic quantum mechanics.
The evolution of oats.
Physiological methods applicable in research on the cell.
Adsorption and diffusion of zeolite crystals.
Radiation and the electron theories.
The complement fixation test in the diagnosis of amoebiasis.
Topology.
The kinetics of emulsins.
The physio-pathology of the bony system.
Polynomials in the field of mathematics.
Spectral-Photometric investigations of planets and fixed stars.
Magneto-optics at low temperatures.
Embryology of invertebrates.
Fluid velocity.
Pharmacology.
Family disorganization.
Social organization of tribes on the Tanganyika Plateau.
Linguistics and ethnology of the Nilotic tribes.
Economic dynamics.
The early history of the Chinese Empire.
The historical evolution of contemporary capitalism.
The silver question in the United States from 1873 to 1900.
The relations of Japan and the West from 1800 to 1854.
The British Constitution and political parties.
The colonization of Western Canada.
The development of the family from an historical and sociological point of view.
The application of psychology in social and market research.
Agricultural geography of the United States.
Immigration into Australia up to 1850.
Child psychology.
Etc., etc., etc.

EXPENDITURES ON FELLOWSHIPS BY YEARS

TOTAL DIRECT FOUNDATION AWARDS AND AWARDS THROUGH OTHER AGENCIES

	Public Health	Medical Sciences	Psychiatry	China Med. Bd. Medical Sci. Natural Sci.	Natural (1) Sciences	Social (2) Sciences	Nursing	Humanities	Total
1914	$	$	$	$	$	$	$	$	.....
1915	.....	.....	.....	10,672.47	.....	.....	.....	.....	10,672.47
1916	.....	.....	.....	33,264.16	.....	.....	.....	.....	33,264.16
1917	971.85	.....	.....	43,315.39	.....	.....	.....	.....	44,287.24
1918	4,479.05	.....	.....	51,317.84	.....	.....	.....	.....	55,796.89
1919	13,118.47	.....	.....	39,557.24	9,680.75	.....	.....	.....	62,356.46
1920	37,564.00	3,631.58	.....	29,081.07	36,725.61	.....	.....	.....	107,002.26
1921	58,956.24	18,232.40	.....	26,764.31	49,806.53	.....	.....	.....	153,759.48
1922	112,626.47	36,670.50	.....	24,006.44	80,770.23	.....	.....	.....	254,073.64
1923	186,519.93	82,782.06	.....	25,141.44	97,427.47	.....	.....	.....	391,870.90
1924	179,413.46	166,928.10	.....	43,862.44	195,847.44	26,464.23	.....	.....	612,515.67
1925	194,975.13	308,360.60	.....	47,575.05	389,025.35	110,418.12	.....	.....	1,050,354.25
1926	254,435.23	268,147.07	.....	45,050.35	490.354.73	221,045.44	32,702.34	.....	1,311,735.16
1927	228,112.62	212,374.46	.....	44,213.00	535,830.90	246,621.49	39,633.72	.....	1,306,786.19
1928	210,253.53	255,069.17	.....	47,668.19	421,402.50	289,998.76	32,450.07	.....	1,256,842.22
1929	199,636.04	283,799.19	.....	.....	354,426.92	374,970.35	24,299.46	12,600.00	1,249,781.96
1930	239,824.85	251,677.21	.....	.....	432,728.10	253,022.74	41,815.53	11,520.26	1,230,588.69
1931	263,024.36	282,863.55	.....	.....	495,265.58	288,648.04	44,942.69	53,874.45	1,428,618.67
1932	282,812.11	246,705.02	5,374.97	.....	448,128.64	352,699.82	52,097.57	41,194.14	1,423,012.27
1933	247,663.45	259,692.37	22,312.02	.....	408,999.78	430,873.31	34,641.29	58,897.62	1,463,079.84
	$2,714,436.79	$2,676,933.28	$ 27,686.99	$511,489.39	$4,440,420.53	$2,594,762.30	$302,582.67	$178,086.47	$13,446,398.42

(1) Includes grants during years 1924 to 1931 by International Education Board.
(2) Includes grants during years 1924 to 1928 by Laura Spelman Rockefeller Memorial.

NUMBER OF NEW FELLOWS, ALL APPOINTMENTS, ACTIVE IN EACH YEAR

BY DIVISIONS

	C.M.B.	I.H.D.	M.S. inc. Nursing	N.S.	S.S.	Humanities	Total
1915	6	-	-	-	-	-	6
1916	35	-	-	-	-	-	35
1917	26	1	-	-	-	-	27
1918	25	2	-	-	-	-	27
1919	22	11	-	13	-	-	46
1920	20	21	6	5	-	-	52
1921	31	30	11	18	-	-	90
1922	31	51	42	17	-	-	141
1923	26	55	72	29	-	-	182
1924	27	57	100	132	16	-	332
1925	23	79	142	160	38	-	442
1926	20	89	88	205	49	-	451
1927	18	82	117	130	71	-	418
1928	4	59	98	130	80	-	371
1929	-	86	100	122	104	2	414
1930	-	88	137	150	83	14	472
1931	-	114	116	122	113	14	479
1932	-	106	114	117	132	16	485
1933	-	81	99	117	64	19	380
	314	1,012	1,242	1,467	750	65	4,850

(2) We believe the fellowship program should be reduced. In our opinion a million and a half dollars a year is too large a proportion of the Foundation's income to be devoted to this purpose. We entirely sympathize with the ideal of individual training which underlies the program, but we are not convinced that so intense a preoccupation in specialized research represents the wisest use of the sum involved.

In this connection it must be borne in mind that the figures for fellowships under the Foundation program are supplemented in the same fields by grants for this purpose made by the General Education Board. Since April, 1933, the following sums have been appropriated:

Social Sciences	$100,000
Natural Sciences	110,000
Medical Sciences	100,000
Humanities	50,000

In other words, when we consider the joint program developed between the two Boards in the fellowship field, the figures run to such large amounts as to raise the question whether we are not putting too much stress on this particular technique.

(3) We see no reason why the Foundation should continue to support fellowships in fields in which it is not itself engaged. At the present time we are contributing $150,000 a year to the National Research Council for fellowships in the natural sciences, such as physics and chemistry, although these fields no longer represent a specific interest of the Foundation. To be sure this figure represents a reduction (in 1933) from a previous total of $295,000 for this purpose, and we are informed that the officers are prepared to recommend still further reductions to $100,000. But we would raise the question whether any further contributions are necessary. Why should we be aiding in fellowships in physics, chemistry, and mathematics when as a board

we have discontinued direct work in these fields? This contradiction in policy is difficult to reconcile, and we recommend that contributions of this type be terminated at the earliest practicable moment.

Similarly we question whether fellowships in the medical sciences should represent so much wider and broader a field than the area of concentration which has been adopted for that Division: i.e., psychiatry. Within the last year, to pick examples at random, fellowships have been given in immunology, pathology, entomology, the study of leprosy, etc. If the Foundation were supporting medical teaching institutions as it was once, this kind of fellowship would be highly desirable. But since 1928 we have sharpened our objectives as far as definite Foundation interest is concerned, although in our fellowship practice we still range the old fields.

(4) We believe that the fellowship program in the social sciences could likewise be substantially reduced and sharpened in terms of objective. As we have previously pointed out, the subjects of research cover the fields of economics, political science, sociology, agricultural economics, anthropology, history, jurisprudence, psychology, criminology, geography, international law, business administration, philosophy, and social work. This, in our opinion, is too wide a distribution. It represents a diffusion of effort and emphasis. One of the difficulties, as we see it, lies in the fact that fellowships granted by the Paris office for Europe and by the Social Science Research Council for the United States are not confined to the fields of concentration which have been adopted by the Trustees of the Foundation for their own social science program. This is due, doubtless, to the fact that in addition to our own fields of concentration we have been giving support to what has been called general social science. This, in turn, has allowed a wide

distribution of fellowships. But if Foundation support is discontinued as far as the general social science field is concerned, surely this type of fellowship can be discontinued also.

We note from Mr. Appleget's report that the average tenure of a social science fellow is 18.4 months as compared with 12.6 months in the natural sciences, which indicates perhaps a more generous attitude in the social science division toward renewals. We are informed, too, that social science fellowships have been awarded not only to those holding positions in universities and other research institutions, but also to those in government offices, administrative bureaus, social agencies, newspapers and business organizations. For example, one of our former fellows is a correspondent for the Chicago Daily News; one is in the Press Division of the League of Nations; three are assistants in the State Insurance office. We realize that a strong argument can be made for this procedure, but we believe that it has inclined toward a scattering rather than a concentration of emphasis.

Finally we question whether the extension of the social science fellowship program to some of the countries of Eastern Europe has been justified, particularly in view of the frank statement of our Paris office that the work of these research fellows would probably be for some years inferior in quality to that of the older established university departments in the countries of Western Europe. Here again we admit the force of the argument in favor of the move, but we are convinced that Foundation fellowships, when given, should represent quality, and that in the long run we do not gain by extending recognition to less than the best.

Our conclusion is that the fellowship program in the social sciences can be sharpened and the amount spent for fellowships can be substantially reduced. This will naturally follow, if the program in general social science support is discontinued.

(5) We recommend that appropriations for fellowship purposes revert to the general fund at the end of each year, as is the practice in the International Health Division. At present, appropriations for fellowships stand until exhausted, and this system makes it difficult for the Trustees to keep track of annual amounts devoted to this purpose.

(6) We are not convinced of the wisdom of maintaining a program of fellowships on the pre-doctorate level, as is now done in the social sciences (through an appropriation from the General Education Board). We realize that this step was taken after a careful canvass of the situation by a committee on social science personnel of the Social Science Research Council. As a trial project it is, we believe, open to no particular objection; but we question the advisability of expanding this program. In our opinion, there is grave reason to doubt whether the fellowships proposed at the lower level will achieve significant results.

(7) We would call attention to the annual cost of administering the fellowship program of the Foundation. According to the figures of the Comptroller it is as follows:

New York Office:		
Salaries - Officers	$25,275.00	
Secretaries	8,033.00	
Service Departments:		
Fellowship	13,386.00	
Accounting	5,630.00	
Filing	726.00	
Group insurance and Retiring Allowances	2,825.00	
Travel of Officers	3,020.00	
Stationery	300.00	
Postage and check tax	1,100.00	$60,295.00

	Brought Forward	$60,295.00
Paris Office:		
Officers - Salaries	$17,000.00	
Loss by exchange	4,880.00	
Travel	4,130.00	
Group insurance and retiring allowance	1,070.00	
Secretaries - Salaries	3,825.00	
Accounting Department	2,530.00	33,435.00
Fellowship Advisers:		
Social Science	$ 8,600.00	
Public Health	500.00	9,100.00
		$102,830.00

In making this estimate no part of the salaries of the President, Vice President, Secretary or Directors has been included. In the case of those officers directly concerned with fellowships, inquiry has been made as to the proportion of time devoted to this work. The same proportion has been used in including salaries of their secretaries.

Of the total figure of $1,462,666.51 spent for fellowships in 1933, $606,679.10 was appropriated to outside agencies to administer, leaving $855,969.41 which was administered by the Foundation directly. On this basis, the cost of administration amounted to 12%. The necessity of careful selection and supervision of fellows is paramount in any program of this kind, and 12% may not be too high a price to pay; but it is considerably above the average costs of administration for other branches of the Foundation's work, and we call the matter to the attention of the officers for further study.

(8) In conclusion we would again stress the point made at the beginning of this discussion. The fellowship program of the Foundation was started in a very modest way. The original idea was the training of key men of other countries to return to positions of importance in their own

institutions. The field was medicine and public health, where results were measurable and selections relatively easy to make. This technique, as we have already pointed out, is now applied to all the branches of work in which we are interested. Fellowships in the humanities and fellowships in child growth and development (through the General Education Board) vie with fellowships in the medical and natural sciences. We have the impression that the system has gotten a little out of hand, that it is too big and too "scopey" - to use Mr. Gates's favorite word. Dr. Rose used to say that the difficulty of administering the fellowship program lay in the limited quantity of good human material. With so many fellowships being awarded, it is inevitable that some should be given to second and third class brains. For the same reason it is inevitable that support should be extended for the pursuit of studies that are not vitally important. Some of the specific objects for which our fellowships have been awarded seem to us to be far removed from reality, or from any possibility of affecting the welfare or happiness of mankind. A policy of concentration in the fellowship program that will be based on vital human needs and will be limited to the areas of activity in which the Foundation is directly interested, seems to us to be eminently desirable.

II. Grants-in-Aid

The grant-in-aid device was initiated in 1929, although it had its prototype in the so-called developmental aid or laboratory aid funds used by the medical education division from 1921 to 1930 to stimulate research work. Grant-in-aid funds, in current Foundation practice, mean those amounts appropriated by the Trustees for allocation to individuals in connection with their research work, either by officers of the Foundation or by one of the national councils. This technique, like the technique of fellowships, has now

been adopted by all branches of our Foundation activity, including the medical sciences, the natural sciences, the social sciences and the humanities. The developemnt in expenditure is indicated by the fact that whereas in 1929 $119,397.36 was allocated for this purpose, in 1933 the sum had grown to $468,162.84.*

A grant-in-aid may be made to an institution, or to the department of an institution, for the benefit of an individual, and sometimes to an individual either for the benefit of his own work or for the benefit of those working under him. The amount granted may be as small as $50. The average grant is under $2,000; and under our regulations a single grant cannot exceed $7,500. It may be directly applied to salary in order to free a man from teaching and thus enable him to do research. It may be applied to the salary of assistants who will help him in his research. It may be devoted to the purchase of apparatus or expendible materials or experimental animals.

In addition to the grants made directly by the officers, the following annual amounts are given for this purpose to national societies:

National Research Council - for natural sciences	$30,000
National Research Council - for medical sciences	20,000
Social Science Research Council	25,000
American Council of Learned Societies	20,000

Generally speaking, grants-in-aid to be used in the United States are handled by these national societies; grants-in-aid in Europe are administered directly by our Paris office.

On the development of this grant-in-aid device we make the following comments:

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*This includes $168,404.83 for displaced German scholars.

(1) As in the case of fellowships, grants-in-aid by the officers range over wide areas. The following list of a few of the 1934 grants, picked at random, is illustrative:

Towards travel, living and research expenses of the trip of Dr. Kenneth J. Franklin of the Institute of Pharmacology, Oxford University from England to Bonn in connection with research on venous circulation	$ 220
To provide additional funds for research in the Clarendon Laboratory of Physics of Oxford University, in connection with research upon low temperature effects carried on by Professor F.A. Lindemann	2,600
To permit University College, Exeter, England, to undertake a survey, and to publish an analysis, of living conditions and the working population of the Plymouth area	1,500
To supplement a grant made by the French National Research Council to Mr. Marcel Griaule so that he may be able to devote his full time to research work on the data collected during the Dakar-Djibouti expedition	800
To enable Professor E.E. Dale of the University of Oklahoma to study materials of significance for the history of Oklahoma and the adjacent regions of the Southwest	1,200
To increase the effectiveness of a magazine Books Abroad as a means of promoting international cultural contacts	1,000
For the completion of a historical bibliography, covering the relations of Poland and neighboring countries from the period 1815 to 1925, by the Historical Institute of the Society of Sciences and Letters of Warsaw	500
For technical assistance for the Institute of Pharmacology of Paris in connection with the quantitative and qualitative study on the brain in relation to variation of sensitivity of brain lipoids to hypnotics to be carried out under Professor Tiffeneau during 1934	1,600

To purchase scientific apparatus (photometer) required for the work on cholesterol metabolism by Dr. H. Dam, former Foundation fellow, at the Institute of Biochemistry, University of Copenhagen ..... $ 350

To Mr. Josef Kunz, a Foundation fellow from Austria, to enable him to complete for publication the two books he is writing on data gathered during his fellowship upon the law of war and neutrality and upon the Manchurian question 600

To Dr. Mario Einaudi, former Foundation fellow and now half-time Instructor at Harvard University, to enable him to complete his research on Edmund Burke and the relation of English 18th century philosophy to American constitutional evolution 600

To the University of Missouri for the salary of research assistants in connection with research on organs related to reproduction in the bat, carried on by Professor M. J. Guthrie of the Department of Zoology during the academic year 1934-1935 2,000

To Professor Franz Boas of Columbia University to enable him to retain the services of a research assistant, Miss Ella Deloria, in a study of the language of the Sioux Indians during the period July 1 to December 31, 1934 .. 1,600

To Dr. Max Silberschmidt, Lecturer in American History at the University of Zurich and former Foundation fellow, to provide him with stipend, travel expenses, books, and materials for the completion of his research project on the influence of social and economic factors in American history, during the period ending July 31, 1935 2,000

For research in English phonetics, especially in the development of English in the United States, under the direction of Professor Daniel Jones of the Department of Phonetics, University College, University of London 2,000

To Columbia University, for the purchase of scientific apparatus in connection with research in endocrinology especially problems of the pituitary gland, conducted by Professor Philip E. Smith of the Department of Anatomy 450

To Washington University, St. Louis, to enable Dean Otto Heller of the School of Graduate Studies to complete for publication three co-ordinate studies on Charles Sealsfield .... $ 2,500.00

To Miss Jean Thomas, the organizer of an annual folk song festival held near Ashland, Kentucky, to obtain a record of this year's festival in the form of motion picture film and phonographic records for deposit in the folk song archive of the Library of Congress 700.00

To enable Dr. Eva Fiesel, formerly lecturer in Etruscan at the University of Munich, to continue her studies in the reading of Etruscan as begun under the direction of the late Professor Herbig. (Total funds given for Dr. Fiesel's work $3,900.) 1,500.00

Additional to Mr. W. P. Alexander to provide for the typing of his statistical analysis of data obtained from psychological tests during his fellowship period in the United States 77.10

To St. Mary's Hall, San Antonio, Texas, to enable Professor Josita Gonzalez to complete during the year beginning July 1, 1934, the collection of materials and the writing of an account of the Spanish and Mexican colonists of southern Texas. 2,000.00

(2) We note with some uneasiness the rapid growth of this grant-in-aid mechanism in the five years since 1929. The number of grants* made directly by the Foundation in each of these five years is as follows:

1929	13
1930	64
1931	84
1932	125
1933	121
1934 (to date)	150

The amounts involved are as follows:

1929	$ 19,359.50
1930	91,661.13
1931	147,607.46
1932	216,308.00
1933	182,617.96
1934 (to date).	279,621.85

*These grants are, of course, in addition to the grants made by the national societies on funds which we supply, as shown above.

In 1933, of the 121 grants, 26 went to Germany, 2 to Iceland, 1 to Esthonia, 3 to Poland, 7 to Switzerland, 16 to England, 14 to France, 3 to Russia, 2 to Brazil, 1 to New Zealand, etc. Again we raise the question whether this preoccupation in specialized research represents the wisest use of funds. Another question which arises in the same connection is whether these relatively small grants-in-aid, scattered in a manner that might easily become undiscriminating, can be related to a standard of excellence rather than of mediocrity. A final question is how far these grants-in-aid relate to human problems about which there is some element of immediacy, particularly in the social sciences. We note that grants-in-aid are extended for ethnological and linguistic studies in the Canary Islands, for a study of political parties in Schleswig-Holstein, for studies of the tests of perserverence, for Alpine geography, for research of the populations of the Pacific islands, etc. These are doubtless important questions, and we do not underestimate their worth. But in this matter it seems to us that the Foundation's support is scattered too widely over fields that relate only indirectly to the challenging problems of this generation.

(2) As in the case of fellowships, appropriations for grants-in-aid do not revert to the general funds of the Foundation at the end of the year, but are carried forward until exhausted. This, we believe, is questionable accounting practice; certainly it is confusing; and we recommend that it be changed to a yearly budget basis.

(3) Grants-in-aid administered by the national societies are not confined to the fields of concentration of the Foundation. Consequently through these outside agencies the Foundation is supporting an even wider scattering of effort.

(4) In general, grants by the Foundation of amounts ranging from $50 up are what Dr. Buttrick used to call "chicken-feed". This type of thing is not in accord with the principles upon which Mr. Gates, Dr. Rose and Dr. Buttrick were accustomed to lay strong emphasis. The Foundation has, relatively speaking, immense resources. It can do the large thing, the strategic thing. It can build perpendicularly - to use another of Mr. Gates's favorite words. It can establish standards of excellence. It can create institutions that will serve to raise general levels of thought and practice. The retail business is not properly the Foundation's forte. To give $250 to a professor at the University of Helsingfors and $145 to a professor at the University of Königsberg doubtless represents no unwise use of funds. But in our opinion the Foundation was never intended for this small and scattering type of gift. We have resources to do things that nobody else can do, and our funds and energies should not be dissipated in this unconcentrated fashion.

(5) Finally, we call attention to the fact that in the administration of both fellowships and grants-in-aid the Trustees have given to the officers entire responsibility for the detailed expenditure of large funds, amounting to considerably over a million dollars a year. What the officers do in the way of fellowships and grants-in-aid is reported to the Trustees after the commitments have been made. We are not criticising the operation of this practice. It was entered into deliberately by the Trustees in order to avoid the necessity of passing on all sorts of detailed items about which they could have no possible first-hand information. But since this practice was put into operation, the amounts spent for these two classifications have grown to such a size as to raise the question whether the Trustees are any longer justified in continuing a system which in effect delegates to the officers judicial responsibilities which primarily belong to the Board.

We believe that if the amounts spent for fellowships and grants-in-aid are substantially reduced - and this would be our strong recommendation - part of the difficulty raised by this question would be eliminated. But even so, the Trustees, in our opinion, should keep closely and intimately in touch with this field of interest, and, as will be seen under a later heading, "Administrative Procedures," we recommend the appointment of a permanent committee of the Trustees to sit with the officers in the consideration of questions of this type and present to the Board, from time to time, their opinions as to classifications, amounts, tendencies, etc.

III. Fluid Research Funds

A final technique by which the Foundation has promoted research is to be found in the so-called fluid research funds. This device, initiated in 1929, and now adopted by the divisions of medical science, social science, natural science and the humanities, is based on the principle of appropriations to universities to be used in their discretion and judgment for research work in the general fields above mentioned. The research workers are almost without exception members of faculties, assisted in many cases by their students. No attempt at control is exercised by the Foundation in determining, within the fields, either projects or personnel. This control is exercised by faculty or university committees or councils which decide upon projects and allocate the funds. Reports, however, are submitted to the Foundation from time to time, showing in considerable detail the use that has been made of the funds.

Since 1929 the amounts appropriated in fluid research funds are as follows:

Medical Sciences	$ 605,500.00
Social Sciences	2,150,165.00
Natural Sciences	430,000.00
Humanities	690,000.00
General	595,000.00
	$4,470,665.00

The detail of these appropriations is as follows:

Medical Sciences - Fluid Research Funds

Leland Stanford, Jr. University - fluid research fund in medical sciences - 1930 for 6 years	$ 95,000.00
University of Oregon Medical School - fluid research fund - 1932 for 2 years	13,000.00
University of Rochester School of Medicine and Dentistry - fluid research funds - 1929 for 5 years	100,000.00
Vanderbilt University School of Medicine - fluid research fund in the medical sciences - 1931 for 8 years	250,000.00
Yale University - fluid research fund for the School of Medicine - 1929 for 8 years	147,500.00
	$ 605,500.00

Social Sciences - Fluid Research Funds

Columbia University Council - research in the social sciences - 1930 for 10 years	$ 675,000.00
Harvard University - research fund for social sciences - 1932 for 5 years	375,000.00
Leland Stanford, Jr., University - research fund for the social sciences - 1932 for 5 years	200,000.00
London School of Economics and Political Sciences - fluid research fund - 1932 for 2 years	34,000.00
Exchange 1934-35	1,165.00

Social Sciences - Fluid Research Funds (Continued)

McGill University - development of research in social sciences - 1930 for 5 years	$ 110,000.00
University of California - research program of Institute of Social Sciences - 1933 for 1 year	30,000.00
University of Chicago - research facilities and assistance in the Division of Social Sciences - 1931 for 5 years	375,000.00
University of North Carolina - research in social sciences - 1932 for 3 years	90,000.00
University of Paris - fluid research fund in the social sciences - 1934 for 1 year	21,000.00
University of Stockholm - general research program in the social sciences - 1931 for 5 years	30,000.00
1933 for 3 years	9,000.00
University of Texas - research fund for social sciences - 1932 for 5 years	125,000.00
University of Virginia - research in the social sciences - 1930 for 5 years	75,000.00
	$2,150,165.00

Natural Sciences - Fluid Research Funds

Iowa State College - fluid research fund in the natural sciences - 1931 for 5 years	$ 30,000.00
Massachusetts Institute of Technology - fluid research fund for physics, chemistry, geology, and biology - 1931 for 6 years	170,000.00
University of Chicago - research in the biological sciences - 1929 for 5 years	150,000.00
Research in biology 1933 for 1 year	50,000.00
University of North Carolina - research in the natural sciences - 1929 for 3 years	15,000.00
1932 for 3 years	15,000.00
	$ 430,000.00

Humanities - Fluid Research Funds

Columbia University - fluid research fund for development of advanced humanistic work - 1931 for 2 years	$	75,000.00
1933 for 2 years		50,000.00
Harvard University - fluid research fund for advanced humanistic work - 1933 for 2 years		50,000.00
Johns Hopkins University - fluid research fund in the Humanities - 1930 for 5 years		100,000.00
Princeton University - research program in the humanities - 1934 for 1 year		15,000.00
University of Chicago - fluid research fund in the humanities - 1931 for 2 years		100,000.00
Fluid research fund for advanced humanistic work 1933 for 1 year		25,000.00
University of Michigan - research fund in humanities - 1934 for 1 year		25,000.00
Yale University - research fund in the humanities - 1932 for 5 years		250,000.00
	$	690,000.00

General - Fluid Research Funds

University of Minnesota - fluid research fund (For all departments of the Institution, but with special consideration for research in the biological and social sciences.) 1931 for 6½ years	$	275,000.00
University of Pennsylvania - fluid research fund (For the encouragement, initiation and promotion of research throughout the University. Fund not to be legally restricted as against medicine but medicine is felt to be supported so largely that it is not likely it will share.) 1930 for 5½ years		80,000.00
Washington University - fluid research fund (For research in the pure sciences, such as physics, zoology, botany, chemistry, and the so-called pre-medical group such as physiology, pathology, and cytology, but not the clinical fields.) 1930 for 7 years		240,000.00
	$	595,000.00

On the subject of these fluid research funds, your committee presents the following comments:

(1) The sums involved are much larger and the device is much more comprehensive than we had anticipated, particularly in the field of the social sciences.

(2) The research work carried on by the universities with the aid of these funds is in most cases far broader than the fields of concentration in which the Foundation has announced a definite interest. As a single example, through the Massachusetts Institute of Technology we are supporting research in physics and chemistry although these subjects no longer represent a special interest of the Foundation. Similarly we are supporting research in anthropology, dentistry, geology, zoology, botany, pharmacology, bacteriology, archeology, Greek, Latin, Semitics, Romance languages, and a miscellaneous array of subjects that are not related, or at best are only indirectly related, to any field of concentration which we now pretend to maintain.

(3) In the social sciences the research work carried on by the universities with the aid of funds which the Foundation supplies sweeps a field that is little short of bewildering in its breadth and scope. For purposes of illustration we list a few of the subjects, picked at random, research in which the Foundation is now supporting:

Illinois archeology.
Book and job printing in Chicago.
The legal aspects of zoning.
The cold storage industry in the United States.
The social life of the Navajo Indian.
Trends of location in the women's clothing industry.
Higher education in Germany.
The cleaning and dyeing industry.
A decade of economic and social change in Greenwich Village.
Collected letters of Grover Cleveland.
The family as a business organization in classical Rome.
Omaha secret societies.

Study of the Greek constitution.
Studies in the psychology of the radio.
The period of Cromwell and Charles II.
The plight of cigarette tobacco.
Letters of L. Gumplowicz.
Marriage: a text for college men and women.
Phonophotography in folk music.
A study of the winds in Texas.
Social history of St. George, Utah.
The making of Roumania.
Vocal reactions of human infants.
Public and private welfare in Roanoke, Virginia.
An analysis of the factors influencing the demand for cheese.
Acts of the Genoese notary, William Cassinensis, for 1191 A.D.
Advertising of meats by chain-grocery companies.

(4) Your committee does not claim, of course, that this research is without value. As we said in an earlier section of this report, the social sciences have lagged far behind the laboratory sciences, and the stimulation of realistic research has been a legitimate and creditable aim of the Social Science Division. Undoubtedly gains in this direction have been made in the various universities as a result of the support which the Foundation has given. There is a good deal of indication, however, of lack of any systematic integration or concentration by the universities in administering the funds which we supply. From such inquiry as we have been able to make, we are not convinced that within some of the universities thus aided considerations of faculty politics do not occasionally play a part in determining the distribution of these blanket research funds. Consequently the best and most promising research projects do not always find support. Certainly in such a vast array of projects as is financed by our social science grants, it cannot always be true that the best judgment is shown or the best brains employed.

On the other hand, the fluid fund in the social sciences has served the purpose for which it was devised. It has helped to build up and stabilize the habit and desire in university faculties to do research work.

However faulty critical judgment and discrimination may bave been in the administration of these funds by university authorities, the impetus toward a realistic type of research has been genuine.

Nevertheless, as a policy for the immediate present, we believe, as we have previously pointed out, that a shift of emphasis on the part of our Social Science Division away from general research toward a few definite and concentrated objectives is indicated as a new sailing direction.

(5) As far as fluid research funds in the natural sciences are concerned, we see little justification for them, except as they relate to our own fields of concentration. The Trustees have given up their earlier preoccupation with physics, chemistry and mathematics because it was felt that plenty of impetus was being given to these subjects by the very pressure of our machine life. The decision seems to your committee to have been very wise. If this is the case, why is it necessary to continue our support of research in these same subjects through university centers?

(6) We have much the same opinion in regard to fluid research funds in the medical sciences. The Foundation has adopted for that Division a program in psychiatry. General medical research represents an old interest which we are no longer directly supporting, except perhaps in China. Why should we continue it in the universities through fluid research grants?

(7) In brief, we recommend the curtailment of this whole fluid research program, with the idea of bringing such research as the Foundation supports more closely into line with its own fields of interest and concentration. In making this recommendation, we are not arguing that the idea of the fluid research fund is in itself undesirable. We believe that universities will continue this mechanism in the future as they have in the past. The enrichment which it makes possible in university teaching, the stimulus which it brings to

pioneer work, are factors which any careful observer is bound to admit. But the Foundation cannot do all the things that it would like to do. It can only follow a few promising opportunities at a time. If it is to be truly effective, its programs must have a sharp cutting edge; and grants of this type, in our judgment, serve to blunt the force with which the Foundation might strike at problems of pressing moment.

SECTION VI

ADMINISTRATIVE PROCEDURES

Thus far in the report we have been considering matters relating to program. This indeed is the primary function of a committee of appraisal. Foundation plans, however, are necessarily related to questions of administrative procedure, and in this section we comment briefly on some aspects of this general topic which we have noted in the course of our survey.

(1) Theoretically, except for the International Health Division, we have no Divisions. Instead we have Directors of the general fields of the natural sciences, the social sciences, the medical sciences and the humanities. In the reorganization of 1928 it was the deliberate intent of the Trustees to do away with divisions representing the various disciplines, in the hope that the water-tight compartments, into which the Foundation had rather unconsciously organized itself before 1928, could be broken down. In our opinion this has proven to be a vain hope. While, legally speaking, there are today no Divisions, in fact they are as real as they ever were - with much the same atmosphere of self-consciousness and protective interest. This development is frankly difficult to avoid. If we divide the work of the Foundation into separate fields, as we have done, it is perhaps inevitable that we should have a drift toward separatism in organization. Certainly it is idle for us to believe that the mere failure to give a division a name will of itself lessen the tendency toward water-tight compartments. Even in this report, your committee has fallen into the current practice of referring to the Division of Social Sciences, the Division of Humanities, etc.

The point is important only as it bears on the question of unity in Foundation program. We believe that some advance has been made through the

medium of the officers' conference and in the friendly interrelation of personnel to weld the program together and to engender a feeling of solidarity. That this is a most desirable development it is superfluous to point out, and your committee would emphasize the need of constant vigilance and the exploration of every possible means in an endeavor to keep the Foundation from the kind of departmental self-consciousness and rivalry which handicaps so many organizations and institutions.

(2) This tendency toward separatism has perhaps been accentuated by the new system of budget allocation which allows each "division" a certain sum for appropriation during the year. The current allowances approved by the Trustees are as follows:

International Health Division	$2,200,000
Medical Sciences	1,500,000
Natural Sciences	1,500,000
Social Sciences	2,000,000
Humanities	700,000
Total .	7,900,000*

We are not criticizing this arrangement as a practical measure. As a method of operation it may be necessary. It does, however, serve to accentuate the departmentalization of the Foundation. It removes the healthy competition between items in different fields. The Foundation may vote for a project in the social sciences which from the standpoint of human welfare may not compare in point of importance with a project in the natural sciences - the vote of the Trustees being based on a recommendation of the officers who in turn are influenced by the ample funds of the one division as compared with the depleted funds of the other. This is a hypothetical illustration, but it illuminates the

*With the exception of the International Health Division, it cannot be said that these divisional sums are based on detailed budgetary estimates. They are based, rather, on calculations in round figures: - for example, institutional support of vital processes, $500,000; social science institutional centers, $500,000; etc.

danger arising from allocations based on considerations that are bound to be somewhat artificial, and that may negative cool and impersonal opinion as to what the Foundation could most wisely do at the moment.

On the other hand, the present arrangement has the advantage that it demands of the individual director a careful judgment of the respective merits of competing projects in his own field. He no longer has an open-ended budget; he is limited to a definite annual amount; he cannot hope to push his projects at the expense of other divisions. This has its advantageous consequences; but it <u>does</u> make for the kind of departmental separatism which is to be deplored. Under this policy, the consideration of the <u>whole</u> program of the Foundation - the survey of opportunities in terms of human welfare - is frankly handicapped.

The officers are, of course, conscious of this difficulty, and have made sincere efforts toward unity. Your committee has no recommendation to make in the matter, although we believe the subject should receive continued study. Functional budgeting instead of divisional budgeting is, theoretically at least, much to be preferred. From a practical point of view it presents difficulties which we fully realize. We call attention to it because we believe the Trustees should be aware of the hazards to a well-balanced program that arise when the administrative mechanism is thoroughly departmentalized.

(3) The current divisional allocations represent, of course, only temporary decisions and, in our opinion, should be strictly reviewed from year to year or oftener. There should be no presumption of support at a particular level, and the Trustees should not hesitate to shift emphasis from one division to another, to add new divisions, or to abolish divisions, as considerations of a strategic program may dictate.

(4) In exercising their responsibility for highly technical programs, the Trustees are frequently placed at a disadvantage. With three or four exceptions, the members of the Board are laymen without competence to pass on the technical and scientific details of many of the projects. Even the non-lay members cannot always have a critical judgment in matters that lie in fields other than their own; and the sweep of Foundation program is so broad that in actual practice only one or two Trustees are generally sufficiently acquainted with the technical aspects of a particular project to be able to express a competent opinion.

The value of a lay board, or of a board that is composed largely of lay members, seems to your committee to be vindicated by the broad experience of many institutions, both private and public. The place of the expert is vital, but if balance and proportion are to be achieved, the final responsibility should not be in the hands of specialists. This general principle, we believe, is now universally recognized. But it does not answer the difficulty which the Trustees of the Foundation have when they are asked by the officers to vote on scientific matters with which they are not familiar.

Of course, in Foundation practice the officers are the experts, and we proceed on the principle that as laymen we accept their advice in technical matters. Generally speaking, this principle works with fair satisfaction. The difficulty - and it is no new difficulty - is that the officers are also the administrative heads of their divisions. They are eager - and properly so - to see their programs developed. If they are to succeed they must have at least a dash of vigor and drive. In other words, there is a sense in which the kind of cool detachment and objectivity which we expect of them as experts may be handicapped by the qualities which we expect of them as administrators.

This difficulty has faced the Foundation from its earliest days, and a number of attempts have been made to meet it. In President Vincent's regime, small committees of Trustees, made up of men with special acquaintance in the respective fields, sat with the heads of the various divisions in the determination of their programs and budgets. These programs and budgets were then recommended to the Board. This plan was later abandoned because frankly it was not successful. The presence of Trustees on the divisional committees led to a situation in the Board which was not healthy. Once a Trustee committee had made its report, free discussion became embarrassingly difficult.

In 1929 another attempt was made to meet the situation, at least in part, when the Board of Scientific Directors was created for the International Health Division. This board is intercalated between the officers who mature plans and the Trustees who act on them. In the opinion of your committee this device has marked a significant advance, not only in furnishing the Director of the International Health Division with a competent body of opinion upon which he can lean, but in giving the Trustees a sense of security and confidence in voting each year the large budget of that Division.

The matter comes before us now because some of the experts whom we consulted in connection with the vital process program suggested the advisability of a similar board or committee, informal or otherwise, to perform for this activity the same function which the Board of Scientific Directors performs for the International Health Division. The analogy between the work of the International Health Division and the work in experimental biology is not quite exact. The International Health Division, as we have seen, is exclusively an operating board, maintaining its own personnel and spending its funds largely on projects which it, itself, carries out. The work in experimental biology, on the other hand, is in the nature of grants to institutions

or fellowships and aid to individual scholars. Whether it would be possible to discover an advisory group of experts who could maintain their independence of judgment in the face of the rival claims presented by their own work and institutions, might conceivably be open to question. However, if the functions of this group were limited to advice, and if the officers and Trustees felt free if need be to disregard it, this difficulty might be minimized. In any event, the general idea seems to your committee to be worth considering. The supplemental counsel of such a group would be welcomed by the Trustees; and the judgment of the officers would be tested and fortified by a committee of impartial experts.

The same device might conceivably be instituted for our program in psychiatry in the Medical Sciences Division and perhaps for some of the new projects which the Social Science Division may undertake. Particularly in the latter division it would seem as if outside counsel, sitting perhaps as a committee, might be of genuine assistance in helping to shape and guide the program.

We are not today making definite recommendations along these lines. It is important that the suggestion be carefully considered and thought through both by the officers and the Trustees. That it has some implications that look toward increased separatism cannot be denied. Moreover, if the device meant merely the creation of machinery which would not be used or would get under foot, then it should not be attempted. If, on the other hand, it brought an additional source of wise counsel to our work, and engendered an increased feeling of confidence on the part of the Trustees, it might be worth while to try it out.

(5) We recommend that the Committee on Appraisal and Plan be discharged. The necessity, however, for continual review by the Trustees of Foundation program and procedure seems to us so paramount that we venture to suggest the appointment of a permanent committee - bearing perhaps the same name as our own - this committee to be a committee of three members of whom the President of the Foundation should be one. To this committee should be referred, we believe, the study of the new device suggested in the foregoing paragraphs and any other matters growing out of this report which require further consideration before action by the Trustees. This committee, too, would be the committee to sit with the officers in the consideration of questions arising from our program in fellowships and grants-in-aid as suggested on Page 90 of this report. The main function of the committee, however, would involve the continual scrutiny and appraisal of Foundation program.

SECTION VII.

MR. GUNN'S PROGRAM FOR CHINA

At the last meeting of the Foundation, Mr. Gunn, vice-president in the Far East, presented an interesting report on the modification and extension of our program in China. The report was tentatively adopted, but was referred for further consideration to the Committee on Appraisal and Plan. Mr. Gunn pointed out that the existing program in China is no longer in touch with the times or with the best that we could find to do. He urged the close correlation of our medical work with public health and the integration of these two activities with national reconstruction. He recommended a greater emphasis on national universities rather than on mission colleges. He particularly urged a program of rural reconstruction, and suggested, finally, the correlation of these activities in the Shanghai office.

That Mr. Gunn's program represents a realistic approach to present difficulties in China there can be little question. There can be little question, too, not only of the great need in China today but of the wide open opportunity for the constructive type of work which Mr. Gunn recommends. In her evolution into a modern state, China is bound by few hampering traditions, and the plastic condition of her life and institutions at the present moment is an inviting challenge to a positive kind of service. Indeed there is a sense in which China might become a vast laboratory in the social sciences, with implications that would be international in scope. Finally it may be said that this suggested program of Mr. Gunn's helps to conserve and revivify the work that has already

been done through the Peking Union Medical College. It ties it more intimately to the life of China.

All this is on the positive side. There are other considerations, however, which, we believe, should be taken into account. Mr. Gunn estimates an annual budget of $300,000, a modest sum compared to the possible scope of his proposed program. A plan aimed at raising the educational, social, and economic standards of rural China would, if it were undertaken at all, have to be adequately financed, and the Trustees of the Foundation must be prepared for an undertaking of no small proportions. This relates not only to the element of money, but to the element of time. Mr. Gunn's program is one to which no time limitations can easily be set. If we embark, we embark for the voyage, and we must contemplate a trip of considerable duration if any significant contribution is really to be made. Your committee does not by any means say that this is a conclusive argument against the project. It is a factor, however, that should be weighed.

Another question deserving consideration is whether we are to have two programs in China - one headed up in Peking and the other in Shanghai. What relationship, if any, is there to be between these two programs? It would seem to your committee that some kind of integration, or at least a carefully matured understanding, would be desirable and necessary if some degree of uncertainty and perhaps confusion is to be avoided.

Another query that presents itself is the relationship of the International Health Division to Mr. Gunn's program. Insofar as it involves public health, the program would seem to contemplate an approach and a technique differing from those customarily employed by the International Health Division.

Are we to have two techniques in public health - one for the rest of the world and one for China? There may be excellent reason for two techniques, but the matter is not clear in the minds of your committee,

A final consideration in relation to this proposal relates to the broad question of the size of our support to China. Since 1913 the Foundation has spent over $37,000,000 in China. It is by far the largest sum that has been spent in any country outside the United States. The fifteen countries which have absorbed the greater part of the Foundation's contribution are, in order of magnitude of expenditures, as follows:

United States	$117,208,233
China	37,481,104
Great Britain	14,346,068
Canada	7,375,807
Belgium	5,724,828
Brazil	5,499,634
France	5,128,162
Germany	2,701,600
Italy	1,510,336
Syria	1,367,872
Czechoslovakia	1,330,798
Poland	1,306,266
Turkey	1,143,192
Japan	1,109,197
Denmark	996,328

The question that confronts us, therefore, is whether China's needs and opportunities are so great as to justify us in expending in that country still further amounts. Or to put the matter in another way, is the welfare of mankind best served by enlarging our investment in China? Is China the outstanding strategic point in which we ought to push our attack? Is there no other sector of the world where we can hope to obtain as large a return in human happiness and welfare as we can in China?

Your committee is making no recommendation on this point. This is properly a matter for discussion and decision by the entire Board of Trustees.

We would point, however, to the possibilities that lie in a country like Mexico, for example, where the Foundation has made relatively little expenditure. The South American countries likewise present an inviting field. India is another conceivable opportunity. We are not arguing for India or South America or Mexico as against China. These areas are merely mentioned by way of balance and contrast so that the Trustees may have the opportunity of weighing Mr. Gunn's proposal in terms of present need and past expenditure.

SECTION VIII

CONCLUSIONS

In a report that attempts to cover as much ground as this one, there is danger that we may not see the wood for the trees. In order to sharpen the focus we have brought together in this section the principal recommendations which we have made in the report, with citations referring to the pages where each particular recommendation may have been discussed. Minor recommendations and observations have not been thus transferred from the body of the report, as the repetition would appear to serve no useful purpose.

General

1. The advance of knowledge, if rigidly defined, is too limited and confining an objective. We recommend an interpretation which will admit without question the consideration of projects that have to do with the application of knowledge in fields where human need is great and opportunity is real. We further suggest a policy of opportunism in relation to such outstanding occasions for furthering the welfare of mankind as may not fall within the limits of any announced program. (See pages 39-42).

2. The above recommendation carries with it the implication that while research will undoubtedly remain an important interest of the Foundation, it will be more specifically related to the fields of concentration which the Trustees definitely adopt. The Foundation is not interested in the promotion of scientific research as an end in itself. We regard research as a means to an end, and the end is recognized to be the advancement of human welfare. (See pages 42-45).

3. Mechanisms in aid of research such as fellowships, grants-in-aid and fluid research funds should be, as far as practicable, limited to the definite fields of concentration in which the Foundation has expressed an interest. In making this recommendation, we realize that there will be occasional cases or even areas where its application will handicap the Foundation's program. It is the general principle that we are advocating, and not a rigidity of execution which might stand in the way of what our programs are trying to achieve. (See pages 74-97).

Divisional Programs

1. For the present we see no reason to recommend any reduction of the budget or any change in the general program of the International Health Division. (See pages 48-51).

2. We believe that the work of the Medical Sciences Division should be concentrated for the time being on psychiatry. By psychiatry we mean a broad definition which will include what is commonly known as mental hygiene, with full recognition of preventive and corrective therapy, and without prejudice to special techniques. With the exception of the minor interest which this Division has in the teaching of public health in medical schools, and its collaboration with the program in experimental biology, we recommend that psychiatry as defined above should represent its sole preoccupation. (See pages 51-54).

3. Natural Sciences:

(a) The term vital processes is vague and we suggest that experimental biology be used instead.

(b) In general this field represents a promising area for exploration and development.

(c) We would expect that expenditures in this field might in the aggregate over a period of years reach a reasonably large amount; but we would not expect that an elaborate program would be launched involving large individual items; nor would we recommend, for the time being at least, annual totals measurably above the present level.

(d) We urge the closest collaboration in this field between the Division of Natural Sciences and the Division of Medical Sciences.

(e) It is recommended that the program in earth sciences be discontinued. (See pages 55-61).

4. In the Social Sciences, we recommend a frank shift of emphasis from the promotion of research as an objective to concrete fields of application. While your committee has tentatively submitted two or three illustrations or types of conceivable fields, our thought is that the officers would develop carefully matured programs along this line for submission to the Trustees or to the Executive Committee at a future date. (See pages 62-70).

5. In the field of the Humanities, we recommend that no new development in program should be encouraged until, through a frank survey of all available techniques and methods, it has been determined whether there may not be more vital directions for the stimulation of the Humanities - and this with particular regard to increasing the area of public appreciation. (See pages 70-73).

Administrative Procedures

1. The current divisional allocations represent, of course, only temporary decisions, and, in our opinion, should be strictly reviewed from year to year or oftener. (See page 100).

2. We recommend that the Committee on Appraisal and Plan be discharged. The necessity, however, for continual review by the Trustees of Foundation program and procedure seems to us so paramount that we venture to suggest the appointment of a permanent committee - bearing, perhaps, the same name as our own - this committee to be a committee of three members of whom the President of the Foundation should be one. To this committee should be referred, we believe, any matters growing out of this report which require further consideration before action by the Trustees. The main function of the committee, however, would involve the continual scrutiny and appraisal of Foundation program. (See page 104).

Miscellaneous

1. The income of the Foundation is at best problematical, and, as we have pointed out, the yield has declined from a high of 6.59 in 1929 to 4.21 in 1933. For the time being at least, programs should be planned and appropriations made within conservative estimates of income. We recommend, too, that for the immediate future no further grants be made from principal unless the proposed project is one of overwhelming importance. (See pages 32-34).

2. We recommend to the Finance Committee a reconsideration of the principle, adopted in 1933, discouraging grants running for more than a year. This principle was agreed to in view of the financial emergency; and, while the emergency is by no means past, we believe that the position of the Foundation's securities may justify at least a partial amelioration of a rule which complicates and handicaps the work of the officers. To that end we would suggest a possible maximum of five years if the grant does not exceed $50,000 a year, or a maximum of three years if the grant does not exceed $75,000 a year. Grants in excess of a five-year term should, we believe, be discouraged.

3. At the meeting of the Foundation in April, 1933, a special committee of trustees was appointed to consider possible items relating to the present economic emergency in the United States. An appropriation of $1,000,000 was made for this purpose, supplemented by a later appropriation of $500,000. We believe that the time has come to discharge this committee, and to turn over its function to the regular machinery of the Foundation. If the proposals in this report in relation to the social sciences are adopted, there is no reason why this special class of items should not be adequately handled in that Division.

ACKNOWLEDGEMENT

We could not bring this report to a conclusion without some reference to the sympathetic and interested cooperation and assistance which your committee has received from the officers. The organization has been turned inside out to supply us with the data and figures which we desired, and an unstinted amount of time and patience has met our endeavors to get the picture of Foundation program and practice. We would stress the word patience, because pending the completion of our study a number of plans and projects have been curtailed or held in abeyance. We are grateful to the officers for their forbearance and understanding during this necessary period of uncertainty.

Respectfully submitted,

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