University Research and Patent Policies, Practices and Procedures

by
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Washington, D. C.

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of the

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FOREWORD

This report contains the findings of a comprehensive survey and interpretive analysis of the current policies, practices and procedures of universities, colleges, institutes of technology and independent professional schools in the United States with respect to the administration and conduct of scientific and technological research, including particularly sponsored research, and the handling of patentable discoveries and inventions resulting from such research.

The survey and analysis were made by the Office of Patent Policy Survey of the National Academy of Sciences–National Research Council and the report was prepared by the director of that office. The project was financed jointly by the National Institutes of Health under Research Grants RG-7832 and RG-7832 (C) and by the Office of Naval Research and the Departments of the Army and the Air Force under Contract Nonr-2300(22).

A previous report entitled *University Patent Policies—A Factual Survey,* based upon a similar survey and analysis of the situation prevailing ten years ago, had been prepared for and submitted in September 1952 to the National Institutes of Health under Research Grants RG-2840 and RG-2840 (C) and the Office of Naval Research and the Department of the Air Force under Contract N7-onr-29137.

That report was subsequently expanded and published in November 1952 by the National Academy of Sciences–National Research Council in a monograph entitled *University Patent Policies and Practices.* The present survey and analysis were made in an effort to bring up to date the information gathered and published at that time and to prepare a factual report on the current situation interpreted in the light of the many significant changes which have occurred during the past decade.

The objectives of the present project were: (1) to make a comprehensive factual survey of the current research and patent policies and practices of institutions of higher learning in the United States, with particular reference to their procedures, administrative machinery and experience in the handling of research, both sponsored and unsponsored, and of new discoveries, inventions and patents thereon resulting from such research, (2) to critically analyze and summarize the data obtained and the observations made during the conrse of the survey and (3) to prepare an interpretive report on the findings.

In order to obtain from the project the maximum benefit to the supporting agencies and to provide them information which would be most helpful in their administration of Government research, grant and contract programs, the project

was conducted in collaboration with and under the advisory supervision of a planning committee composed of representatives of the four supporting agencies and the director of the survey. The committee developed a series of questions on which information should be sought and the general plan of the survey was organized with a view to obtaining answers to those questions.

The survey was also designed to provide the factual basis for an analysis of the general situation currently prevailing in the higher educational field, an interpretive understanding of the situation at individual institutions and the impact of sponsored research, and particularly Government-sponsored research, on the educational programs of the institutions, as well as information which would be useful to Government agencies and other research sponsors in negotiating research contracts and grants with these institutions.

From among the more than 2,000 educational institutions listed in the Higher Educational Directory published by the U. S. Office of Education, 1,212 universities, colleges, institutes of technology, independent medical and other professional schools and teachers colleges were selected for initial inclusion in the survey. Independent law schools, theological seminaries, junior colleges, other specialized institutions and certain smaller colleges, which were not likely to engage in scientific or technological research, were excluded.

On the basis of the information obtained through correspondence with these 1,212 institutions, a final selection was made of 945 institutions for inclusion in the survey report. Further specific information obtained on the research and patent policies, practices and procedures of each of these 945 institutions was then analyzed and collated.

The findings are presented in this report, with individual descriptive statements on the situation at 349 institutions. Each of these 349 institutions either has formulated and adopted a formalized research and patent policy or observes a generally accepted practice with respect to the handling of research and patent matters. The other 596 institutions, which conduct little or no scientific or technological research and which have no formalized research or patent policies, are grouped together by states in a separate list.

At the suggestion of the planning committee the director of the survey visited a selected group of educational institutions actively engaged in sponsored research, to supplement and clarify the information obtained through correspondence and also to make personal observations and discuss their practices and experiences. Forty such institutions were selected and previously arranged visits were made to these institutions, as well as a number of separately incorporated nonprofit research organizations, which regularly conduct a significant volume of scientific and technological research, and particularly Government-sponsored research.

During these visits the director met with responsible officials of the institutions, research and patent committees, individual research scientists and patent management agents. He discussed with them various aspects of their experience with sponsored research and with patent management, and in particular the impact of contract research and of Government patent policies on the basic research pur-

rnment and other research sponsors and for determining who was entitled to the patent rights and to what extent.

This report has been prepared, in format and content, in accordance with a general plan developed in collaboration with the planning committee to meet the needs not only of the sponsoring agencies but of all Government agencies, and also foundations and industry, when considering and negotiating the support or sponsorship of research projects at educational institutions. It is also intended to provide a suggestive background for university officials, research scientists and others concerned with policies, practices and procedures for the conduct of scientific and technological research and the handling of patentable discoveries and inventions growing out of such research on the university campus.

The report itself is divided into nine sections or chapters dealing with (1) the general situation, (2) the 147 currently existing formalized research and patent policies, (3) prescribed procedures for the administration and conduct of research, (4) the impact of sponsored research on the academic, administrative and personnel programs of higher educational institutions, (5) considerations in the formulation of a research and patent policy, (6) special research organizations existing at or affiliated with specific institutions, (7) patent management arrangements and procedures, (8) individual descriptive statements concerning the situation at each of the 349 institutions having formalized research and patent policies or observing generally accepted practices and (9) a list, by states, of the 596 institutions which do not have formalized policies and which conduct little or no scientific or technological research. Also, for convenience of reference, an alphabetical index of the institutions covered in this report is included.

The conduct of the survey and the preparation of the report have been greatly facilitated by the fine cooperation of the university and college officials, scientists and others who liberally contributed information and comments concerning existing policies and practices, procedures for implementing them, the effectiveness of those procedures, research and patent management experience, the impact of sponsored research and the interpretive analyses of specific situations. The director of the survey is particularly indebted to the members of the planning committee for their assistance and guidance. He is also grateful for the valuable help cheerfully given, even under pressure, by the members of his staff, especially Charlotte Dankworth, Korbin Liu, Mary McGrady and, during the early phases of the survey, Anna Van Stan.

ARCHIE M. PALMER
Director of Survey

August 1962

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INTRODUCTION

The unprecedented increase in the volume of scientific and technological research at institutions of higher education in the United States during recent years, and particularly since the beginning of World War II, has been a source of deep satisfaction and also of serious concern to the administrators and faculties of those institutions. The increase has been greatly stimulated by the financial support of such research provided by the Government and industry, as well as foundations and other external sponsors. Inevitably this rapidly expanding activity has at the same time raised many problems which have affected the policies and practices of the institutions and even their basic functions. These problems have usually arisen with respect to the appropriate disposition of the results of the research, especially patentable discoveries and inventions, and the development of effective procedures for the administration and conduct of the research within the framework of the institutions.

As a service to American higher education and to the scientific fraternity, the National Academy of Sciences—National Research Council established the Office of Patent Policy Survey in 1946 under its standing Committee on Patent Policy and initiated a program for the compilation and dissemination of information concerning the policies, practices and procedures of higher educational institutions in the handling of patentable results of scientific and technological research. The project was originally conceived as a factual survey of significant prevailing practices and the publication of the findings. A similar, although much less comprehensive, survey made fifteen years earlier had served a very useful purpose in presenting an analysis of the situation as it existed at that time.

Undertaken in recognition of the need for information on university research and patent policies, their implications and interrelationships, the project was particularly opportune as educational institutions were making an effort to adjust to postwar conditions. The subsequent expansion of research on the university campus, and especially cooperative and sponsored research supported, under contract or grant, by government agencies and industry, had raised many perplexing problems.

To assist university administrators and others concerned with those problems, the original plan of the project has been expanded and made more comprehensive. Monographs on the subject have been published, advisory and consultative services have been rendered, regional conferences have been held, articles have been written for scientific and professional journals, talks have been given before educational, scientific and professional organizations and collateral studies of other types of nonprofit research and patent management have been made.

Previous Studies and Publications

A preliminary report on the findings of a comprehensive survey of the then current situation among higher educational institutions in the United States and Canada was published in May 1948 under the title of *Survey of University Patent Policies.* This factual report contained an analysis of significant practices prevailing at the time and presented verbatim statements of 37 formalized university patent policies which had been formulated and adopted.

In furtherance of the program of disseminating information on university research and patent problems five regional conferences were held in Berkeley, Denver, Chicago, New York and Atlanta during April and May 1949. These conferences, which were attended by representatives of both American and Canadian institutions, were designed to provide an opportunity for scientists and administrators to share experiences, to discuss the motivation behind research and patent policies and to attempt to clarify the principles and considerations involved in the formulation of such policies. In November 1949 a summary report on the five conferences was published under the title *University Research and Patent Problems.*

An interpretive analysis of the policies and practices of 70 approved university-affiliated and independent medical schools in handling patentable discoveries in the medical and public health fields was published in the *Journal of the American Medical Association* in June 1948 and was subsequently made available as a reprint. In March 1955 the findings of a more comprehensive survey of current policies, practices, procedures and experiences of approved medical schools and of accredited colleges of pharmacy, both in the United States and Canada, were published in a monograph under the title *Administration of Medical and Pharmaceutical Patents.*

Similarly an article on "Industry-Supported University Research" was published in *Chemical and Engineering News* in July 1948 and was made available as a reprint. This article reported the findings of a review and analysis of problems involved in the performance of industry-sponsored research on the university campus and in the disposition and control of the results of such research.

Two special analytical studies were made of university patent policies, one for the National Institutes of Health and the other for the National Institutes of Health, the Office of Naval Research and the Department of the Air Force jointly. Reports on these special studies were submitted to the Government agencies concerned in July 1951 and September 1952, respectively.

A subsequent expansion of the latter of these two special reports, to include the policies and practices of all types of higher educational institutions in the United States and Canada, was published in November 1952 by the National Academy of Sciences–National Research Council in a monograph entitled *University Patent Policies and Practices.* That monograph not only brought up to date but also amplified the earlier *Survey of University Patent Policies,* published in 1948. In it the situation then prevailing at 227 institutions was presented, including verbatim transcripts of 70 formalized policies.

ad been adopted and existing policies revised and so many changes in institu-onal practices had occurred, especially with respect to contract research and atent management, that it was necessary to review the situation again and to ublish a supplement to *University Patent Policies and Practices.* This supple-ıent, published in January 1955, brought up to date and expanded the material ıcluded in the earlier monograph and also contained a much-needed chapter n considerations in the formulation of research and patent policies.

n order to keep abreast of the rapidly changing situation and to meet the grow-ng demand for objective advice and current information on the subject, the)ffice of Patent Policy Survey of the National Academy of Sciences—National ⟨esearch Council has continuously maintained correspondence with the higher ducational institutions. The present survey is the latest comprehensive effort of he Office to review current practices and this report represents the situation ıs of July 1962.

Collateral studies have also been made of the organization, objectives, operation, ›rograms, policies and experiences of more than 100 nonprofit research and ›atent management organizations affiliated with higher educational institutions ınd operating independently. A series of four volumes on nonprofit research ınd patent management has been prepared; two of them have been published :hus far: *Nonprofit Research and Patent Management in the United States* and *Nonprofit Research and Patent Management Organization.* The other two, *Non-brofit Research Institutes* and *Nonprofit Patent Management,* are now in pro-luction.

These four publications are the outgrowth of the advisory and consultative serv-ices provided by the Office of Patent Policy Survey and its director to these organizations, as well as to universities, the Government, foundations and indus-try, in this important field. All of the publications emanating from the Office are made available for the information and guidance of university and college administrators, research scientists, government officials, foundations, patent at-torneys and others concerned with the conduct, administration and support of nonprofit scientific and technological research and the handling of patentable discoveries and inventions emanating from such research.

Survey Procedure

For inclusion in the present survey a selection was made from the more than 2,000 universities, colleges, institutes of technology, independent professional schools and teachers colleges in the United States which might conceivably engage in scientific and technological research and accept or consider research projects sponsored and supported, under grant or contract, by the Government, foundations, industry or other external sources. Through an examination of their catalogs and other pertinent literature and on the basis of an analysis of their academic programs and available physical facilities and personnel, a pre-liminary selection was made of the institutions to be included in the survey. Independent law schools, theological seminaries, junior colleges, other specialized

institutions and certain smaller colleges, which were not likely to engage in scientific or technological research, were excluded.

The 1,212 institutions so selected were circularized by mail, with appropriate follow-up letters where necessary, and requested to furnish information concerning their current research and patent management practices. They were requested, in particular, to include information on (1) procedures for handling research grants and contracts, (2) arrangements and agreements made with faculty members and research workers, (3) procedures for disclosing and reporting new discoveries and inventions, (4) patent management practices and (5) experiences with patentable discoveries and inventions. The institutions were also requested to submit copies of standard or typical grant, contract and employee agreement forms.

After an analysis of the responses received and a further study of the college catalogs and other literature on the subject, 945 institutions were finally selected for inclusion in the survey report. The names of these institutions will be found in the alphabetical index at the end of this report. Additional specific information was then sought on their current policies, practices and procedures.

Through this further exchange of correspondence it was found that 349 of these institutions had either formulated and adopted formalized research and patent policies or observed generally accepted practices with respect to the handling of research and patent matters. Individual descriptive statements concerning the current situation at each of these institutions, arranged by states, are presented in the chapter on "Institutional Policies and Practices." Each of these statements as published has been approved by a responsible official of the institution, after being confirmed as to its currency and factual accuracy or after a previously prepared statement had been revised in the light of more recent developments.

Copies of formalized institutional research and patent policies, of special policies limited in application to sponsored research or to particular fields of science or research and of prescribed procedures for the administration and conduct of research and descriptions of generally accepted practices were obtained from these 349 institutions, This material has been placed in the files of the Office of Patent Policy Survey, where it is available for examination and reference.

The other 596 institutions, which do not presently have formalized policies and which conduct little or no scientific or technological research, are listed by states in the chapter headed "No Policy and Little or No Research." A considerable number of these institutions have given and many are currently giving consideration to the problem, largely as a result of an incipient interest in sponsored research and a growing recognition of the need for some form of institutional policy or practice.

To supplement and clarify the information obtained through correspondence, visits were made by the author to a selected group of 40 institutions, as well as a number of separately incorporated nonprofit research organizations, which regularly conduct a significant volume of scientific and technological research, and particularly Government-sponsored research. During these visits the author

their various aspects of their experience with sponsored research and with patent management, and in particular, the impact of contract research and of Government patent policies on the basic research purposes, programs and potentials of the institutions, as well as their procedures for disclosing and evaluating inventions, for reporting inventions to the Government and other research sponsors and for determining who was entitled to the patent rights and to what extent.

Additional information was sought on special research and patent situations and experiences which might have some bearing on institutional programs, policies and practices. Correspondence was also exchanged with schools of medicine, pharmacy and dentistry, agricultural and engineering experiment stations, special research institutes and patent management organizations existing at or closely affiliated with the institutions included in the survey.

Analysis and Interpretation of Data

In the interpretation of the data obtained through the present survey, the vast fund of information and literature on university research and patent policies, practices and procedures accumulated by the director over the past forty years and by the Office of Patent Policy Survey of the National Academy of Sciences—National Research Council through earlier and collateral studies was utilized and correlated with the newly acquired data.

All the data concerning the 945 institutions included in the survey, which were obtained through correspondence and visits and were available from other sources, were carefully analyzed and interpreted in the light of a schema approved by the planning committee. A descriptive statement of the situation at each of the 349 institutions included in the chapter on "Institutional Policies and Practices," as well as at many of the other institutions included in the survey, was prepared and submitted in July 1962 for approval and confirmation of its factual accuracy as an appropriate representation of the current situation at the institution. These statements, as confirmed by a responsible official of the institution, or revised in the light of more recent developments, served as the basis for the general analysis of the current situation presented in the chapter headed "The General Situation."

The individual statements of the specific situation at each of these 349 institutions contain the following information: (1) verbatim transcripts of the formalized research and patent policies, where such policies exist, or brief descriptions of the generally accepted practices, (2) the date of adoption of each formalized policy and by whom it was adopted, (3) the procedures for handling sponsored research, (4) the applicability or limitation of the formalized policies, where they have been adopted, (5) the patent management agencies utilized and (6) whether the equities of inventors in their inventions are recognized and the extent to which an inventor shares in the income derived from the sale or exploitation of patents obtained on his invention.

As used in this report, the term "formalized research and patent policy" refers to an established definitive course of action, formulated and expressed in a sys-

tematic statement, which has been adopted by the board of control, state legislature or other appropriate governing body of the institution. The term "general practice" is used when a more or less definitive practice is generally accepted as applicable to the handling of research at the institution and the patentable results of such research, but has not been formally adopted in the manner indicated above.

A list has been compiled of the 147 institutions which have formalized research and patent policies, verbatim transcripts of which are contained in the individual institutional statements in the chapter on "Institutional Policies and Practices," and is included in the chapter on "Formalized Policies."

A list of the special research departments, divisions, laboratories, institutes and foundations established as integral units of, or separately incorporated but closely associated with, a number of the educational institutions which handle in behalf of the institutions the administration and/or conduct of sponsored research performed under contract or grant has also been compiled and is presented in the chapter on "Special Research Organizations."

Similarly, a list of the separately incorporated nonprofit foundations, corporations and institutes which handle patentable discoveries and inventions in behalf of the institutions with which they are affiliated has been compiled and is presented in the chapter on "Patent Management Practices." Lists of the institutions which utilize the facilities of the two independent nonprofit organizations, Research Corporation and the Battelle Development Corporation, under patent or invention development agreements are also included in that chapter.

esearch, whether conducted in the library, the laboratory or the shop, is an sential and integral element of an effective educational program. This is articularly true in higher educational institutions concerned with scientific and chnological education. Faculty members of such institutions find it necessary nd desirable to engage in some form of research, in order to keep abreast of ie rapid and constantly changing advances in science and technology, as well s to satisfy their intellectual curiosity and improve their professional status. imilarly, graduate students are stimulated in their academic work and in their reparation for their future careers by participating in meaningful research rojects and by developing a spirit of inquiry and a familiarity with research chniques.

lthough a certain amount of research is and always has been performed on the niversity campus, the volume of scientific and technological research has been astly expanded through sponsored research projects financially supported by esearch grants and contracts from the Government, foundations, industry and ndividuals. As a result, the number of higher educational institutions offering esearch services and seeking support of such services from external sources, es-ecially the Government and industry, has been steadily growing. Earlier studies nade by the Office of Patent Policy Survey of the National Academy of Sciences -National Research Council have shown an ever-increasing interest, especially ince the beginning of World War II, on the part of institutions of higher learn-ng to make both their personnel and their facilities available and to seek support rom Government agencies and industrial firms, as well as nonprofit foundations.

Current Practices

n a steadily growing number of institutions full-time research workers have een added to the staff, specialized research divisions have been organized and pecial research institutes have been established, both as separately incorporated onprofit organizations closely associated with the institutions and as integral nits or parts of the institutions themselves, to handle sponsored research. These levelopments have created certain administrative, personnel and legal problems n the administration and conduct of the research and in the handling of the atentable results of such research. The solution of these problems has not been asy or simple, either for the institutions or for the sponsors.

To meet the situation, widely diversified practices, both in the administration f the scientific and technological research, unsponsored as well as sponsored, nd in the handling of patentable discoveries and inventions growing out of such esearch have developed in higher educational institutions, and even at the same

institution. Existing practices vary from strictly drawn patent policies to laissez-faire attitudes, and even to an unwillingness to become concerned with patents. A number of institutions have given little or no serious official consideration to the patent problem, despite the steadily expanding volume of scientific and technological research on the university campus during recent years.

Some institutions observe a hands-off attitude, leaving to the individual inventor full responsibility for determining what disposition is to be made of the products of his research efforts, as well as for arranging and conducting the research from which they originated. Others take the position that the institution has an interest in all research activity on the campus, both sponsored and unsponsored, and have established formalized research and patent policies or follow generally accepted practices for conducting the research and for handling any patentable discoveries or inventions that may result. Still others make a definite practice of not having a research or patent policy. More frequently the failure on the part of an institution to establish such a policy is the result of limited experience or no experience at all with research and patent problems.

Background and Trend

Nevertheless, there is evidence of a definite trend on the part of higher educational institutions to formulate and adopt formalized research and patent policies or to develop and observe practices which, while not established by formal trustee or other official action, are generally accepted as applicable to research throughout an institution. Some institutions have adopted special policies or general practices for dealing with results of scientific investigation that affect public or private health. Others have developed policies and practices only with respect to sponsored research, applicable on an institution-wide basis to all faculty and staff members, and in most instances also students, participating in such research or limited to sponsored research conducted in special research units.

In one of the earliest publications on the subject, "University Patent Policies," prepared by the author and published in the *Journal of the Patent Office Society* in February 1934, in which the practices and patent experiences of 21 institutions in this country and one in Canada were described, it was revealed that at that time only two institutions had what might be called a formalized research and patent policy. This article was reprinted in booklet form and widely distributed by Research Corporation.

A monograph entitled *Survey of University Patent Policies,* published by the National Academy of Sciences—National Research Council in May 1948, contained the findings of a later and more comprehensive study of the subject made by the author and an analysis of the then prevailing practices. In this monograph were included verbatim transcripts of 37 formalized policies.

In November 1952 the Academy—Research Council published a monograph, entitled *University Patent Policies and Practices,* based upon a comprehensive survey of the policies and practices of all types of higher educational institutions in the United States made for the National Institutes of Health, the Office of Naval Research and the Department of the Air Force. It contained detailed information on the practices of 227 institutions and included 70 verbatim tran-

tent Policies and Practices, contained 22 new institutional statements, of which were revisions of previous statements, and included 12 additional formalized licies.

dicative of the fluidity of the situation and of rapidly changing conditions, ere are at present in existence 147 formalized research and patent policies, rbatim transcripts of which are included in the individual institutional state- ents presented in the chapter on "Institutional Policies and Practices." In dition to the new policies adopted since the 1952 report, many of the earlier licies have been revised, as have the generally accepted practices, to meet anging situations and attitudes in the institutions concerned, particularly with spect to sponsored research and the disposition of patent rights in new dis- veries and inventions emanating from such research.

Present Policies and Practices

early all of the formalized research and patent policies and many of the gen- ally accepted practices cover all types of research on the campus. Most of the hers are concerned mainly with problems growing out of sponsored research ojects supported by outside sources on a grant or contract basis. Certain stitutions are unwilling, and a few even refuse, to undertake research projects hich might entail patentable developments. Others are willing to conduct ch projects only when they retain complete control over both the patent rights id the publication of the findings of the investigation. Still others will enter to contracts under which the sponsor receives, usually for a consideration, full ossession of the research findings, including title to all patentable discoveries id inventions which may result.

here is no uniformity in the terms or conditions under which sponsored re- arch is accepted and conducted, or in the determination of the charges made r such research. Some institutions have established specific policies for handling ll such research; others make the best possible arrangements in each case. Some ill accept only those sponsored research projects which are definitely related their educational programs and can be performed by faculty members and udents as part of their regular academic activities. Others have set up special cilities for handling sponsored research and employ personnel who devote full me to such research.

number of institutions have established special offices or divisions to relieve aculty and regular administrative personnel from contractual relations with esearch sponsors. Further information concerning these special offices and ivisions, as well as the affiliated but separately incorporated research institutes, ill be found in the chapter on "Special Research Organizations." A number of pecialized nonprofit research facilities, some separately incorporated and oper- ted autonomously but in close affiliation with educational institutions and others aintained as unincorporated units of the institutions, are also included in this hapter.

t many institutions each situation is considered and decided on an individual asis in accordance with a formalized policy or, in the absence of such a policy,

by mutual agreement among the parties concerned. A few still feel that they discharge their responsibility by merely publishing the results of the investigations or by obtaining patents and then dedicating them to the public. Others accept full responsibility for obtaining patents and administering the patent rights in the public interest. Many exercise control over the patents by issuing licenses and also accept royalty payments, either directly or through arrangements with separately incorporated nonprofit organizations designated to develop and manage their patents.

Of the 945 higher educational institutions upon whose practices this discussion is based, 349 either have formalized research and patent policies or observe generally accepted practices with respect to scientific and technological research conducted by their faculty or staff members and the handling of patentable products of such research. They also offer research services to government agencies and industry in accordance with institutional policies or practices and available personnel and facilities.

A number of the other 596 institutions will accept research grants and contracts for sponsored research nnder similar conditions. Most of these institutions do not have formalized research or patent policies or observe generally accepted practices, nor do they ordinarily offer research services or even perform much, if any, scientific or technological research. Occasionally individual faculty members provide research services for local sponsors, usually in a consulting capacity, under arrangements made personally and, especially when the use of institutional facilities may be required, with administrative approval.

Patent Rights

Most institutions recognize the rights and interests of the inventor in his invention and share with him any proceeds received from the sale or exploitation of patents obtained on the invention, either under a prior contractual arrangement or by mutual agreement. However, there is no uniformity in the division of the financial return from patents between the inventor and the institution. Even in those instances where the proportion given the inventor is specified in accordance with a general policy, there is a wide variation among institutions in the amounts allotted to the inventor. In other institutions the inventor's share is determined in each case after consideration by a special faculty or administrative committee.

All too frequently these determinations are made on an ad hoc basis after the invention has been disclosed. A few institutions include patent provisions in their contracts of employment, in some instances for all faculty members but more often limited to members of the staff whose entire or major responsibility is research, especially contractual research conducted on behalf of government agencies or industry.

At most higher educational institutions the compulsory assignment of patent rights is not considered desirable, except when it is necessary in connection with cooperative or sponsored research and is required, even when not specified in the research contract, in order that the institution may fulfill its contractual obligations. However, voluntary assignment is preferred and, in many institutions, is encouraged and facilitated either through prescribed procedures or

iere special provisions with respect to those products of scientific and tech-
logical research which affect public or individual health are included in an
titutional policy, neither the institution nor the inventor ordinarily benefits
ancially from the exploitation of a new discovery, process, development or
vention of a medical, pharmaceutical, therapeutic or hygienic nature. Patent
hts are considered less important than making the research results generally
d promptly available either through publication or, when patenting is deemed
sirable or essential in the public interest, through placing the patent in the
blic domain by dedication or through licensing control.

Patent Management

many instances the services of a separately incorporated nonprofit outside
ganization, either closely related to the institution or under a patent develop-
ent agreement to act as its patent management agency, are utilized for that
irpose. A list of these separately incorporated organizations and the institu-
ons they serve as patent management agencies will be found in the chapter on
'atent Management Practices."

ore than 100 universities and colleges have entered into patent development
reements with Research Corporation, whereby that independent nonprofit
undation acts as their patent management agency and handles patentable dis-
veries and inventions in their behalf, as well as in the interest of inventors
nong their faculty and staff who voluntarily assign their inventions to the
orporation. Several of these institutions have also recently entered into in-
ntion development agreements with the Battelle Development Corporation,
nother nonprofit patent management organization.

FORMALIZED POLICIES

Included in the 349 individual institutional statements presented in the chapter on "Institutional Policies and Practices" are verbatim transcripts of 147 formalized research and patent policies as established by boards of control, state legislatures or other appropriate governing authorities. As indicated in the individual institutional statements, most of these policies are applicable on an institution-wide basis and usually cover all phases of research performed in the various departments and divisions of the institution.

For each such policy the date of its original adoption is given, as well as subsequent revisions, and also the authority by which it was established. Where the policy statements are available in printed or other definitive form, copies have been obtained and are on file in the Office of Patent Policy Survey at the National Academy of Sciences—National Research Council, where they are available for examination and reference. In those instances where the policy statements are available only in mimeographed or typed form such copies have also been obtained and these are likewise on file in the Office of Patent Policy Survey.

Verbatim Transcripts of Policies

The verbatim transcripts of these formalized policies are given under the individual statements for the following institutions:

Albert Einstein College of Medicine
Arizona State College
Arizona State University
Auburn University
Brooklyn College
Bucknell University
California Institute of Technology
Carnegie Institute of Technology
Case Institute of Technology
Central State College (Ohio)
Chapman College
The City College (New York)
Clarkson College of Technology
Clemson College
Colorado School of Mines
Colorado State University
Columbia University
Cornell University
Drexel Institute of Technology
Eastern Montana College of Education
Eastern Oregon College
East Tennessee State College
Fairfield University
Findlay College
Fisk University
Florida State University
Fordham University
Georgetown University
Hunter College
Institute of Paper Chemistry
Iowa State University
Jefferson Medical College
The Johns Hopkins University
Kansas State University
Kent State University
Lehigh University
Loma Linda University
Louisiana State University
Lowell Technological Institute
Loyola University (Illinois)
Loyola University of Los Angeles
Manhattan College

Mingan College of Mining and Technology
ssissippi State College for Women
ssissippi State University
ntana School of Mines
ntana State College
ntana State University
wark College of Engineering
w Mexico Institute of Mining and Technology
w Mexico State University
w York University
agara University
rtheastern University
rthern Montana College
rthwestern University
rwich University
io State University
dahoma State University
egon College of Education
egon State University
nnsylvania State University
lytechnic Institute of Brooklyn
rtland State College
att Institute
inceton University
rdue University
ueens College (New York)
ensselaer Polytechnic Institute
utgers, The State University
. John's University (New York)
. Louis University
. Olaf College
uth Dakota School of Mines and Technology
uth Dakota State College
uthern Illinois University
uthern Oregon College
anford University
tate University of Iowa
tate University of New York
tevens Institute of Technology
yracuse University
exas Agricultural and Mechanical College System
exas College of Arts and Industries
ufts University
Jniversity of Akron
Jniversity of Alabama
Jniversity of Arizona
Jniversity of Arkansas
Jniversity of California
Jniversity of Chicago
University of Delaware
University of Detroit
University of Florida
University of Georgia
University of Hawaii
University of Idaho
University of Illinois
University of Kansas
University of Kansas City
University of Kentucky
University of Louisville
University of Maine
University of Maryland
University of Miami
University of Michigan
University of Minnesota
University of Mississippi
University of Missouri
University of Nebraska
University of New Hampshire
University of New Mexico
University of North Carolina
University of North Dakota
University of Notre Dame
University of Oregon
University of Pennsylvania
University of Pittsburgh
University of Portland
University of Puerto Rico
University of Rhode Island
University of Southern California
University of South Florida
University of Texas
University of Tulsa
University of Utah
University of Vermont
University of Virginia
University of Washington
University of Wyoming
Utah State University
Vanderbilt University
Virginia Polytechnic Institute
Washington State University
Western Illinois University
Western Reserve University
West Virginia University
Wittenberg University
Worcester Polytechnic Institute
Xavier University (Ohio)
Yale University
Yeshiva University

Where a uniform policy which is applicable on either a mandatory or an optional basis to all the institutions in a state or city system, as in Arizona, Florida, Mississippi, Montana, Ohio, Oregon and New York City, the policy is presented in only one of the individual institutional statements with a cross-reference in each of the others.

Certain of these 147 formalized policies are currently under review to meet changing conditions in the institutions concerned, stemming largely from sponsored research problems, but as of July 1962 the published statements represent the present situation. A considerable number of additional policies are currently in process of preparation; in fact, some of them have been under consideration for years. Recognition of the need for formalized research and patent policies at those institutions where the formulation of such policies is currently under study is the result both of research and patent problems which have arisen and of a recently accelerated interest in sponsored research activities.

Special Features of Policies

As indicated in the policy statements, several institutions have formally adopted special provisions, or deviations from their overall research and patent policies, with respect to new discoveries and inventions which may affect public or individual health. Such policies are applicable on a university-wide basis and deal with the subject matter of the research rather than the site of its performance. In addition, several others which do not have general formalized research and patent policies have formally adopted similar special provisions as a general practice for handling individual situations as they arise.

The policy statements vary in length and in delineation of the procedures to be followed, also in the extent to which they provide for the various possibilities that might arise. In practice the policies are all subject to and are given local interpretation, in conformance with general institutional policies, regulations and other pertinent considerations. The designated official, committee or special organization administratively responsible for the local interpretation and implementation of a formalized policy, as well as a generally accepted practice, is indicated in the individual institutional statement.

Some of the more recently adopted policies are patterned after those already in effect at other institutions, particularly the earlier policies of the University of Illinois, Lehigh University, the Massachusetts Institute of Technology and the Pennsylvania State University. Several institutions have embodied their policies in their employment agreements, following the example of Michigan College of Mining and Technology. Other recently adopted policies show evidence of recommendations and suggestions made by the author in an advisory or consultative capacity, as well as through his earlier publications, particularly the *Supplement to University Patent Policies and Practices,* published in 1955 by the National Academy of Sciences—National Research Council.

As indicated in the individual institutional statements, the formalized policies are all applicable on a university- or college-wide basis to both faculty and staff members and in some instances to all employees of the institution. Certain of the policies also include provisions with respect to patentable discoveries and

p or other financial aid provided under government or industrial research ıtracts. On the other hand, inventions made by students holding academic olarships or fellowships are generally considered to be the personal property these student inventors, who accordingly retain the right to assign or other-ıe dispose of their patent rights.

ıe policy of the University of North Carolina is applicable on a university-de basis to members of the university staff and to graduate students and assist-ts at the University in Chapel Hill, at the North Carolina State College of riculture and Engineering in Raleigh and at the Woman's College in Greens-ro. Likewise, the policy of State University of New York applies to the state-erated units of the University, which consist of eleven colleges of education, agricultural colleges and technical institutes, two colleges of medicine, a llege of forestry, Harpur College at Endicott, the Maritime College at Fort huyler and the Long Island Center at Oyster Bay. The policy of State Univer-y of New York does not, however, apply to its contract colleges located at ɔrnell University and Alfred University.

he policy adopted by the Board of Directors of the Texas Agricultural and echanical College System is applicable not only to the Agricultural and Me-anical College of Texas but also to Arlington State College, to Tarleton State ɔllege, to Prairie View Agricultural and Mechanical College and to the other ıits of the System. Similarly, the policy of the University of Texas is applicable ı a university-wide basis not only to the units of the University located in ustin but also to the Medical Branch located in Galveston, to Southwestern edical School located in Dallas and to Texas Western College located in El aso.

ven though the medical school, college of pharmacy or other professional school filiated with a university is located in another city, it is nevertheless subject the provisions of the university-wide policy, unless otherwise specified in the ɔlicy, and particularly to special provisions with respect to new discoveries and ıventions affecting public and individual health which are included in a umber of the policy statements.

Establishment of Policies

ɔf the 147 institutions having formalized research and patent policies currently ı effect, 73 have adopted policies during the past ten years, 41 of them since ıly 1957. The policy of Lehigh University, which was the first to be established, as adopted in its present form on 25 April 1924; at 24 other institutions for-ıalized policies have been in existence more than twenty years, but at 14 of ıese the policies have been revised or amended since they were originally adopted r have been replaced by entirely new policies.

The frequent revisions which have been made in the original research and patent ɔlicies, especially during the past several years, indicate that these policies are nder constant review and reconsideration. During the past ten years 21 previ-ıusly adopted policies have been revised or amended; several of them have

been completely rewritten and the others have been modified in part. In most instances the policy statements have been expanded in the revision, while in a few instances they have been abbreviated.

Most of the formalized policies have been established through trustee action, usually after extended prior study by special faculty or joint faculty-administration committees; whereupon they have then been adopted with administrative approval and recommendation. A few policies have been established merely by administrative action, while others have been enacted by state legislatures or are prescribed by state agencies for the institutions under their control or jurisdiction.

The research and patent policies of several of the state institutions have been established by legislative enactment and are part of the organic laws of their states, as in Connecticut, North Dakota and Ohio; the same is true with respect to the policy of the University of Puerto Rico. At Auburn University, formerly Alabama Polytechnic Institute, the research and patent policy adopted by the Auburn Research Foundation, a separately incorporated but affiliated research organization, applies as the policy of the University.

In some instances the policy statements have been incorporated in the official by-laws and regulations of the institutions concerned; in other instances they are to be found only in the minutes of meetings of the boards of control or governing bodies. Certain of the policy statements are included as part of general research and other faculty regulations and have been so published in special booklets or manuals.

The formalized research and patent policies of several institutions are included in agreements executed by their employees, particularly those engaged in research activities. The policies of Michigan College of Mining and Technology and of St. John's University are embodied in patent waiver agreements which every employee is required to sign when accepting a position at either institution.

At Case Institute of Technology all staff members and students working on research supported by the Case Research Fund or under contracts with government or industry are required to sign an inventions agreement which contains the Institute policy. The policy of the Lowell Technological Institute is embodied in an inventions agreement signed by all faculty members of the Institute who devote time to the research activities of the Lowell Technological Institute Research Foundation.

Although the policy of St. Olaf College is applicable on a college-wide basis, all members of the departments of physics and chemistry are also required to sign a separate agreement which includes the policy. The policy of Wittenberg University is a provision of the memorandum agreement between the University and the membership of the Wittenberg Research Institute, an unincorporated function of the University.

Several institutions, which have not formally adopted policies but which have entered into patent development agreements with Research Corporation, consider the provisions of those agreements in the nature of a broadly formulated policy and apply both the provisions and the philosophy of those agreements on an institution-wide basis.

their research programs have expanded and as they have gained experience th the intricate administrative aspects and problems involved, especially in ɔnsored research, most educatioual institutions have developed prescribed ɔcedures for the solicitation, acceptance, performance and reporting of their ɛarch activities, both sponsored and unsponsored. Usually, and at least ɪtially in most instances, these procedures are delineated in memoranda is-ɛd from time to time by the administration of the institution for the informa-ɔn and guidance of its faculty members. Sometimes they are included in faculty ɪnuals. Frequently, however, particularly at institutions which maintain ex-ɪsive research programs, special booklets or bulletins dealing specifically with ɜearch policies and procedures have been prepared.

ɦe format, content and extent of these memoranda and publications vary greatly ɔm institution to institution, depending largely upon the volume and charac-r of the research performed, the number of personnel involved and the ɑount and nature of the experience the institution has had with the complexity sponsored research administration. Some of the more detailed expositions of search procedures are to be found at the larger universities where widely di-rsified and continuing research programs are in operation. These procedures ɪve been fomulated to more effectively implement formalized research and ɪtent policies and generally accepted practices in conformance with institutional ɔjectives and overall institutional policies and, particularly in the case of state stitutions, to fulfill their public responsibilities and comply with legislative quirements.

ɪ general the procedures have been developed after long and careful consid-ation by administrative personnel and faculty members, and then usually ɪbject to final approval by the presidents and the governing bodies of the in-itutions. These procedures are under constant review and, when modified or nplified, revisions are made periodically in the light of experience and changing ɔnditions. The published statement of institutional research procedures also rves to clarify for sponsors the policies and procedures under which sponsored ɜearch is conducted at the institution.

Nature of the Procedures

Many of the prescribed procedures are concerned mainly with the administrative earance of contemplated research projects, the review of fiscal matters and ɪe fulfillment of contractual obligations. Where special committees or research rganizations exist for the coordination of overall institutional research programs

or only of sponsored research, the procedures include information on the role and function of these committees and/or organizations and their availability for assistance and other services in connection with the research programs.

However, some of the procedural statements definitively describe the various steps involved in the procurement of research funds, the preparation and processing of research proposals, the determination of budget estimates, the conduct of the research itself, the allocation of and accounting for expenditures, the submission of reports on the findings and the disclosure of new discoveries and inventions. Where institutionally budgeted research funds are available, information on their allocation and utilization are also included. In some instances known sources of potential extramural support are listed in the procedural booklets or separately, as well as discussions of the complications and possible embarrassments associated with sponsored research.

As most government agencies and many of the foundations have their own individual and usually divergent policies and procedures for the submission of research proposals, it is essential to be aware of and to observe their published instructions, also their areas of interest and closing dates for the acceptance of applications. In many instances standard application forms are supplied by the sponsor, but occasionally a letter describing in a general way the nature of the proposed research, stating in broad outline how it will be carried out and indicating what it is hoped to accomplish will suffice. Frequently informal correspondence may be conducted by the investigator in advance of the formal submission of the application. Support of industry sponsored research is ordinarily negotiated through memoranda or letters of agreement.

When the research proposal is formalized by the investigator, most institutions require that it be cleared through departmental and college channels for integration into the academic program, that it be examined by the business office for fiscal purposes and financial adequacy, that it be reviewed by the president or his designated representative for conformance with overall institutional policies and, where necessary, that it be approved by the governing body of the institution. As the research contract is not made with the individual investigator but with the institution and in its name, the proposal is then submitted to the prospective sponsor by the appropriate institutional contracting official. When the contract or grant is consummated, the institution is responsible to the sponsor for the fulfillment of its terms and conditions, including proper performance of the research, financial accounting and reporting of the findings, and may require the investigator to execute whatever documents or agreements are necessary to meet the institution's contractual obligations.

The performance of private consulting services for industry and of independent or personal research conducted on a faculty member's own time and at his own expense is encouraged at most institutions provided these activities do not interfere with the discharge of his regular teaching and other institutional responsibilities. Procedures are usually prescribed for the clearance and approval of these activities, as well as any reasonable use of the facilities and equipment of the institution which may be required.

Ordinarily educational institutions do not undertake research in competition

oject or when such services are not conveniently available elsewhere and the stitution is peculiarly qualified to render them.

Reporting Requirements

ogress reports to the sponsors should be kept at a minimum to avoid unofitable expenditure and diversion of time and energy on the part of the instigators. Except in the case of a long-term continuing research project, only final report on the findings is usually required. However, when the duration a specific project extends over a period of years, annual or other periodic ogress reports may be specified in the research contract. More frequent progress ports are, for the most part, meaningless and should be discouraged whenever ssible. Adequate provision should be made in the estimated budget to cover e cost of the required reports in the number and form specified in the reearch contract.

ompt written disclosure should be made by the investigator of any new disvery or invention conceived or first reduced to practice during the course the research which reasonably appears patentable. Many of the institutions ve developed their own standard disclosure forms for this purpose. A number, owever, use the Office of Naval Research disclosure form, while others have atterned their own forms on it. The maintenance of adequate research records cilitates the preparation of the disclosure, particularly in describing the circumstances leading to the invention and in determining and proving the date its conception and/or reduction to practice.

Most of the formalized research and patent policies and some of the generally ccepted practices cited in the chapter on Institutional Policies and Practices ontain provisions for the disclosure of patentable discoveries and inventions, well as the procedure for evaluating and determining their patentability. ome institutions employ a resident patent counsel or retain the services of an utside patent attorney for this purpose. Others utilize the facilities and services f an independent non-profit organization such as Research Corporation and ie Battelle Development Corporation, as discussed in the chapter on Patent Management Practices.

s the dissemination of new information is a primary responsibility of educaonal institutions, every effort is made to retain control of publication rights. dvance copies of any proposed publications relating to the subject matter of sponsored research project are usually furnished the sponsors for examination. , in the opinion of the institution or of the sponsor, any such publication ontains a description or other revealing information concerning a patentable evelopment, its submission for publication may be withheld for a reasonable eriod of time to permit the preparation and filing of patent applications.

lthough a considerable volume of classified research is currently being perormed at many educational institutions under contract with government

agencies, caution is exercised in the acceptance of such research contracts. The restrictions imposed upon the publication and utilization of the research results are incompatible with the basic concept of an educational institution as a source and disseminator of new knowledge. Sponsored research contracts containing such restrictions are, therefore, ordinarily accepted only if the research is of national importance and also if it can be performed without undue curtailment of the fundamental instructional and unclassified research programs of the institution.

IMPACT OF SPONSORED RESEARCH

e tremendous volume of sponsored research currently performed in higher ıcational institutions in the United States has inevitably made a definite im-ːt upon the programs of these institutions. In various ways, both good and l, it has had a profound effect upon their traditional policies and practices. ıe acceptance of financial support of scientific and technological research from : Government, industry, foundations and other external sources has also sed certain problems, many of them unique to the source of the funds. The olution of these problems has required institutional adjustments and, in many tances, has produced significant changes and shifts in the pattern and direc-n of educational programs, of operating procedures and even of institutional jectives.

ıancial support of sponsored research is ordinarily provided in the form of ınts-in-aid to individual faculty members for the pursuit of research of their 'n choosing, of fellowships to enable promising, as well as needy, graduate ıdents to complete their education, of uncommitted or only broadly designated ınts and gifts for the initiation of new or the expansion and continuance of isting research programs and, to an increasing extent, of grants and contracts · the performance of specifically designated research projects, in many in-ınces defined in advance by the sponsors. Sought and accepted as a means funding scientific and technological research, this financial assistance has in neral been welcomed in a day of increased operating costs and of dwindling come from endowment and other usual sources.

Recognized Advantages

ithout this additional financial assistance many institutions would find it tremely difficult to balance their academic budgets and to maintain and pand essential research and instructional activities. It enables them to re-in and strengthen their faculties, especially in the scientific and technological ılds, and to acquire expensive equipment and facilities not otherwise obtain-ıle. It has made possible the development of graduate programs in a number institutions and to attract research-minded personnel to the university campus, well as better full-time teaching members of the faculty. It has also given any of the smaller institutions opportunities for faculty and student research hich they could not otherwise afford and has enriched their academic offerings.

ırticipation in sponsored research broadens the perspective of members of the aching staff and adds an atmosphere of reality to the instructional programs of ıe institutions. It stimulates the intellectual curiosity of faculty members, in-eases their scholarly productivity and enables them to keep abreast of the

rapid advances in the sciences and in technology. Similarly, the participation of students in such research serves to improve and modernize their training and preparation, particularly on the graduate level, for later professional careers in industry, government and education. It gives them a familiarity and experience with current problems, with research techniques and facilities and with organized team research that make them more immediately qualified for and useful in industrial and government research and development.

Many institutions have found that the higher quality of training and the breadth of practical experience provided through sponsored research, as well as the employment opportunities thereby made available to those in need of financial aid, have tended to attract better than average graduate students. The use of student assistants, both graduate and undergraduate, on sponsored research projects has also released faculty members for more productive research and more effective teaching.

At the same time participation in sponsored research has given an ever-increasing number of faculty members administrative experience and a knowledge of the administrative problems connected with such research. This has created a better understanding of the role of the university administrator and has improved communication and cooperation between the central administration staff of the institution and the faculty in many areas. Interdisciplinary and team research, so often essential in sponsored research, has also served to break down departmental barriers and to eliminate personal and group rivalries.

Concomitant Hazards

Although the majority of institutions reported favorable effects of sponsored research in the furtherance of educational objectives, many qualified their responses with words of caution and expressions of the need for maintaining restraint and balance in the type of research conducted on the university campus. In particular, they emphasized the possibility of an undesirable overemphasis on applied and developmental, in contrast with basic, research and the dangers inherent in the diversion of faculty interest and time to more attractive sponsored research projects to the detriment and frequently the neglect of fundamental research and sound teaching, with a consequent distortion and imbalance in the overall educational programs of the institutions.

The formation of special research institutes, divisions, departments and other institutional units for the performance of sponsored research has, in many instances resulted in a questionable fragmentation of the research activities at many institutions. While the concentration of research, especially interdisciplinary research, in these special organizations has usually been found to be more economical operationally and has tended to facilitate and expedite the research, serious fiscal and morale problems nevertheless frequently arise. The higher salaries usually paid full-time investigators and the better working conditions and facilities they enjoy have often caused dissatisfaction among other less fortunate members of the university community. The current emphasis on scientific and technological research and the greater ease in obtaining funds for sponsored research in these fields has led to similar dissatisfaction among faculty members in the humanities and social sciences.

nditions under which, for reasons of national security, such research must be nducted are considered inconsistent with and damaging to the spirit of free quiry so essential to the achievement of the primary function of higher edu- tional institutions. Likewise, the restrictions upon the dissemination and ilization of the findings of such research imposed by the sponsoring govern- ent agencies are alien to the practices of educational institutions and often mper the effective prosecution of the research itself.

hen accepted as a public responsibility, these classified research projects are equently isolated in off-campus laboratories. However, such arrangements pose ldditional fiscal and administrative problems, including the security clearance the research workers engaged in the conduct of the classified projects and eir segregation from the rest of the university community and from other in- stigators in related fields. The personnel performing the research in these olated laboratories, therefore, contribute little or nothing to the educational ograms of the institutions.

he nature and duration of many sponsored research projects, especially those pported by the Government, present an added hazard to the effective operation the overall programs of educational institutions, especially when these projects volve the diversion of manpower for the performance of short-term or hard- are type of research and development. The termination or cancellation of pport for such research also poses fiscal and personnel problems inconsistent ith the policies and continuing responsibilities of educational institutions, as oes the dependence upon sponsored research support for the retention of culty and staff members.

he exacting reporting and accounting demands, especially in connection with overnment-supported research and development contracts and grants, impose eavy and time-consuming burdens, both upon the investigators and upon the dministrative staffs of the educational institutions. These burdens have been artially but not completely alleviated by recent modifications of these require- ents by certain government agencies. Compliance with these demands has also dded administrative expenses which are only partially covered by the allowable verhead or indirect costs provided in the research contracts and grants. Unless ie research fits into the overall academic program of an institution, it places a eavy drain on the institutional budget and frequently leads to the diversion funds needed for other, more essential functions of the institution.

he maintenance of an extensive sponsored research program often requires an ducational institution to make organizational adjustments and commitments hich may prove embarrassing as the program tapers off or fluctuates. A num- er of institutions have found it necessary to establish special offices and to add on-academic personnel to produce a steady flow of research contracts and grants maintain the programs. Then, too, it may be difficult, if not impossible, to eadily integrate into the regular staff of an institution specialized personnel mployed specifically for the execution of particular sponsored research con- acts upon completion of these projects.

The lack of uniformity in the policies and procedures of the various government agencies, and even among the various divisions within a single agency, adds to the complexity and difficulty of administering and conducting government-sponsored research projects and discourages many institutions from seeking them. As a result, a large proportion of such research is concentrated in a limited number of institutions. The failure of sponsored research projects to carry the full cost also prevents many institutions from accepting such projects, even though their faculty members may be interested in the research and qualified to perform it.

It is recognized that the performance at educational institutions of sponsored research, particularly government-supported research, will continue for a long time and that an early return to the previous normal pattern of academic life may not be anticipated. The availability of the resources of the universities and colleges is essential to the maintenance of national security, as well as the health, safety and welfare of the nation and of the free world. Careful and prudent consideration must, therefore, be given to the formulation of sound long-range plans for cooperation and mutually advantageous relationships between the institutions and the supporting agencies. This requires clarification and understanding by all concerned of the function of educational institutions and the development of well-conceived policies, practices and procedures.

FORMULATION OF A POLICY

his monograph has been prepared primarily to furnish a factual and interpre-
'e presentation of currently prevailing policies, practices and procedures for the
ministration and conduct of university research and for the handling of pat-
table discoveries and inventions growing out of such research. Such a presen-
tion can of itself be helpful as the basis for understanding and interpreting the
rrent situation, both by university personnel and by research sponsors. It can
so serve as a guide to those concerned with the formulation of a policy where
one now exists or with the revision of an existing policy.

n analysis of the material presented in these pages concerning the situation
the major higher educational institutions in the United States, and particu-
rly at the 147 institutions which have formalized research and patent policies,
ovides the benefit of the experience of these institutions. However, the con-
nuing and expanding interest in the problem and the frequent requests for
vice and assistance in formulating a policy justify the inclusion of a brief
scussion of some of the more essential elements to be given consideration.

Fundamental Considerations

the first place, it must be recognized that patents are usually fortuitous by-
oducts of research. They are not necessarily the conscious or inevitable end-
sults of scientific investigation. This is particularly true of research on the
iiversity campus, which is conducted primarily with a view to expanding the
ontiers of knowledge, encouraging and stimulating the spirit of inquiry and
ntributing toward the training of scientific and technological personnel.

oncerned with the discovery of new ideas and the understanding of nature and
laws, most scientists working in university laboratories are content to pursue
eir investigations without giving much thought to the practical application of
e results. The conception and development of patentable discoveries and in-
ntions are not the conscious objectives of their research efforts. They feel with
r Henry Dale that "the primary and special function of research in the uni-
rsities is to build the main fabric of knowledge by free and untrammelled
quiry and to be concerned with the practical uses of it only as these arise in
e course of a natural development."

evertheless, many new ideas, discoveries and inventions may evolve as the result
experiments undertaken with quite a different purpose in view and may have
luable commercial application or require protection and control in the public
terest. They may not only be essential to scientific and technological progress
d to cultural and social advancement, but they may also be basic to industrial
d military development and expansion. The protection and control provided

under the patent laws may have to be invoked to obtain the greatest public benefit and usefulness from these products of scientific research. Whatever policy is established must of necessity embrace both research and patents.

In the formulation of a university research and patent policy thoughtful consideration must be given to the aims and objectives of the institution, to its statutory and organic structure, to the character of its educational program, to the place and extent of research in that program and to the time and attitude of the faculty and staff, as well as the facilities available for research. The significance of these factors has already been indicated in the earlier discussion of the impact of sponsored research.

Although universities and colleges are primarily teaching institutions, research is and always has been an essential part of their educational programs. It is an important adjunct of informed and effective teaching. Through research the members of a university community and the university itself enhance their capabilities for further extending the boundaries of human knowledge, for arousing and encouraging attitudes of scientific and critical inquiry in faculty members and students alike and for training students to achieve greater success in scholarly and technical pursuits, as well as preparing them for better and fuller lives.

Research plays a more important role at some higher educational institutions than at others. Institutes of technology and professional schools, in particular, operate in fields which are concerned with both basic and applied research. Many of the larger universities, both public and private, and the land-grant colleges include not only the usual academic departments but also units predominantly involved in extensive research activities. The agricultural and engineering experiment stations located at state universities and land-grant colleges perform applied research as a public service.

Consideration must also be given to the attitude of the faculty and staff of the institution. As they are most vitally affected by the provisions of the policy, they should be given ample opportunity to participate actively in its formulation and to discuss and comment freely upon the successive drafts of the policy statement as it is developed. If the policy, as finally adopted, is to be operable and effective, the various groups and the diverse interests represented on the campus must recognize and accept both the spirit and the letter of the policy.

This end is best achieved through the actual development and formulation of the policy by a faculty or joint faculty-administration research and/or patent committee, board or council, regardless of whether the initiative for its establishment stems from faculty or from administrative sources. Before its final adoption, however, the policy should have administrative approval and also be reviewed and cleared by competent legal and business counsel.

The procedures prescribed for the implementation and operation of a research and patent policy and for the determination of equities in new discoveries and inventions and in the patents which may issue thereon should be consistent with the existing law and in conformance with the general policies and regulations of the institution. The procedures should be simple and definitive, yet comprehensive and subject to easy and effective administration. Otherwise it is inevitable that misunderstanding, confusion and dissatisfaction will arise.

t is desirable that the basic principles of the policy have uniform applicability hroughout the entire institution. Every employee, whether on the teaching, the esearch or the administrative staff, should be subject to the provisious of the olicy and, under comparable circumstances, should expect and receive the same quitable treatment. Accordingly, the policy should cover all types of research erformed at the institution and, insofar as practicable, all types of situations rom which patentable discoveries and inventions might reasonably be expected o arise.

n order to provide incentive and encouragement to their faculty members and ther employees in pursuing their personal research interests, most educational nstitutions place little or no restriction on the disposition of discoveries and nventions resulting from research conducted on an individual's own time and t his own expense, even though institutional facilities and equipment may have een used in their development. Such discoveries and inventions are considered o be the exclusive property of the inventor and he retains the full patent rights nd complete freedom to make whatever disposition of them he deems proper.

nstitutions having formalized research and patent policies usually recognize, y explicit reference or by implication in their formal policy statements, that he entire right, title and interest in and to a patentable discovery or invention which is not related to the individual's official teaching, research or administrative responsibilities belongs to the inventor and accordingly waive all claim to r equity in the discovery or invention and in any patents that may issue thereon. Similarly, at institutions which, in the absence of formalized policies, observe enerally accepted practices, the ownership of a discovery or invention resulting rom personal or individual research rests exclusively with the inventor.

Products of academic or institutionally sponsored research conducted by faculty nembers and other employees as a regular part of their teaching and research esponsibilities, especially when patentable, require specific policy determinaion. When the discovery or invention is directly related to the official duties and esponsibilities of the inventor, it is usually the practice to require assignment f title to the institution or its designated agent, with appropriate recognition f the equities of the inventor.

In such cases the institution bears the costs of obtaining the patent and assumes esponsibility for its exploitation and protection, either directly or through an outside organization or patent management agent. Provision is also ordinarily made for the patent rights to revert to the inventor if the institution or its designated agent does not file an application for patent within a reasonable time. The exact period of time is usually, but not always, specified in the institutional patent policy or in the assignment agreement.

The recent increase of cooperative and externally sponsored research in higher educational institutions, supported by the government agencies, foundations, scientific societies, industry and trade groups, raises many problems. While certain of this research is of a fundamental or basic nature, much of it is developmental in character and may have valuable commercial application. The effect

of such research activities on the overall educational programs of an institution and on the discharge of its responsibility for training scientific personnel often poses a problem.

Scientific and technological research sponsored and supported externally, especially by the Government and by industry, is today a major activity on many a university campus. It is conducted both as an integral part of the educational program and as a special service to the Government and industry. The support is given in various forms: as unrestricted gifts, as grants-in-aid, as industrial fellowships and under contracts for the financing of specific research projects.

When such externally sponsored research is conducted under contract, any patentable discovery or invention growing out of the research is subject to the terms of the contract. As the sponsor of the research project usually executes the contract with the institution, rather than the individual research worker, arrangements must be made by the institution for compliance with the terms of the contract in order that it may fulfill its contractual obligations. These arrangements may be, and ordinarily are, included in the institution's research policy or may be covered by a collateral patent waiver agreement or employment contract with the research workers engaged on the project.

Most institutions require full-time research personnel and others employed on special research projects to sign patent assignment agreements covering all patentable ideas and discoveries that may result from these investigations. Such agreements are generally required of full-time research workers in state agricultural and engineering experiment stations, and also of those employed on projects conducted in or under special research organizations affiliated with educational institutions.

Certain policies also include reference to patentable discoveries and inventions resulting from student research, especially when the student is employed or receives specific fellowship aid under a Government or industrial research grant or contract. However, except when subject to the terms of a research contract, such discoveries and inventions are generally considered to be the private property of the student. It is recognized that a student paying tuition is entitled to reasonable use of the facilities of the institution, as is a student receiving an academic scholarship or other financial aid.

Many institutions include in their policies special provisions with respect to those products of scientific and technological research which affect public or individual health. The prevailing practice, especially at universities with affiliated medical schools and colleges of pharmacy, is to handle discoveries, processes, developments and inventions of a medical, pharmaceutical, therapeutic or hygienic nature in such a manner that the greatest benefit may accrue to the greatest number. Such action does not necessarily preclude patenting them where it appears to be in the public interest to do so.

Other Considerations

Consideration should also be given, both in the formalized policy and in the implementing procedures, to recognizing and protecting the interests and rights

nvention developed.

The procedures established for administering the policy and for determining equities in inventions should be so designed as to eliminate, insofar as is practicable, all complicated and burdensome effort on the part of the research workers and should encourage prompt disclosure of new discoveries and inventions and, where they are patentable, full cooperation in obtaining patents on them. Incentive for their doing so may be provided through the participation of the inventors in any revenues derived from the sale or exploitation of patents on their inventions.

The appropriate authority, whether a designated individual, committee, board or affiliated organization, responsible for the administration of the policy should be so selected that he or it will function judicially and impartially in the determination of equities. Provision should also be made for appeal from the decision of this administrative authority in the event of disagreement. In some instances this may involve recourse to ontside arbitration.

It is the usual practice for educational institutions to retain control over the publication of the results of all research conducted on the campus, except personal research. When an investigation is financed through outside funds, that control is frequently, but not always, exercised subject to prior consent of the sponsor, and publication may be withheld for a reasonable time to protect patent applications and the interests of the sponsor in the commercial development of new discoveries, processes or inventions. In most instances the use of the name of the institution or of the inventor in publications and advertising by the sponsor is proscribed, except as approved by the institution.

Certain policies also include provision for consulting services by faculty members, especially when such services involve the use of the facilities of the institution. Ordinarily, reasonable use of institutional facilities by faculty members is permitted both for personal research and for outside consulting services for industry. Certain institutions require compensation or repayment of unusual expenses incurred in the performance of the research.

The sale and exploitation of patent rights require such a high degree of legal, technical and business skill, not ordinarily available within an educational institution and so alien to its primary objectives, that many institutions utilize the professional patent management services of outside organizations, as indicated in the discussion of arrangements for handling such matters in the chapter on "Patent Management Practices."

SPECIAL RESEARCH ORGANIZATIONS

Special research departments, divisions, laboratories, institutes and foundations established as integral units of, or separately incorporated but closely associated with, a number of institutions handle the administration and/or conduct of sponsored research performed under contract or grant. In some instances they are also administratively responsible for the coordination of all research activities at the institutions and frequently also the management of patentable results of such research. These organizations are located in all parts of the country and at all types of institutions, both large and small, public and private, at endowed colleges and universities, land-grant colleges, state universities, independent medical and other professional schools and institutes of technology alike.

Many are independent nonprofit organizations, separately incorporated but closely affiliated with the educational institutions and utilizing the regular personnel and facilities of the institutions. Others are integral parts of the administrative and organic structure of the institutions concerned and merely operate as special research departments or divisions. Some of them maintain their own laboratory and shop facilities and employ separate research, as well as administrative, personnel distinct from the regular teaching and administrative staffs of the institutions with which they are affiliated. Combinations of full-time services of special research workers and part-time research and supervisory services of the regular teaching faculty are found at a number of institutions.

• Separately Incorporated Organizations

At the following institutions research sponsored by the Government, foundations and industry, through grants and contracts, is centrally administered and conducted either by the full-time research personnel of the independently incorporated nonprofit research institutes and foundations indicated or is performed by members of the regular institutional teaching and research staff under special contractual arrangements negotiated and administered by these organizations, or both:

Adelphi College	Adelphi Research Center
Agricultural and Mechanical College of Texas	Texas A & M Research Foundation
Auburn University	Auburn Research Foundation
Augustana College	Augustana Research Foundation
Bowling Green State University	Bowling Green State University Foundation
Chicago Medical School	Chicago Medical School Research Foundation
Colorado School of Mines	Colorado School of Mines Research Foundation
Colorado State University	Colorado State University Research Foundation

diana University	Indiana University Foundation
ansas State University	Kansas State University Research Foundation
infield College	Linfield Research Institute
owell Technological Institute	Lowell Technological Institute Research Foundation
edical College of Virginia	Medical College of Virginia Foundation
ontana State College	Endowment and Research Foundation
ewark College of Engineering	Newark College of Engineering Research Foundation
orth Carolina State College	North Carolina State College Research Foundation
orth Dakota State University	North Dakota Research Foundation
hio State University	Ohio State University Research Foundation
klahoma State University	Research Foundation of Oklahoma State University
urdue University	Purdue Research Foundation
utgers, The State University	Rutgers Research and Educational Foundation
outh Dakota School of Mines and Technology	South Dakota School of Mines Research and Development Association
outhern Illinois University	Southern Illinois University Foundation
tate University of New York	Research Foundation of State University of New York
tate University of South Dakota	South Dakota Research Foundation
uskegee Institute	George Washington Carver Foundation
niversity of Connecticut	University of Connecticut Research Foundation
niversity of Delaware	University of Delaware Research Foundation
niversity of Georgia	University of Georgia Foundation
niversity of Illinois	University of Illinois Foundation
niversity of Kentucky	Kentucky Research Foundation
niversity of Louisville	University of Louisville Institute of Industrial Research
niversity of Nebraska	University of Nebraska Foundation
niversity of North Dakota	North Dakota Research Foundation
niversity of Oklahoma	University of Oklahoma Research Institute
niversity of Puget Sound	University of Puget Sound Research Institute
niversity of Toledo	Research Foundation of the University of Toledo

The separately incorporated Agricultural Engineering Research Foundation and he Agricultural Research Foundation, both of which operate in cooperation vith the state agricultural experiment station located at Oregon State University, lso make contractual research arrangements for investigations conducted at hat University, as do the Oklahoma Medical Research Foundation for the Uni-ersity of Oklahoma School of Medicine, the Medical Research Foundation of Oregon for the University of Oregon Medical School and the North Carolina Pharmaceutical Research Foundation for the College of Pharmacy at the Uni-ersity of North Carolina.

All but nine of these separately incorporated nonprofit research organizations ıave been in existence for more than fifteen years, many of them for a consider-ıbly longer time. Nearly half of these organizations came into being between 1942 and 1946, largely in connection with the handling of government research contracts during World War II. The oldest is the Purdue Research Foundation, which has served as a model for a number of the more recently established uni-versity research foundations, particularly those at state universities. It was created in 1930 as an outgrowth of an earlier all-university Department of Research Relations established in 1928.

Many of the university-affiliated foundations, especially those associated with state universities and land-grant colleges, have been established with broad powers which enable them to engage in a wide range of activities, of which the administration and conduct of contractual research is only one. A number are empowered to, and do, promote the interests of the institutions through a variety of other services, including the development of new sources of revenue, not only in support of research but also for the general endowment and current expenses of the institutions.

Sponsored research projects, mainly in the aeronautical engineering field, are conducted for Cornell University at the separately incorporated off-campus Cornell Aeronautical Laboratory, which is wholly owned and independently operated by the Cornell Research Foundation, a separately incorporated subsidiary of the University. Although maintaining an earlier connection with the University of Pittsburgh, the Mellon Institute of Industrial Research, which is separately incorporated and which has for years operated as an autonomous entity, offers independent research services to government and to industry under directly negotiated contractual arrangements.

The separately incorporated Stanford Research Institute, which was originally established to promote the educational and research purposes of Stanford University, currently operates as a completely independent research organization with its own staff and facilities, although occasionally employing members of the University faculty. However, through mutually beneficial arrangements, the Institute and the University use certain special research facilities jointly. The research activities of the separately incorporated Research Institute of Temple University are likewise entirely independent of those of Temple University and, except for occasional use of University personnel, are conducted with its own research staff and facilities.

A similar situation exists at the Armour Research Foundation, a separately incorporated research organization independently operated but legally affiliated with the Illinois Institute of Technology. The Lithographic Technical Foundation, which has no direct affiliation with any other educational or research organization, has entered into a cooperative research agreement with the Armour Research Foundation and maintains its own research laboratories and staff on the campus of the Illinois Institute of Technology.

The separately incorporated Institute of Gas Technology, which is also affiliated with the Illinois Institute of Technology, operates as an independent educational and research organization in its field, as does the separately incorporated Institute of Paper Chemistry, which conducts an independent graduate education program under an arrangement with Lawrence College whereby the latter grants the graduate degrees. The Textile Research Institute, another separately incorporated research and educational organization which is fiscally and administratively independent, conducts a program of graduate education cooperatively with Princeton University.

Several independent nonprofit research organizations, which are separately incorporated and have their own research personnel and facilities, maintain laboratories located on a university or college campus, among which are those of

nstitute, the research arm of the Samuel S. Fels Fund, and the Charles F. Kettering Research Laboratory operated by the Charles F. Kettering Foundation re located on the campus of Antioch College.

A number of other independent nonprofit research organizations, which are also eparately incorporated and have their own research personnel and facilities, ollaborate with neighboring educational institutions. In many instances their taff members teach part-time in the institutions and these organizations frequently employ the latter's faculty members and graduate students on research projects. The American Foundation for Biological Research, for example, maintains such relations with the University of Wisconsin, as does the Institute for Sex Research with the Indiana University.

Similarly the Sloan-Kettering Institute for Cancer Research, a separately incorporated organization, operates as the research arm of the Memorial Sloan-Kettering Cancer Center, a graduate division of the Cornell University Medical College. Research Triangle Institute, a recently incorporated nonprofit research organization, which is independently staffed and operated, collaborates with Duke University, the University of North Carolina and the North Carolina State College.

In the medical field the Alton Ochsner Foundation, a separately incorporated nonprofit research organization, cooperates with the medical schools in the New Orleans area, as does the Research Foundation of Children's Hospital with the medical schools of Georgetown and George Washington Universities. The Child Research Center of Michigan, the Detroit Institute for Cancer Research and the Kresge Eye Institute, also independent, separately incorporated research organizations, maintain similar relations with the Wayne State University College of Medicine, as do the Wistar Institute of Anatomy and Biology with the University of Pennsylvania School of Medicine and the Roswell Park Memorial Institute with the University of Buffalo School of Medicine.

The North Dakota Research Foundation, which was established by legislative action to foster and promote efforts, including research, to stabilize the economy of the state, operates as an independent entity but maintains close cooperation with North Dakota State University and the University of North Dakota in a research program designed to develop the natural resources of the state. Among other activities designed to aid in the growth and support of the South Dakota School of Mines and Technology, the South Dakota School of Mines Research and Development Association, an independent nonprofit corporation, operates in collaboration with the School in obtaining and administering research contracts.

Similarly a number of other separately incorporated nonprofit organizations affiliated with edncational institutions solicit and administer general purpose gifts and grants, as well as research grants and contracts from the Government, foundations, industry and individuals in conjunction with their fnnd-raising efforts for the institutions. In most instances the research is performed under their auspices by members of the faculty and staff of the affiliated institutions.

Unincorporated Units

At some institutions sponsored research is performed and/or coordinated and administered under contractual arrangements made by special institutional units. A few of these maintain their own full-time research personnel, but most of them utilize the part-time services of the regular teaching staffs of the institutions. The following are examples of such unincorporated institutional units, most of which operate on an institution-wide basis:

Alfred University	Alfred University Research Foundation
Harvard University	Office for Research Contracts
Iowa State University	Industrial Science Research Institute
The Johns Hopkins University	Institute for Cooperative Research
Lamar State College of Technology	Lamar Research Center
Lehigh University	Lehigh Institute of Research
Massachusetts Institute of Technology	Division of Sponsored Research
Medical College of South Carolina	Research Grants-in-Aid Office
Milwaukee School of Engineering	Industrial Research Institute
New Bedford Institute of Technology	Research Foundation of the New Bedford Institute of Technology
New Mexico Highlands University	Institute of Scientific Research
New Mexico Institute of Mining and Technology	Research and Development Division
New York University	Office of Research Services
Norwich University	Vermont Bureau of Industrial Research
Princeton University	Office of Research Administration
Rensselaer Polytechnic Institute	Research Division
Seattle Pacific College	Institute for Research
Southwestern at Memphis	Southwestern Research Institute
Syracuse University	Syracuse University Research Institute
Temple University	Office of Research and Specialized Services
University of California	Institute of Engineering Research
University of Cincinnati	Research Foundation of the University of Cincinnati
University of Dayton	University of Dayton Research Institute
University of Denver	Denver Research Institute
University of Detroit	Research Institute of Scieuce and Engineering
University of Houston	University of Houston Research Institute
University of Maine	Department of Industrial Cooperation
University of Miami	Division of Research and Industry
University of Michigan	Office of Research Administration
University of New Mexico	Division of Research and Development
University of Pennsylvania	Office of Project Research and Grants
University of Wyoming	Natural Resources Research Institute
Washington State University	Division of Industrial Research
Wittenberg University	Wittenberg Research Institute

Although many of these special institutional research units were created during World War II to handle contractual research projects for government agencies, several have been in existence for more than thirty years. The oldest is the Division of Sponsored Research at the Massachusetts Institute of Technology,

ıd personnel of the Institute by industry and government.

he Lehigh Institute of Research was organized in 1924 to encourage and pro-
ote scientific research and scholarly achievement, as well as conduct cooperative
search, in the various divisions represented at Lehigh University. The Office
Research Administration at the University of Michigan continues the functions
eviously performed by the University's Research Institute, a university-wide
ıtgrowth of an Engineering Research Institute which in turn has developed
om a Department of Engineering Research originally established as a division
the College of Engineering in 1920.

ontractual research in specialized fields is also conducted for government and
ıdustry by or under the auspices of special laboratories, divisions or other un-
ıcorporated units at a number of other institutions. Some of these have their
wn separate research personnel and administrative staffs; most of them, however,
tilize the personnel and facilities of the institutions of which they are part for
ıe performance of the research.

'he Applied Physics Laboratory, a specialized research division of The Johns
lopkins University with separate off-campus facilities and staff, administers
nd performs sponsored research, under a contract with the Office of Naval
.esearch, independent of the Institute for Cooperative Research which coordi-
ates all other contractual research within the University. The Applied Physics
.aboratory at the University of Washington performs a similar function.

. number of similarly specialized research centers have been established at
arious universities to perform both classified and unclassified research primarily
nd in many instances exclusively under contract with defense agencies of the
;overnment. Under contract with the Office of Naval Research or other bureaus
f the Department of the Navy there are, in addition to the two already men-
ioned, the Ordnance Research Laboratory operated by Pennsylvania State Uni-
ersity, the Hudson Laboratories by Columbia University, the Naval Biological
.aboratory by the University of California School of Public Health in collabora-
ion with naval personnel, the Arctic Research Laboratory by the University of
Alaska, Project Squid currently by Princeton University, but moving to the
Jniversity of Virginia in September 1962, and the Logistics Research Project
)y George Washington University.

)perating under Department of the Army contracts are the Electronics Labora-
ory at the University of California, the Stanford Electronics Laboratory at Stan-
ord University, the Cooley Electronics Laboratory and Project Michigan at the
Jniversity of Michigan, the Research Laboratory of Electronics at Massachusetts
nstitute of Technology, the Mathematics Research Center at the University of
Wisconsin, in Human Resources Research Office at George Washington Univer-
ity and the Special Operations Research Office at American University.

Massachusetts Institute of Technology also operates the off-campus Lincoln Lab-
)ratory, the National Magnet Laboratory and the Laboratory for Insulation Re-
;earch under Department of the Air Force contracts. Similarly under contract

with the Department of the Air Force, the University of Alaska operates the Arctic Aeromedical Laboratory which, like the previously mentioned Arctic Research Laboratory, is staffed by the University's Geophysical Institute.

The University of California maintains, under contract with the Atomic Energy Commission, the Lawrence and Livermore Radiation Laboratories, the Los Alamos Scientific Laboratory, the Laboratory of Nuclear Medicine and Radiation Biology at its Los Angeles School of Medicine and the Radiological Laboratory at its San Francisco Medical Center. Also under Atomic Energy Commission contracts are the Ames Laboratory operated by Iowa State University as an integral part of its Institute for Atomic Research, the Plasma Laboratory by Princeton University, the Puerto Rico Nuclear Center by the University of Puerto Rico, the Argonne Cancer Research Hospital by the University of Chicago and the Atomic Energy Project by the University of Rochester.

The Jet Propulsion Laboratory is operated as an off-campus entity by California Institute of Technology under a research and development contract with the National Aeronautics and Space Administration. In addition, Brookhaven National Laboratory is operated as an independent research facility by Associated Universities, Inc., a nonprofit non-stock corporation sponsored by nine eastern universities, under an Atomic Energy Commission contract, as are the Oak Ridge National Laboratory and its Medical Research Laboratory operated by the Oak Ridge Institute of Nuclear Studies, a separately incorporated nonprofit research and educational center affiliated with 38 southern universities. The Argonne National Laboratory is also operated under an Atomic Energy Commission contract by the University of Chicago with the collaboration of more than 30 associated midwestern universities. Similarly the Midwestern Universities Research Association, a separately incorporated not-for-profit research organization affiliated with 15 midwestern universities, performs contractual research for the Government.

A number of other institutions have developed specialized institutes and laboratories primarily to provide sponsored research services. Among these are the Graduate Aeronautical Laboratories at California Institute of Technology, the Nuclear Research Center at Carnegie Institute of Technology, the Center for Radiophysics and Space Research at Cornell University, the Courant Institute of Mathematical Sciences at New York University, the Institute of Polar Studies at the Ohio State University, the Microwave Laboratory at Polytechnic Institute of Brooklyn, the Institute of Rubber Research at the University of Akron, the Institute of Atmospheric Physics at the University of Arizona, the Enrico Fermi Institute for Nuclear Studies and the Laboratories for Applied Science at the University of Chicago and the Institute of Aviation at the University of Illinois.

The Research Division of the College of Engineering at New York University coordinates the research activities of that college and carries on sponsored research for government agencies and industrial organizations, utilizing the engineering and scientific personnel and specialized research facilities of the College as well as the full-time services of its own research staff. For sponsored research, primarily in the engineering and related sciences, Michigan State University maintains a Division of Engineering Research, the University of Pittsburgh an Engineering Research Division, the University of Southern California an En-

milar specialized research facilities in the biological and medical fields include e Chronic Disease Research Institute at the University of Buffalo School of edicine, the Donner Laboratory at the University of California, the Lobund ermfree Life Research Laboratories at the University of Notre Dame, the Clay- n Foundation Biochemical Institute at the University of Texas and the Insti- ıte of Microbiology at Rutgers, The State University.

ɔecial-purpose grants and contracts for research in the Department of Bio- ıemistry in the St. Louis University School of Medicine, as well as in other epartments of the medical school, are administered by the Biochemistry Com- ittee on Grants for Research of that institution. The Pharmaceutical Founda- on of the College of Pharmacy at the University of Texas, an unincorporated nit of the College, aids in fostering and promoting the growth and progress f pharmaceutical education, research and graduate study in the College.

'he state agricultural and engineering experiment stations located at land-grant ɔlleges and state universities administer and conduct sponsored research in ıeir own fields for their respective institutions, as do the state bureaus of mines nits located at these institutions. The Institute of Engineering Research at the Jniversity of California and the Natural Resources Research Institute at the Jniversity of Wyoming serve as the state engineering experiment stations at ıeir respective institutions, as well as coordinating and supervising other spon- ɔred research conducted at the two nniversities on a contractual basis. Neither as a separate research staff or facilities of its own, but utilizes the personnel nd laboratories of the university.

ılmost invariably those employed on full-time research in these stations and ıureaus, as in the special research laboratories and institutes affiliated with or ntegral parts of the educational institutions, are required to execute patent vaiver agreements covering patentable discoveries and inventions in any way elated to their work. Others engaged on part-time research are also usnally equired to execute such agreements, especially with respect to inventions re- ulting from contractual research projects.

PATENT MANAGEMENT PRACTICES

Most universities and colleges endeavor to avoid becoming involved in the intricate technical and commercial aspects of patent management, mainly because they do not have the personnel with the requisite specialized knowledge and experience. They recognize that patent management is a complicated undertaking, that it is expensive and that it demands a high degree of legal competence, administrative astuteness and promotional zeal—a combination of talent not always readily available in an educational institution.

The patent search is a specialized technical service. The preparation and processing of patent applications are exacting work for professionally trained patent attorneys. The administration of patent rights requires careful attention to many intricate business and legal details and constant watch for infringement and interference. The exploitation and disposal of patents and patent rights, through sale and licensing agreements, call for both salesmanship and legal counsel of a high order, as well as experience with the varied commercial aspects of patent management.

Procedures Followed

Some institutions administer patent applications and the resulting patents directly, utilizing their regular administrative personnel or special units within the institutions themselves or, where separately organized, agencies designated by and responsible to their boards of trustees. Others, for legal or fiscal reasons, use the facilities and personnel of separately incorporated nonprofit organizations, independent of but closely allied to the institutions, under patent development agreements.

As indicated below, 111 institutions have entered into patent development agreements with Research Corporation, an independent separately incorporated nonprofit foundation, to handle patentable discoveries and inventions in their behalf, with full protection of their interests as well as the interests of both the inventors and the public. Also, more recently, several of these institutions have entered into similar agreements with Battelle Development Corporation and utilize the facilities and services of that nonprofit patent management organization.

It is natural that most universities and colleges make every effort to avoid becoming directly involved in the intricate legal and commercial aspects of patent management. Some endeavor to accomplish this by the adoption of a laissez-faire or hands-off policy and some even refuse to handle patents. Others have established or have encouraged the organization of separately incorporated patent management organizations. Many of these organizations are independently operated but are closely related to the institutions by the terms of their charters

any have entered into agreements with Research Corporation and Battelle evelopment Corporation to handle their patent activities.

evertheless, a few institutions attempt to handle patents as a part of the routine uties of already established administrative units, such as the comptroller's or usiness offices, or through specially designated committees responsible directly the administration or the trustees of the university. A number have faculty joint faculty-administration committees on patents, which exist primarily r the purpose of ensuring that the pertinent institutional regulations are bserved. Often these committees also serve as advisory bodies and are charged ith recommending action on matters that range from the desirability of taking ut a patent to the determination of equities.

ven at those institutions which leave to the individual inventors the respon-bility for handling any patentable discoveries or inventions which may result om their research activities, and also at many of those which observe laissez-ire policies, a faculty or staff member who believes that he has made a discovery r invention which may have patentable possibilities is usually required to bring ie matter to the attention of the administration, either directly or through an ppropriate committee. Determination is then made, by the administration irectly or on recommendation of the committee, as to whether the institution as any interest or equity in the discovery or invention and what procedure ould be followed.

his procedure is frequently specified in the formalized policy of the institution nd provision made for the establishment of a standing patent committee or oard to deal with all snch matters. Such a committee or board may also advise nd aid faculty members on questions of patentability, the prosecution of patent pplications and, occasionally, the exploitation of the patents when issued and he practical aspects of patent management.

n this way the institutions also seek protection against the expropriation and xploitation, by personal and private interests, of the results of scientific and echnological research performed in the laboratories of the institutions, the cost f which may have been paid with institutional funds or from funds provided y outside sponsors of the research and administered by the institutions.

he disposition of the patent rights and their protection present many and aried perplexing administrative and legal problems. Unless the patents are btained with a view to their dedication to the public or merely to prevent utside interests from expropriating and patenting the discoveries or inven-ions in their own names to the possible detriment and complication of further esearch in the field, the patents are saleable assets.

n many instances the edncational institution has a substantial investment in he discoveries or inventions and also in the patents obtained thereon and pro-notional effort is necessary to sell or license the patents. Placing the inventions r the finished products based upon them in commercial production, introducing hem to the public and gaining consumer acceptance and use require additional

investment in money and services on the part of the licensees, as well as the cooperation of the institution and of the inventor in many instances.

Frequently these functions are more effectively performed in behalf of an educational institution by a separately incorporated nonprofit patent management organization affiliated with the institution or, more often, by Research Corporation or Battelle Development Corporation. Such an organization protects the interests both of the institution and of the inventors, the sponsors and the general public, as well as handling the exploitation of patentable discoveries and inventions.

Affiliated Patent Management Agencies

The establishment of nonprofit foundations, corporations and institutes, independent of but closely affiliated with educational institutions, for the management of the patentable results of university research is a comparatively recent development in American higher education. Several of these have been in existence more than thirty years, but the majority have come into being since 1942, a number of them during the past decade.

While these organizations are located in all parts of the country and collaborate with all types of institutions, a considerable number are to be found in affiliation with state universities and land-grant colleges. In many instances they have been created to relieve administrative staffs of the complicated and time-consuming technical and commercial aspects of patent management and to perform functions which the institutions preferred, for legal or fiscal reasons, not to undertake themselves or for which they did not have adequate technically and professionally qualified personnel.

There are at present more than fifty of these separately incorporated nonprofit organizations performing, or authorized to perform, patent management functions for the institutions with which they are affiliated, as well as individual faculty members by voluntary assignment of their inventions, as indicated below:

Arizona Research Foundation	University of Arizona
Auburn Research Foundation	Auburn University
Augustana Research Foundation	Augustana College
California Institute Research Foundation	California Institute of Technology
Chicago Medical School Research Foundation	Chicago Medical School
Colorado School of Mines Foundation	Colorado School of Mines
Colorado State University Research Foundation	Colorado State University
Cornell Research Foundation	Cornell University
Endowment and Research Foundation at	Montana State College
Foundation for Research at the	University of Washington
George Washington Carver Foundation	Tuskegee Institute
Georgia Tech Research Institute	Georgia Institute of Technology
Indiana University Foundation	Indiana University
Iowa State University Research Foundation	Iowa State University
Kansas State University Research Foundation	Kansas State University
Kansas University Endowment Association	University of Kansas
Kentucky Research Foundation	University of Kentucky

Medical College of Virginia Foundation	Medical College of Virginia
Michigan Research Foundation	University of Michigan
Newark College of Engineering Research Foundation	Newark College of Engineering
Noned Corporation	University of Rochester
North Dakota Research Foundation	North Dakota State University and University of North Dakota
Ohio Northern University Foundation	Ohio Northern University
Ohio State University Research Foundation	Ohio State University
Pennsylvania Research Corporation	Pennsylvania State University
Purdue Research Foundation	Purdue University
Research Foundation of	Oklahoma State University
Research Foundation of	State University of New York
Research Foundation of the	University of Toledo
Research Institute of	Temple University
Rutgers Research and Educational Foundation	Rutgers, The State University
South Dakota School of Mines Research and Development Association	South Dakota School of Mines and Technology
South Dakota Research Foundation	State University of South Dakota
South Dakota State College Foundation	South Dakota State College
Southern Illinois University Foundation	Southern Illinois University
Stevens Research Foundation	Stevens Institute of Technology
Texas A & M Research Foundation	Texas Agricultural and Mechanical College System
University of Arizona Foundation	University of Arizona
University of Connecticut Research Foundation	University of Connecticut
University of Delaware Research Foundation	University of Delaware
University of Florida Endowment Corporation	University of Florida
University of Georgia Foundation	University of Georgia
University of Idaho Research Foundation	University of Idaho
University of Illinois Foundation	University of Illinois
University of Louisville Institute of Industrial Research	University of Louisville
University of Nebraska Foundation	University of Nebraska
University of Oklahoma Research Iustitute	University of Oklahoma
University of Tennessee Research Corporation	University of Tennessee
University Patents, Incorporated	Columbia University
Utah Scientific Research Foundation	Utah State University
Washington Research Foundation	Washington State University
Wisconsin Alumni Research Foundation	University of Wisconsin
Yeshiva University Medical Research Foundation	Albert Einstein College of Medicine

A number of these foundations and corporations have entered into patent development agreements with Research Corporation, either directly or through the institutions with which they are affiliated, for that independent nonprofit organization to perform patent management functions in their behalf, for them as well as for the institutions directly.

Many of these affiliated patent management organizations also represent the institutions in contractual relations with sponsors of university research, while several of them are also concerned with the development of new sources of financial support for the institutions.

The oldest is the Wisconsin Alumni Research Foundation, which was established in 1925 to perform patent management services for the University of Wisconsin. It was not only the pioneer among such university-affiliated nonprofit organizations but has also been financially the most successful.

The Purdue Research Foundation, which has served as a model for a number of the more recently established university research foundations, particularly at state institutions, was created in 1930 as an outgrowth of an earlier all-university Department of Research Relations at Purdue University. The Foundation normally handles patent matters as well as sponsored research for the University.

The Cornell Research Foundation was established in 1932, while the University of Florida Endowment Corporation and the University of Tennessee Research Corporation were organized in 1934, primarily for the purpose of holding title to and administering patents in behalf of the respective institutions and also, by voluntary assignment, for inventors among the faculty.

Other Arrangements

Certain of the specialized nonprofit research and patent management organizations affiliated with educational institutions also perform, or are authorized to perform, patent management functions in their respective fields for the institutions with which they are affiliated. The Agricultural Research Foundation, which collaborates with the Oregon state agricultural experiment station located at Oregon State University, is authorized to perform such services both for the University and for the station, as well as their employees.

The Oklahoma Medical Research Foundation is authorized to handle patents on discoveries and inventions resulting from research in the University of Oklahoma School of Medicine, as are the North Carolina Pharmaceutical Research Foundation for the School of Pharmacy at the University of North Carolina and the Alumni Research Foundation of the College of Medical Evangelists for all units of Loma Linda University, formerly the College of Medical Evangelists.

Although it is primarily a special research organization offering research and experimental engineering services to industry and government, the Armour Research Foundation is authorized to manage patents for the Illinois Institute of Technology, as well as patents on discoveries and inventions growing out of its own research activities which the Foundation holds in its own name.

Under certain circumstances the Institute of Gas Technology, which operates in the field of gas technology as an educational and research institution affiliated with the Illinois Institute of Technology, may manage patents, as may the Institute of Paper Chemistry, which is also an independent educational institution providing graduate training and research facilities in fields of interest to the pulp and paper industry.

Several of the unincorporated nonprofit research organizations, including the Alfred University Research Foundation, the Institute of Scientific Research at New Mexico Highlands University, the Syracuse University Research Institute and the Research Foundation of the University of Cincinnati, perform patent

ining and Technology performs these functions for the Institute, as does the esearch Division at Rensselaer Polytechnic Institute.

tentable discoveries and inventions resulting from research in the School Medicine at St. Louis University are handled by the Biochemistry Committee Grants for Research. At Princeton University an Office of Research Administation and at the University of Pennsylvania an Office of Project Research d Grants represent their respective universities in the processing and manageent of inventions and patents, as well as in sponsored research matters, and act liaison agents with outside organizations with which the universities have tent development agreements.

he special faculty or joint faculty-administration committees and boards which minister the patent policies at a number of institutions frequently include nong their responsibilities an advisory function in the patent management ld. However, the technical and commercial aspects of patent development and anagement are usually handled on behalf of the institutions either by the propriate members of the institutional administrative staff or through special rangements with designated outside organizations.

Research Corporation

he following 111 colleges and universities have, directly or through affiliated tent management organizations, entered into patent development agreements ith Research Corporation, under which that independent nonprofit foundation ndles patentable discoveries and inventions both in behalf of the institutions id in the interest of inventors among their faculty and staff:

gricultural and Mechanical College of Texas
nherst College
izona State University
aylor University
eloit College
igham Young University
tler University
rnegie Institute of Technology
se Institute of Technology
larkson College of Technology
llege of Emporia
lorado State University
rnell University
artmouth College
uke University
nn College
orida State University
rdham University
eorge Washington University
rinnell College
ahnemann Medical College
Harvard University
Indiana University
Jefferson Medical College
The Johns Hopkins University
Kansas State University
Linfield College
Louisiana Polytechnic Institute
Louisiana State University
Loyola University (Illinois)
Massachusetts Institute of Technology
Michigan State University
Mills College
Mississippi State University
Montana State College
Newark College of Engineering
New Mexico State University
New York University
Northeastern University
Northwestern University
Norwich University
Occidental College
Ohio University

Oklahoma State University
Oregon State University
Parsons College
Pennsylvania State University
Polytechnic Institute of Brooklyn
Princeton University
Purdue University
Reed College
Rensselaer Polytechnic Institute
Rose Polytechnic Institute
St. Edward's University
St. John's University (New York)
St. Louis University
South Dakota State College
Stanford University
Stevens Institute of Technology
Tufts University
Union College
University of Arizona
University of Arkansas
University of Buffalo
University of Chattanooga
University of Chicago
University of Cincinnati
University of Colorado
University of Connecticut
University of Dayton
University of Denver
University of Detroit
University of Florida
University of Georgia
University of Hartford
University of Houston
University of Idaho
University of Kansas
University of Maine
University of Maryland
University of Massachusetts
University of Miami
University of Michigan
University of Missouri
University of Nebraska
University of New Hampshire
University of New Mexico
University of North Carolina
University of North Dakota
University of Oklahoma
University of Oregon
University of Pennsylvania
University of Pittsburgh
University of Puget Sound
University of Rochester
University of Southern California
University of Tulsa
University of Utah
University of Vermont
University of Virginia
University of Washington
University of Wyoming
Utah State University
Virginia Polytechnic Institute
Washington State University
Wayne State University
Wesleyan University
West Virginia University
Western Reserve University
Winona State College
Yale University

The agreement with the University of North Carolina applies to the North Carolina State College of Agriculture and Engineering in Raleigh and to the Woman's College in Greensboro, as well as the University in Chapel Hill. Similarly, the agreement with the Agricultural and Mechanical College of Texas applies to the Arlington State College, to the Tarleton State College, to the Prairie View Agricultural and Mechanical College and to the other units of the Texas Agricultural and Mechanical College System.

Several of the institutions mention specifically in their formalized patent policies the use of Research Corporation, while in a few instances mention is made of Research Corporation or, optionally, a similar independent nonprofit patent management organization. A number of additional institutions have arrangements with Research Corporation under contemplation, while still others encourage their staff members to avail themselves of the facilities and services of the Corporation through the voluntary assignment of their inventions.

Research Corporation was established in 1912 as a nonprofit organization embodying the ideal of utilizing the proceeds derived from applied research to the further advancement of science and technology. The Corporation's charter re-

enable such institutions and societies to conduct technical and scientific in-
tigation, research and experimentation.

ıder a typical patent development agreement with an educational institution
search Corporation agrees to evaluate inventions submitted to it and to
ure patents on and license those which are acceptable to the Corporation
d should, in the belief of the Corporation, be patented either in the broad
blic interest or as revenue-producing possibilities. Each agreement is tailor-
ıde to fit the institution's individual situation, but follows a fairly uniform
ttern which has been developed over the years.

contract-set percentage of the income derived from each patent so managed is
id to the inventor. Where the university's policy prescribes that a percentage,
t in excess of 15%, of the gross income go to the inventor, the contract provides
payment of this amount directly to the inventor. The remainder is divided
th the university on a fifty-fifty basis. Where the nniversity has no fixed policy
to the inventor's share, the agreement nsually provides for Research Corpora-
ın to retain 42½% of the gross income, with the balance to be paid directly
the university for division between itself and the inventor on a mutually
ceptable basis.

he Corporation bears all patent prosecution and management expenses from its
are. Under this plan the institution is relieved of all concern with patenting,
ensing and introdnction into use of the invention. Similarly, when an indi-
dual inventor makes an agreement with the Corporation to handle a personally
vned patent for him, he is relieved of these problems and responsibilities. Such
ortion of the Corporation's share of the income from all the patents which it
ındles as becomes snrplus is applied, in the discretion of its board of directors,
r the support of scientific research through its grants-in-aid program.

Similar Agreements

ore recently several universities have entered into invention development
greements with the Battelle Development Corporation, under which that non-
ofit organization handles patentable discoveries and inventions both in their
ehalf and in the interest of inventors among their faculty and staff. At present
ıe Corporation has such agreements in effect with the following instittntions:
arnegie Institute of Technology, Pennsylvania State University, Polytechnic
ıstitute of Brooklyn, Princeton University, the University of Cincinnati, the
niversity of New Mexico and Washington State University. A number of other
ıstitutions are in the process of formally approving similar invention develop-
ıent agreements and it is expected that these agreements will be consummated
ery soon.

he Battelle Development Corporation, which is a wholly owned, not-for-profit
ıbsidiary of Battelle Memorial Institute, an independent incorporated non-
rofit research organization established in 1925, has participated in the further-
nce of scientific research since its inception in 1935. It regularly evaluates ideas

submitted to it by third parties and those which show promise may form the basis of research programs at the Institute or elsewhere. Among the ideas submitted to it are many from universities under agreements which provide that, if the university chooses to do so, it may submit inventions of its staff and faculty members to the Corporation.

The Corporation evaluates each such invention at its own expense and, if the invention is found suitable to become the subject of further scientific research, the Corporation supports snch scientific research. Patent protection is also obtained and, if the research is successful, eventually the development may be licensed to industry so that it may be made available to the general public. It is the policy of the Corporation to license such developments on a nonexclusive basis.

Any royalty income received is shared with the university and the inventor, in accordance with the invention development agreement. Any royalties retained by the Battelle Development Corporation are used to defray its expenses and any surplus is applied to further its scientific purposes and the scientific purposes of its parent corporation, Battelle Memorial Institute. During its 27-year history the Battelle Development Corporation has had extensive experience in selecting ideas to become the subject matter of scientific research and it has demonstrated its ability to bring to the public ideas that might otherwise lie dormant.

At various times in the past other nonprofit organizations have formulated plans for and have undertaken the development and management of patents both in their own behalf and for universities and individual inventors by voluntary assignment of their inventions. The Chemical Foundation, which was established in 1919 as an independent nonprofit corporation primarily to acqnire the chemical processes covered by enemy-owned United States patents by purchase from the Alien Property Cnstodian, but is now relatively inactive, formulated plans for the acquisition of patent rights by assignment from universities, medical schools and other research organizations, as well as individual inventors.

The Institute of Inventive Research, originally established in 1946 as an independent nonprofit patent management organization but now the inventions development division of Southwest Research Institute, an independent nonprofit research organization established in 1947, has over the years evaluated, developed and managed inventions and patents thereon in behalf of other nonprofit organizations and individual inventors. The Lasdon Foundation, an independent nonprofit organization established in 1946 for the furtherance of research in the fields of medicine, chemistry, pharmacology and physiology primarily through grants-in-aid of meritorious research by qnalified institutions and individuals, also manages patents both in its own behalf and for others by voluntary assignment under mutually beneficial patent development agreements.

INSTITUTIONAL POLICIES AND PRACTICES

ıe following 349 individual institutional statements represent briefly the spe-
c situation prevailing in July 1962 at each of the institutions which either
; a formalized research and patent policy or observes a generally accepted
ıctice for the conduct of scientific and technological research performed by
ulty and staff members and for the handling of new discoveries, inventions
d patents resulting from such research. Most of these institutions have de-
oped prescribed procedures for administering and conducting the research,
›re or less along the lines described earlier in the chapter on "Research Pro-
lures," as well as patent management procedures.

ch statement contains current information concerning the situation at the
ıtitution including:

(1) either a verbatim transcript of the formalized research and patent policy, with its date of adoption and by whom it was adopted, as well as its applicability or limitation, or a brief description of the generally accepted practice;

(2) how sponsored research is conducted at the institution and what individual or organizational unit is administratively responsible for such research and, where one exists, the special research institute or other organization, separately incorporated but affiliated with the institution, which either actually conducts the research or merely administers it for the institution;

(3) the patent management agency or agencies utilized by the institution under a patent development agreement, and

(4) whether the equities of inventors in their inventions are recognized and the extent to which they share in any revenue derived from the sale or exploitation of patents obtained on their inventions.

he information so presented has in each instance been submitted to and con-
med by the president or other responsible official of the institution concerned
an accurate factual representation of the current situation at the institution
of July 1962.

; used in this monograph, the term "formalized research and patent policy"
fers only to an established definitive course of action, formulated and expressed
a systematic statement, which has been adopted by the board of control, state
gislature or other appropriate governing body of the institution. The term
eneral practice" is used when a more or less definitive practice is generally ac-
pted as applicable to the handling of research at the institution and the pat-
ıtable results of such research but has not been formally adopted in the manner
dicated above.

For convenience of reference the 349 institutional statements included in this chapter are arranged in alphabetical order of the institutions within their respective states.

Alabama

AUBURN UNIVERSITY

Auburn, Alabama

Formalized research and patent policy, originally adopted 26 October 1945 by the Auburn Research Foundation and revised 16 October 1951 by the Board of Directors of the Foundation; applicable on a university-wide basis, including research conducted by or under the auspices of the Auburn Research Foundation, a separately incorporated but affiliated nonprofit research and patent management organization established 30 November 1944, which utilizes the staff and facilities of the University (formerly Alabama Polytechnic Institute):

1. Patents which may develop from departmental research carried on by one or more faculty members which has met with the approval of the head of the department and/or the dean of the school and which was initiated for the purpose of the professional advancement of the faculty and the department and to which neither the Alabama Polytechnic Institute nor the Foundation has subscribed a substantial amount of time, space or funds; such patents will become the property of the inventor or inventors. The right of ownership includes the right to sell, assign or otherwise dispose of these rights.

2. Patents which may develop from research as described above but which may have been aided by funds obtained from some source outside Alabama Polytechnic Institute or the Foundation, such as grants by a professional society, a philanthropic or industrial organization, etc., such patents will become the property of the inventor or inventors with all the rights as described above, subject to the patent agreement executed in connection with the grant.

3. Patents obtained under sections 1 and 2 above may be assigned to the Auburn Research Foundation.

4. Patents which may develop from research financed wholly or in part by the Alabama Agricultural Experiment Station, the Engineering Experiment Station and any other branch of the Alabama Polytechnic Institute or research sponsored and financed by the Auburn Research Foundation are to be assigned to the Auburn Research Foundation. The Auburn Research Foundation will pay the cost of obtaining such patents. If the Foundation has not filed claim for a patent within the period of one year from the date a written report describing the patentable invention was presented to its Board of Directors, all patent rights on said invention revert to the inventor or inventors. Faculty members of Alabama Polytechnic Institute and others whose research is wholly or in part supported by the Auburn Research Foundation may be asked to sign an agreement with the Foundation whereby the above may be put in force.

5. The Auburn Research Foundation will apply for patents for members of the faculty, members of experiment station staffs and others under the conditions set forth below:

   a. Any action will be at the discretion of the Board of Directors of the Auburn Research Foundation.

c. The Foundation will bear all expense in obtaining the patent and in any subsequent legal action which the Foundation may deem advisable to protect the patent.

d. The Foundation will pay to the inventor or inventors a minimum of 15% of the profits from said patent, after all expenses have been paid. Provided, however, the Board of Directors of the Auburn Research Foundation may, at its discretion, grant additional amounts in excess of the 15% to an inventor or inventors whose invention, in the opinion of the Board, appears to warrant additional compensation.

6. Any profits accruing from the ownership of patents by the Auburn Research Foundation will be used in aiding and/or initiating research in the Alabama Polytechnic Institute as set forth in the charter of the Auburn Research Foundation.

7. The action of the Board of Directors of the Auburn Research Foundation in making grants to members of the faculty or departments for research purposes is not to be based on the expected development of a patentable idea from such research.

.tent management agency: the Auburn Research Foundation; as indicated the policy statement above, the equities of inventors in their inventions are :ognized and the inventor receives a minimum of 15% of the net profits de-/ed from the sale or exploitation of patents obtained on his invention.

HOWARD COLLEGE

Birmingham, Alabama

o formalized research or patent policy; as a general practice the College observes laissez-faire attitude; no experience with patents and no occasion to formulate policy; members of the staff have been and are free to proceed privately and dividually in protecting inventions and other products of their research. No ıtent management agency; if necessary, patents would be held and administered r the Board of Trustees of the College.

SPRING HILL COLLEGE

Mobile, Alabama

o formalized research and patent policy; as a general practice each situation handled on an individual basis in accordance with a tentative research policy lopted 13 May 1960 by the President and Faculty and administered by a Faculty ommittee on Research. No patent management agency but, when and if the :ed arises, the College intends to ask Research Corporation to administer patent ghts.

TUSKEGEE INSTITUTE

Tuskegee Institute, Alabama

'o formalized research or patent policy; as a general practice each situation is andled on an individual basis through the Vice President of the Institute; ap-

plicable to all research at the Institute, including sponsored research conducted by or under the auspices of the George Washington Carver Foundation, a separately incorporated nonprofit research organization established 10 February 1940, which operates as a unit of the Institute for organized research in the natural sciences and which utilizes the staff and facilities of the Institute. No patent management agency.

UNIVERSITY OF ALABAMA

University, Alabama

Formalized research and patent policy, recommended by the University Research Committee and the University Patents Committee to the President of the University in 1945 and approved by him for the University, although currently under study with a view to its revision; applicable on a university-wide basis, including the University Medical Center in Birmingham:

> (1) In the event that any member of the faculty makes an invention which is capable of protection under the patent laws, the invention shall be the property of the inventor, unless the University has made a substantial contribution in time, money or facilities to the production of such an invention.
>
> (2) If the University makes a substantial contribution in time, money or facilities to the production of any patentable invention made by a member of the faculty, the invention shall be the property of the University. The University will, however, assign to the inventor a percentage of the net profits which it may derive from the sale or exploitation of such invention.
>
> (3) If the University makes a contribution of $200 or less in money to the production of any patentable invention made by a member of the faculty, the invention shall be the property of the inventor. But the inventor shall be under an obligation to reimburse the University for such contribution if the inventor derives sufficient profits from the invention to do so. Any contribution, in money, in excess of $200 shall be considered a substantial contribution within the provisions of (2) above.
>
> (4) In the event that any person is expressly employed for the purpose of devoting all or a specific part of his time to research, any patentable invention made by such person in the performance of his duties for the University shall be the property of the University. In such a case the procedure of (2) above shall apply.
>
> (5) If a patentable invention is made by a member of the faculty and substantial contributions are made to the production of the invention by both the University and some person or firm not connected with the University, the ownership of the patent and the inventor's rights shall be the subject of special agreement.
>
> (6) If a patentable invention is made by a student who is not employed by the University, the invention shall be the property of the student.

No patent management agency other than the University Board of Trustees; as indicated in the policy statement above, the equities of inventors in their inventions are recognized and, when an invention is assigned to the University, the inventor receives a percentage of the net profits which the University derives from the sale or exploitation of the invention.

College, Alaska

o formalized research or patent policy, but a proposed policy has been formu-ted by a Committee on Patent and Copyright Policies for submission to the oard of Regents of the University; at present the University is operating under ıe general practice that each situation will be considered on an individual basis. 'o patent management agency, although the University would probably utilize ıe facilities of Research Corporation; the equities of inventors in their inventions re recognized and the inventor receives a share, ordinarily approximately 15%, f the gross income derived from the sale or exploitation of patents obtained on is invention, as determined by the Committee on Patent and Copyright Policies.

ırizona

ARIZONA STATE COLLEGE

Flagstaff, Arizona

ormalized research and patent policy, adopted 2 December 1960 by the Board f Regents of the Universities aud State College and based upon the policy orig-ıally adopted 15 April 1939 by the Board of Regents for the University of ırizona and revised 14 February 1962 (see University of Arizona below for policy :atement); applicable on a college-wide basis.

'atent management agency: Research Corporation, both for the College and for he inventors by voluntary assignment of their inventions; as indicated in the olicy statement, the equities of inventors in their inventions are recognized nd, when an invention is assigned to Research Corporation, the inventor re-eives not less than 15% of the gross income derived from the sale or exploita-ion of patents obtained on the invention.

ARIZONA STATE UNIVERSITY

Tempe, Arizona

'ormalized research and patent policy, adopted 2 December 1960 by the Board f Regents of the Universities and State College and based upon the policy orig-nally adopted 15 April 1939 by the Board of Regents for the University of ırizona and revised 14 February 1962 (see University of Arizona below for policy tatement), with appropriate references to Arizona State University and deletion f references to the Arizona Research Foundation, the University of Arizona 'oundation and the Battelle Development Corporation in paragraphs 4 (c) and); applicable on a university-wide basis.

'atent management agency: Research Corporation, both for the University and or the inventors by voluntary assignment of their inventions; as indicated in he policy statement, the equities of inventors in their inventions are recognized ınd, when an invention is assigned to Research Corporation, the inventor receives ı percentage of the gross income derived from the sale or exploitation of patents)btained on the invention.

UNIVERSITY OF ARIZONA

Tucson, Arizona

Formalized research and patent policy, originally adopted 15 April 1939 and revised 14 February 1962 by the Board of Regents of the Universities and State College of Arizona; applicable on a university-wide basis:

1. A Fund for the Promotion of Research shall be established by the Board of Regents of the University. In it shall be deposited all monies received by the University from financially profitable patents for inventions made by members of its faculty, staff, other employees, students on assistantships or fellowships, or who receive grants or are otherwise employed by the University, and such other members of its student body who elect to be bound by the University Patent Policy, as provided herewith.

2. A Patent Committee of the Faculty to consist of five persons shall be appointed by the President. The Patent Committee shall consider proposed changes in the Patent Policy of the University and make its recommendations in regard thereto to the President through the Coordinator of Research. The Patent Committee may initiate recommendations concerning changes in the Patent Policy. The Patent Policy of the University applies to both domestic and foreign patents. This Patent Policy shall not apply where University personnel have conceived and/or developed inventions for employers other than The University of Arizona where such employment is permitted by the policies of the University.

3. Another committee to consist of three persons appointed by the President shall be created to consider and recommend to the President grants of money in support of research on the campus and the creation of research fellowships, both to be financed from the Fund for the Promotion of Research.

4. (a) All disclosures of inventions by members of the faculty, staff, students on assistantships or fellowships, or who receive grants, or are otherwise employed by the University, and other employees of the University will be submitted to the Coordinator of Research through the Head of Department and Dean of the College or Administrative Officer concerned. In forwarding the invention to the Coordinator of Research, the Head of Department and Dean or Administrative Officer, as applicable, will state in writing their opinions as to whether or not the invention is meritorious and possibly new and may, in their opinions, be commercially valuable. The Head of Department and Dean or Administrative Officer concerned will also forward to the Coordinator of Research a written statement as to whether the inventor conceived and/or developed the invention as a result of full time work for which he was paid by the University, or whether the inventor conceived and/or developed the invention partly as a result of work for which he was paid by the University and partly on his own time, or whether the inventor conceived and/or developed the invention solely on his own time.

   (b) The Coordinator of Research will determine whether the invention was conceived and/or developed wholly or partly on University time or solely on the inventor's own time.

   (c) The Coordinator of Research will forward the invention to the Arizona Research Foundation, the University of Arizona Foundation, the Battelle Development Corporation, the Research Corporation of New York or other authorized organizations, as selected by the inventor; or if the President of the University considers that the idea is of insufficient value for consideration, he may release any University interest in the idea to the inventor.

processing of the patent, and if a patent is granted will pay the costs of defending or prosecuting infringements suits and the expense of marketing the invention.

5. The organization to which the invention is assigned will pay to the inventor a fixed percentage of the gross or net receipts not to exceed the maximum percentage provided for such payments in the agreement between that organization and the University. The University will determine the percentage to be paid to the inventor in the following manner:

(a) The inventor who conceives and/or develops an invention as the result of work for which he is paid by the University will receive one-half the maximum percentage provided for such payments in the agreement between the organization to which the patent is assigned and the University.

(b) The inventor who conceives and/or develops au invention partly as the result of work for which he is paid by the University and partly on his own time will receive three-fourths the maximum percentage provided for such payments in the agreement between the organization to which the patent is assigned and the University.

(c) The inventor who conceives and/or develops an invention solely on his own time will receive the maximum percentage provided for such payments in the agreement between the organization to which the patent is assigned and the University.

6. If the organization selected by the inventor to process the invention fails to accept the invention, then the invention may at the option of the University be submitted to any of the other applicable organizations or released to the inventor. The decision as to whether the invention should be submitted to any of the other organizations or released to the inveutor shall be made by the Coordinator of Research, who may request the advice of any administrative officer, faculty or staff member or other employee to aid him in reaching his decision. If any organization accepts the invention the iuventor will assign the invention to that organization. If the invention is released to the inventor, the inventor shall be free to handle it as seems best to him.

7. Should some person, group of persons, firm or organization pay in whole or in part for the investigation of some problem at the University, and should an invention be developed as a result of such a cooperative enterprise, then the ownership of the patent shall be determined by the terms of the agreement entered into between the University and such cooperating person, group of persons, firm or organization.

8. Except as to a student who is also either a full or part time employee, no student who conceives and/or develops an invention shall be required to submit his invention to the Coordinator of Research or allow the Arizona Research Foundation, University of Arizona Foundation, Battelle Development Corporation, Research Corporation of New York, or any other authorized organization to apply for a patent on it and commercialize the patent. If, however, such a student does desire to take advantage of the facilities herein outlined, he may do so, in which event the University will recommend that the percentage of the gross or net receipts to be paid to such student inventor be the maximum amount provided for payments to the inventor in the agreement between the University and the organization to which the invention is assigned.

9. In making any of the decisions required by this statement of Patent Policy,

the Coordinator of Research may request the advice of any administrative officer, faculty or staff member, or other employee to aid him in reaching his decision.

10. Every member of the University of Arizona faculty or staff, other employees of the University and students on assistantships, fellowships, or who receive grants or are otherwise employed by the University shall as a condition of his or her employment, assistantship, fellowship or grant be bound by this statement of University of Arizona Patent Policy.

Patent management agency: Arizona Research Foundation, an independent nonprofit corporation established in November 1958, University of Arizona Foundation, an affiliated nonprofit corporation established in June 1958, Battelle Development Corporation, Research Corporation or other authorized organizations, as selected by the inventor; as indicated in the policy statement above, the equities of inventors in their inventions are recognized and, as provided in the patent development agreement with the organization selected, the inventor receives a specified percentage of the income derived from the sale or exploitation of patents obtained on his invention.

Arkansas

ARKANSAS AGRICULTURAL AND MECHANICAL COLLEGE

College Heights, Arkansas

No formalized research or patent policy; the College encourages faculty research but as a general practice observes a laissez-faire attitude with respect to discoveries, inventions and patents. No patent management agency.

COLLEGE OF THE OZARKS

Clarksville, Arkansas

No formalized research or patent policy; the College has no organized research program and as a general practice observes a laissez-faire attitude. No patent management agency.

HARDING COLLEGE

Searcy, Arkansas

No formalized research or patent policy; as a general practice each situation is considered on an individual basis; sponsored research projects are handled individually by faculty members subject to the approval of the President and Dean of the College. No patent management agency.

UNIVERSITY OF ARKANSAS

Fayetteville, Arkansas

Formalized research and patent policy, adopted 11 June 1945 by the Board of Trustees of the University and incorporated as sections 31-32 of the Regulations of the University; contractual research is administratively supervised by the Research Coordinator; applicable on a university-wide basis:

part of their University duties, which discoveries may have commercial application and should be patented in the interest of the public, the income from which should be used for the promotion of further research.

The following general policy with regard to any devices, formulas and/or processes discovered or developed by staff members in their general field of University employment with the use of University facilities and funds has been established:

1. Any invention, formula and/or process developed or discovered by a staff member in the course of his regular duties shall be controlled by the University.

2. An equitable division of royalties on profits derived from the sale or license of an invention, formula or process patented at University expense will be made by the University Committee on Patents.

3. The Trustees hereby authorize the establishment of a faculty committee on University patents.

4. Funds may be appropriated as required for financing the work of this committee.

atent management agency: Research Corporation, both for the University id for the inventors by voluntary assignment of their inventions; as indicated the policy statement above, the equities of the inventor in his invention are cognized and, in accordance with the patent development agreement with esearch Corporation, the inventor will, on recommendation of the University ommittee on Patents, receive an equitable share of the income derived from ie sale or exploitation of patents obtained on his invention.

alifornia

CALIFORNIA COLLEGE OF MEDICINE

Los Angeles 31, California

o formalized research or patent policy, although the formulation of such a olicy is currently under study by the Research Committee; as a general practice ch case is at present handled on an individual basis. No patent management ency.

CALIFORNIA INSTITUTE OF TECHNOLOGY

Pasadena, California

ormalized patent policy, adopted 1 May 1945 by the Faculty and approved 2 ly 1945 by the Board of Trustees of the Institute, as a result of many discusons by the Trustees, of a study made by a Committee on Patents appointed by e Trustees, of discussions with the Faculty Committee on Patents and of a reful study of reports made by the Committee; applicable on an institute-wide asis:

1. Certain of the inventions which may be made by employees in line of duty or with the use of Institute facilities should be patented in order to protect the Institute and the public. These patents are to be assigned to the Institute and all costs involved in obtaining the patents borne by the Institute.

2. In general, it is the policy of the Institute that no revenue in excess of administrative costs should be received from patents or inventions made by employees in line of duty or with Institute facilities, but it is recognized that such a policy if rigidly adhered to may be too limiting on the activities of the Institute and employees. In each case where this policy is deviated from, the inventor will then receive from the Institute 15% of the gross sum of money which has accrued or shall thereafter accrue to the Institute from his patent.

3. In order to make the above policy effective and uniform in its application, the Trustees request all members of the staff of research and instruction to sign a patent agreement assigning their rights to patents and inventions which they may make in line of duty or with Institute facilities to the Institute or its nominee. Such an agreement is required of all new employees.

4. Employees who elect to work on governmental or industrial projects undertaken by the Institute are required to sign such supplemental agreements as are necessary to enable the Institute to fulfill its contractual obligations in regard to patents.

5. All employees are to immediately report to the Institute any idea or discovery which they believe to be of a patentable nature and which arises in line of duty or as the result of the use of Institute facilities; this obligation shall in no way interfere with the prompt publication of research results.
It is not intended that the research staff should be burdened by having constantly to scrutinize research results for minor patentable features. However, inventions of obvious social or commercial value should be reported promptly in order to obtain the desired protection.

6. Inventions and discoveries made by an employee in his own time and without the aid of Institute facilities are the sole property of the inventor.

(1) Patents from such inventions should be administered so as not to involve the Institute name or to discredit the Institute.

(2) Time spent in administering such patents should conform to the Institute policy on outside activities by staff members.

(3) In general faculty members should not patent such inventions which are in the specific field of an Institute research program without permission of the Institute.

7. Patent licenses granted by the Institute are by policy nonexclusive. In some cases involving high developmental expenditures by the licensee, or for other special reasons, an exclusive license may be given subject to a suitable cancellation clause.

8. It is the policy of the Institute that the sponsors of research work done by the Institute not receive any patents as a result of this work. When this is deemed impractical, the Contract Administrator, Office of the Vice President for Business Affairs, will obtain approval from the Faculty Committee on Patents for granting of patent rights to the sponsors; if patents are assigned to the sponsors they shall be required by contract to license others under these patents on the basis of reasonable royalties and terms.

9. A committee selected by the Faculty is charged with the following responsibilities:

(1) Recommending what inventions should be patented by the Institute.

(2) Adjudicating uncertain cases such as those involving "line of duty" versus "own time" inventions.

(3) Making recommendations in regard to patent provisions in industrial contracts.

above shall be referred to the Faculty Committee on Patents for recommendation.

ı order to make this policy effective and uniform in its application, all mem-ers of the research and instruction staff are required to sign the following ıtent agreement, assigning to the Institute or its nominee their rights to such ıventions and patents thereon:

> Whereas the California Institute of Technology, a California corporation hereinafter referred to as the Institute, has certain responsibilities to see that inventions made at the Institute be administered for the best interests of the public and in such a way as to avoid cause for criticism of the Institute and to meet wih the Institute's contractual obligations to others, and in view of the patent policy of the Institute as in force at this date and as it may from time to time be amended by the Board of Trustees with the approval of the Faculty, and in consideration of the subscribing thereto by other members of the Faculty or staff, I hereby agree as follows:
>
> I will notify the Institute promptly of any inventions which I believe to be patentable and which are made in the course of my duty at the Institute, or with the use of Institute facilities. At the request of the Institute, I agree to assign to the Institute or its nominee all patent rights in the United States or foreign countries to inventions made in the course of duty or with Institute facilities. I further agree to supply all information and to execute all papers necessary for the purpose of prosecuting patent applications. Expenses for such patent applications shall be borne entirely by the Institute or its nominee. However, the Institute reserves the right to abandon the prosecution of any patent application. Furthermore, I agree to disclose promptly and fully to the Institute all matters, whether patentable or not, that I may, solely or jointly with others, develop wholly or partly in the course of any work in which I may engage covered by any Government or industrial contract. If called upon, I agree to execute all rightful documents and supply all information which the Institute, on behalf of itself or its nominee, deems necessary or helpful in order to perform its obligations under any contract.
>
> It is understood as a part of this agreement that if the Institute receives funds in excess of administrative costs from patents on inventions assigned to it by me pursuant to this agreement I shall share in these funds according to the established and announced policy in force at this date.

Faculty Committee on Sponsored Research passes on the scientific merits all contract research proposals before they are submitted to the sponsoring ;ency, to make sure that the Institute does not undertake contract activities hich are not in the nature of basic research or are not appropriate to the Insti-ıte's policies, facilities and personnel; a Contract Administrator in the Office of :e Vice-President for Business Affairs of the Institute examines each contract :fore it is signed, to see that the legal, financial and patent provisions have been :operly stated in line with Institnte policy.

ıtent management agency: the California Institute Research Foundation, a parately incorporated nonprofit organization established 17 October 1940 to ındle patents and inventions for the benefit of the Institute; as indicated in the ɔlicy statement above, the equities of inventors in their inventions are recog-zed and, when the Institute or its nominee receives funds in excess of adminis-

trative costs from patents on assigned inventions, the inventor receives 15% of the gross income derived from the sale or exploitation of patents on an invention assigned to the Institute.

CHAPMAN COLLEGE
Orange, California

Formalized research and patent policy, adopted 9 June 1939 by the Executive Committee of the Board of Trustees of the College; applicable on a college-wide basis:

> All patents developed as the result of institutionally supported research become the property of the College. The intent of this is that patents thus developed on the work schedule program of all salaried employees become the institutional property. Patents developed in institutional facilities but under the financial support of an outside agency become jointly the property of the institution and the supporting agency. Patents otherwise developed become the property of the individual on whose time the patent is put into operation.

No patent management agency other than the Board of Trustees of the College.

HARVEY MUDD COLLEGE
Claremont, California

No formalized research or patent policy, although the formulation of such a policy is currently under consideration; at present the College, which is a constituent member of The Associated Colleges at Claremont, handles each situation on an individual basis. No patent management agency, but consideration is being given to enter into a patent development agreement with Research Corporation.

LOMA LINDA UNIVERSITY
Loma Linda, California

Formalized research and patent policy, adopted 21 May 1956 by the Board of Trustees of the University (formerly the College of Medical Evangelists); applicable on a university-wide basis to faculty members, employees and students on both the Loma Linda and Los Angeles campuses:

> 1. Medical and dental ethics which prohibit physiciaus and dentists from realizing any direct or indirect material return from the manufacture, sale or distribution of any product for which the patient pays, or which is used as a therapeutic device or health aid, or which in any manner affects public health shall be the governing principle to the faculty member, the employee or student of the University who has a patentable idea of possible value to medicine.
>
> 2. Processing of patentable ideas (medical or nonmedical):
>
> a. If the faculty member, employee or student develops an idea on the campus with the use of the University facilities and on University time, the Committee for Academic Affairs shall decide whether it wishes to process the idea. If the Committee does not choose to process the idea within three months, the faculty member, employee or student may develop it as he chooses within the ethical context described in 1 above.
>
> b. If the faculty member, employee or student develops an idea on his own time, he may offer it to the Committee for Academic Affairs for processing.

eir inventions are recognized, within the limitations of medical and dental hics and, when an invention is assigned to the University, the inventor may re- ive a share, as determined by the Committee for Academic Affairs, of the net ıcome derived from the sale or exploitation of any patents obtained on the ıvention.

LOS ANGELES COLLEGE OF OPTOMETRY

Los Angeles 7, California

o formalized research or patent policy; faculty members supervise and condnct ıdividual research projects by arrangements with the administration and as ınds permit. No patent management agency; the College administration is au- ıorized to file whatever patent applications it sees fit, upon recommendation of ıe Faculty Research Committee.

LOYOLA UNIVERSITY OF LOS ANGELES

Los Angeles 45, California

ormalized research and patent policy, adopted 7 June 1960 by the Academic ouncil of the University and contained in the statement of policies and proce- ures of the Committee on Research which is responsible for the coordination f all research activities at the University; applicable on a university-wide basis:

1. In the case of research which is sponsored by the Committee on Research or unsponsored, but supported by some department of the University, any discovery must be reported to the University officials concerned. If the University does not notify the discoverer within 60 days of its intent to secure its legal rights to profit, the discoverer may then proceed in accordance with his own desires and will enjoy complete possession of any of the fruits of discovery.

2. When the University supports a research project by bearing all of the cost, the inventor will receive 15% of the gross returns from any invention which results and the University and any agents which it may employ for purposes of patent management will retain 85% of the gross returns and will pay all costs of patenting and management. At the discretion of the Committee on Research the inventor may, in special cases, receive more or less than 15% of the gross return from an invention.

3. In case part of the cost of the research is borne by the University and part by some external agency, agreement should be made in advance as to the disposal of all fruits of the investigation and the manner of disposal. Discoveries of possible financial gains, other than patents, should be given disposal in a manner to conform to the policies recommended for the handling of patentable material.

4. The discovery of commercially valuable information in a research investigation, the cost of which is borne by an outside agency, will be promptly and fully reported to the sponsor by the research director of that project. The University authorities should have no responsibility in this connection, except in the case of dereliction of duty. It thereafter becomes the right of the sponsor to proceed to secure any rights.

5. In accepting a grant from industry for the purpose of research, it is the general policy of the University that the grant shall be used for the training of men and the extension of the boundaries of knowledge and not for the specific development in which the sponsor may be interested. If the University accepts a grant from an industrial corporation for the purpose of research in conformity with the general policy, it shall be with the written understanding that, should an invention result from this research, the University and the inventor handle the invention according to the procedures of sections 8-11 below.

6. All rights to copyrightable material shall be reserved to the author. The distribution of the royalties, if any, is a matter of arrangement between the author and his publishers or licensees. Exception to this rule may occur in the case where the University has employed personnel to produce specific materials.

7. These statements of policy shall apply to holders of University scholarships or fellowships and all other graduate students.

8. If a member of the University other than those excluded by the nature of their research grant desires to obtain a patent on his own responsibility, he may do so whether he has consulted the Committee on Research or not, but he shall advise the Committee of his intention at the time of his patent application and shall furnish to the Committee a copy of the patent when issued. The Committee when advised of his intention may raise the question of whether the University has an equity in the proceeds of the invention because of the use of its facilities. In such event the determination of the character and amount of the University equity in such invention will be settled in conference between the Committee and the member or members of the University concerned. It is expected that the same procedure will be followed in connection with any other question arising out of patent policy.

9. When a member of the University in the course of his University activities makes a discovery that may lead to an invention he should report the matter to the University officials concerned according to section 1 above. If the University does not notify the discoverer of its intent within 60 days or if the University relinquishes all rights to the inventor, then he may proceed in accordance with his own desires. However, if the inventor so desires he may have the patent process handled under the procedure prescribed in section 10 below.

10. When the question of patenting a particular invention is brought before the Committee, the Committee will decide upon the advisability of patenting according to the University policy. If the Committee reaches a negative conclusion it will turn the matter back to the inventor to do as he sees fit. If the Committee reaches a positive conclusion it will refer the matter to a patent attorney to carry out the necessary negotiations. In accord with paragraph 2 of this statement the inventor will normally receive 15% of the gross income derived from the sale or exploitation of the invention.

11. If an outside sponsor proposes a procedure at variance with that outlined above, the University will authorize the Committee on Research to discuss such alternate procedures with the sponsor and staff member involved in an effort to arrive at an agreement which will not violate the policies of sections 1-7 above and which will protect the equity of all parties involved.

No patent management agency except as arranged in a specific case by the Committee on Research; as indicated in the policy statement above, the equities of inventors in their inventions are recognized and, when an invention is assigned to the University, the inventor receives a share, normally 15%, of the gross income derived from the sale or exploitation of the invention.

Inglewood 1, California

No formalized research or patent policy; as a general practice each situation is handled on an individual basis in what is considered to be the fairest and most expedient manner. No patent management agency.

OCCIDENTAL COLLEGE

Los Angeles 41, California

No formalized research or patent policy; as a general practice the College observes a laissez-faire attitude. Patent management agency: Research Corporation, both for the College and for inventors by voluntary assignment of their inventions; when an invention is assigned to Research Corporation, the inventor receives 15% of the gross income derived from the sale or exploitation of any patents obtained on the invention.

PASADENA COLLEGE

Pasadena 7, California

No formalized research or patent policy, although the formulation of a policy is currently under study by a committee; as a general practice each situation is at present considered on an individual basis; all sponsored research is handled through the chairman of the division of natural sciences. No patent management agency.

STANFORD UNIVERSITY

Stanford, California

Formalized research and patent policy, adopted 20 February 1958 by the Board of Trustees of the University, replacing an earlier policy adopted 16 June 1938 and revised 19 October 1939; applicable on a university-wide basis to faculty members only; as a general practice all rights to inventions made by non-faculty employees assigned to research projects belong to the University and each such employee is required to execute a patent waiver agreement; overall administration of sponsored research and primary responsibility for patent matters within the University are centered in a Research Administrator in the Office of the Controller:

> University policy is to retain patent rights either for the inventor or for itself, and most contracts and grants for sponsored research permit this policy. Research contracts and grants usually contain a clause defining the patent rights of the University with regard to patentable inventions discovered in the course of sponsored research. Under government contracts and grants, Stanford's obligation normally consists of granting a nonexclusive royalty-free license to the Government. In certain instances, as in AEC contracts, the Government requires transfer of the entire title. Industrial contracts and grants vary and Stanford occasionally has had to give up patent rights on these. So that the University may fulfill its contractual obligations, each faculty member, employee and student involved in research is asked to execute a patent rights agreement.

Faculty members. A faculty member is permitted to keep all rights to inventions he may make except in cases where other arrangements are required by a contract or grant for sponsored research. Each faculty member executes an agreement to grant appropriate license to the sponsor, or if the sponsor requires, to grant the entire right, title and interest to the sponsor. Normally, the faculty member retains patent rights or assigns his rights to the University. It is the University's wish that a faculty member be prepared to make inventions to which he holds patent rights available to the public on a nonexclusive basis.

Non-faculty employees. It is presumed that all rights to inventions by non-faculty employees assigned to research projects belong to the University. Each employee working on a research project is required to execute an agreement to assign to the University his entire right, title and interest in and to any invention arising out of his work on a research project. The University may waive its rights with respect to a particular invention, subject only to obligations to the sponsor. In practice, personnel at the level of research associate and above have patent rights equivalent to those held by faculty members. Personnel at the research assistant level or below do not have patent rights except by specific waiver. A student who receives compensation for his work on a research project is considered a non-faculty employee in the determination of his patent rights.

Students who are not employees. In the case of students who receive no salary but who make use of special research facilities, such as facilities used for research on Government contracts, an assignment of rights to Stanford is required if the University is under obligation to a research sponsor regarding patent rights. Exceptions must be by specific waiver. Students who do not use special facilities are entitled to full patent rights. In this case, students may desire to assign an invention to the University for investigation of patentability and exploitation. Stanford, at its option, may accept an assignment in which case the inventor is entitled to the same payment as faculty inventors who voluntarily assign patent rights to Stanford.

Patent management agencies: Research Corporation, both for the University and for inventors who may voluntarily assign their inventions, and the Research Administrator, acting for the University; as indicated in the policy statement above, the equities of inventors in their inventions are recognized and, when an invention is assigned to Research Corporation or the University, the inventor receives a share of any income derived from the sale or exploitation of patents obtained on his invention.

UNIVERSITY OF CALIFORNIA

Berkeley 4, California

Formalized research and patent policy, originally adopted 28 May 1943 and revised 27 March 1953 by the Regents of the University and stated in University Regulation No. 23; applicable to all members of the faculties and other employees at all locations of the University, in Berkeley, Davis, Irvine, Los Angeles, Riverside, San Diego, San Francisco, Santa Barbara and Santa Cruz:

1. All matters relating to patents in which the University of California is in any way concerned shall be administered by an agency known as the University of California Board of Patents.

2. The Board of Patents shall be appointed by the Regents. It shall have full power of organization, subject to the provision that it meet at least once each

The Board shall consist of nine persons selected from the faculties, the administration of the University and such other groups as the Regents may determine, but of this number the chairmen of the Committees on Research, Northern and Southern Sections of the Academic Senate, shall be ex officio members. The Board shall be instructed to provide upon organization, for the discharge of members thereof at the termination of staggered terms of service, without prejudice, however, to the right of retiring members to accept reappointment.

3. Subject to the approval of the Regents, the following powers and dnties shall be exercised by the Patent Board:

a. To appoint a committee of experts to examine the merits of each potentially patentable invention that may be submitted to it or that may come to its attention and to cause such committee to report its findings to the Board.

b. To report and recommend to the Regents each action to be taken by the Patent Board.

c. To determine the relative equities or rights held by the inventor and the Regents or by a cooperating agency, if any, and to reach an agreement among all parties concerned with respect to such equities, including the proper distribution of royalties. It is recognized that when the Regents, or a cooperating agency, as well as the inventor, are found to possess rights in an invention the respective equities or rights shall be determined in the light of conditions leading to the invention, the amount of income that reasonably may be expected therefrom and the services assumed by the University in obtaining and administering the patent.

d. To execute, through the appropriate University officer or officers, all documents necessary to define the rights agreed upon by the Board, a cooperating agency, if any, and the inventor or discoverer.

e. To recommend, for inventions in which the University may have an equity or in which the Board has been asked to act for the inventor, whether the Regents shall have such inventions patented at their expense or release them entirely to the inventor for whatever independent action he may care to take.

f. To retain patent counsel, in association with the University Attorney, for matters pertaining to the filing of patent applications approved by the Regents, the prosecution thereof and the litigation that may arise therefrom.

g. To negotiate through the appropriate University officer for licensing and other agreements covering the manufacture and sale of patented articles or processes resulting from patents or inventions submitted to it in which the Regents have an equity and to arrange for and direct the collection of royalties and the distribution thereof to those entitled thereto.

h. To obtain from cooperating agencies agreements concerning patent rights to inventions or discoveries made as a result of research carried on under special grants.

i. In its consideration of matters relating to each particular patent case or situation the Patent Board will take into consideration principles laid down in the patent laws and in the court decisions of the United States.

4. Those University employees who are employed under research contracts, grants in aid or service to industry agreements or special state appropriations covering specific activities shall make such assignment of patents as is necessary in each

specific case in order that the University may discharge its obligations, expressed or implied, under the particular agreement.

Those University employees who are engaged for the express and exclusive purpose of design, development or research in a project or other administrative unit designated by the President or his authorized representative to be of such a nature may be required to assign to the University all patents resulting from their given duties. Since this general requirement to assign patents constitutes an important element in the conditions of employment it should not be imposed without full discussion between the department chairman and the proper higher administrative officer.

5. Except in cases of contracts or other agreements covered by the provisions of the foregoing section 4, the assignment of patents shall be optional for all employees including (a) those engaged for the combined purposes of teaching and research, such as professors of the various grades, instructors, lecturers and others of equivalent rank, including those holding clinical titles; (b) others engaged solely for teaching, such as those holding appointments only in a summer session or university extension; and (c) others not specified above, such as those engaged for administrative, clerical or maintenance purposes.

6. Members of the faculties and employees shall advise the Board of Patents with regard to any item for which a patent is sought and which has been developed in the course of their work or through the use of University facilities. If a patent issues, a shop right shall be granted by the inventor to the Regents at their request.

7. The foregoing statements of policy apply also to copyrights of motion pictures made through direct financial support of the University.

8. The Regents are averse to seeking protective patents and will not seek such patents unless the discoverer or inventor can demonstrate that the securing of the patent is vital to the University's good name and that no other agency exists to gnard the public welfare.

9. The following regulations govern the distribution of royalties that may be earned on inventions assigned to and accepted by the University:

a. Upon the assignment of a patent right to the Regents by a University faculty member or employee, the Regents agree, for and in consideration of said assignment, to pay to the inventor, his heirs, successors and assigns, royalties based on the royalty distribution schedule then in effect.

b. The royalty schedule now in effect provides: (1) until such time as the total gross royalties do not exceed $10,000, 25% shall be paid to the inventor; (2) on total gross royalties which exceed the sum of $10,000 and do not exceed the sum of $25,000, 20% thereof shall be paid to the inventor; (3) on total gross royalties which exceed the sum of $25,000 and do not exceed the sum of $50,000, 15% thereof shall be paid to the inventor; (4) on total gross royalties which exceed the sum of $50,000 and do not exceed the sum of $100,000, 10% thereof shall be paid to the inventor; and (5) on total gross royalties in excess of $100,000, 5% thereof shall be paid to the inventor.

10. In the disposition of any net income accruing to the Regents from patents in which the University has an interest, first consideration will be given to promotion of research.

Patent management agency: the University of California Board of Patents, acting for the Regents of the University; as indicated in the policy statement above,

ıventor with respect to the distribution of royalties.

UNIVERSITY OF THE PACIFIC

Stockton 4, California

Jo formalized research or patent policy; research and patent matters are coordinated through a Research Council and each situation is considered on an ıdividual basis. No patent management agency other than the Board of Regents f the University, with the assistance of the Research Council; the equities of ıventors in their inventions are recognized and, on the recommendation of the Lesearch Council, the inventor receives 15% of the gross income derived from the ıle or exploitation of patents obtained on an invention assigned to the Univerity.

UNIVERSITY OF SAN FRANCISCO

San Francisco, California

Jo formalized research or patent policy, although a Research Committee is curently formulating such a policy; at present each situation is handled on an ndividual basis. No patent management agency.

UNIVERSITY OF SOUTHERN CALIFORNIA

Los Angeles 7, California

'ormalized research and patent policy, adopted 5 June 1961 by the Board of Trustees of the University following previous approval by the University Senate nd the President of the University; applicable on a university-wide basis to the aculty, staff and students:

> A basic function of the University is to contribute to knowledge and culture by creative activity in all academic areas, and to disseminate the results of such creative activity by the most appropriate and effective means. The securing of a patent, in certain circumstances, may be the most appropriate and effective means of disseminating the knowledge involved and it is the general policy of the University to encourage and support the production of such patents for the purpose of dissemination of knowledge.
>
> Some patents may also have economic value and their exploitation may result in financial gain. It is not a policy of the University to seek nor to encourage specifically the development of patents of commercial value or to engage in their exploitation. However, should such patents arise from the performance of normal duties and activities of University personnel, and in the absence of specific contractual obligations of the University, the following general patent policy shall apply.
>
> University equity. The University shall have an equity in any patent obtained by any person if the development of the patent involved the substantial use of University facilities or funds. The payment of salaries, fellowships or scholarships, or the use of office and library facilities by the faculty, staff and students for the performance of normal duties and activities, shall not in itself constitute substantial support by the University for the purpose of establishing an equity.

It is difficult to define the equity of the University in quantitative terms since the circumstances of each invention may differ. In most instances the University's equity in a patented invention will be satisfied by the prestige accrning to the University as being the source of useful knowledge. In those instances where financial considerations require the precise determination of the relative equities of the University and the inventor, this determination shall be accomplished by the decision of a Patent Committee as defined below.

Procedures with respect to patents. To assist the inventor in the obtaining and/or in the exploitation of a patent, the University has entered into an agreement with Research Corporation which enables the inventor at his option to submit his invention to this corporation for their consideration. Should Research Corporation accept the invention for development and exploitation, then the procedures and relative equities, as are defined in the agreement, shall be in force.

If the inventor does not choose to apply to Research Corporation, or if Research Corporation does not accept the invention, the inventor may act as he sees fit provided that he does not prejudice the University's interest for his own advantage.

The Financial Affairs Committee and the Patent Committee. The Financial Affairs Committee shall advise the President of the University on matters of policy relating to patents and may make, through normal channels, specific recommendations to implement the general patent policy.

To deal with matters relating to a specific patent, a Patent Committee shall be appointed. The President shall appoint such a committee at the request of the inventor, or may do so on his own initiative. The Patent Committee shall consist of the inventor or his representative, a representative of the President, and a third member from the Faculty mutually agreed upon by the other two members.

Financial returns from patents. Should the University receive financial benefits from a patent in which it possesses an equity, the monies so received shall be devoted to the furtherance of research activities at the University. The department or school from which the patent emanated shall be the primary beneficiary of such funds.

Patent management agency: Research Corporation, both for the University and for the inventors by voluntary assignment of their inventions; as indicated in the policy statement above, the equities of inventors in their inventions are recognized and, when an invention is assigned to Research Corporation, the inventor receives 7% of the gross income derived from the sale or exploitation of any patents obtained on the invention; the University waives claim to the first $10,000 of gross return and to not less than 50% of any gross return beyond $10,000 from any invention in which it is determined by a Patent Committee to have an equity.

ADAMS STATE COLLEGE

Alamosa, Colorado

lo formalized research and patent policy; as a general practice the College ob-
:rves a laissez-faire or hands-off attitude and would be disposed to leave all
atent rights to the inventor. No patent management agency.

COLORADO SCHOOL OF MINES

Golden, Colorado

'ormalized research and patent policy, adopted 15 March 1962 by the Board of
'rustees of the School; applicable on a school-wide basis to faculty and other
rofessional personnel and graduate students employed by the School and the
:olorado School of Mines Foundation, a separately incorporated nonprofit or-
anization established 10 December 1948 to handle sponsored research and man-
ge patents for the School:

> The Colorado School of Mines (hereinafter referred to as the School) recognizes that inventions and discoveries of mineral deposits may result from the advanced studies, researches and consulting work of the staff. As herein used, staff shall include faculty and other professional personnel and graduate students who are employed by the School or the Colorado School of Mines Foundation, Inc. To promote the professional improvement of the faculty as a whole and at the same time to protect the full rights of the inventor or discoverer, the School has the intent to provide an equitable means of sharing expenses and income with the inventor and a nonprofit patent management organization such as the Research Corporation, as described in a later section. The share of any income which may accrue to the School will be deposited in the Colorado School of Mines Foundation, Inc., for faculty improvement.
>
> All staff are encouraged to report, as a matter of record, inventions and mineral discoveries to the President of the School. Staff should discuss with their department heads during the early stages of their researches the probable extent of their use of School facilities and keep the School informed through the department heads of the general progress of their research programs, especially in cases where patents or discoveries of mineral deposits may result. The sections below outline rules and procedures to be followed by the staff when an invention or discovery of a mineral deposit is made.
>
> 1. Policy for research supported and/or administered by the School or the Colorado School of Mines Foundation, Inc.
>
> A. Patent agreements, other than the royalty-free clause found in federal government grants and contracts, proposed by sponsors must be reviewed by the President or a representative designated by him prior to final acceptance of the grant or contract. The patent policy in such grants or contracts, when approved by the School, will be honored by the School in any subsequent action which the School may take.
>
> B. When research is supported and/or administered by the School or the Colorado School of Mines Foundation, Inc., each staff member receiving financial support will sign an agreement that he will:
>
> (1) transmit to the President of the School complete information concerning
> (a) all inventions of a patentable nature which are the results of the re-

search supported by the grant or contract, and (b) the location, extent and type of each mineral deposit discovered as a result of the research supported by the grant or contract; and

(2) abide by the decision of the Board of Trustees of the School with regard to disposition of rights to the invention or mineral discovery.

C. When the President is notified of an invention or discovery of a mineral deposit, he may appoint a Patent and Discovery Committee (hereinafter called the P and D Committee) to consist of not less than five regular members of the faculty of the School.

The P and D Committee will (a) examine all available information concerning the invention or discovery of a mineral deposit, (b) confer with the staff member concerned, (c) call upon other faculty members for advice as needed, and (d) submit a recommendation of action to be taken to the President and the Board of Trustees of the School.

D. If the staff member disagrees with the recommendation of the P and D Committee, he may appeal to the President for a different course of action. Such an appeal will accompany the P and D Committee's recommendation.

E. If the Board of Trustees of the School decides that an attempt should be made to secure a patent on an invention, the School may submit the invention to a nonprofit patent management organization such as the Research Corporation for administration under the terms of a patent agreement. The inventor will receive at least 8% and not more than 15% of the gross income. The patent management organization and the Colorado School of Mines Foundation, Inc. will, after paying expenses, share equally in the balance of income from the patent.

F. Since patent management organizations do not normally administer mineral deposits, right to such deposits discovered as a result of research supported and/or administered by the School or the Colorado School of Mines Foundation, Inc., will be covered by individual agreements, wherein the discoverer will receive an amount equal to or greater than that received by the School or the Colorado School of Mines Foundation, Inc.

G. If no P and D Committee is appointed within a period of 90 days after disclosure of the invention or discovery to the President, or if the P and D Committee makes no definitive recommendations to the President within 60 days after appointment, the School or the Colorado School of Mines Foundation, Inc., shall be deemed to have waived all rights to the invention or discovery.

H. The School, recognizing that mineral discoveries resulting from work supported and/or administered by the School or the Colorado School of Mines Foundation, Inc. may be of little value without large investments from outside sources, may choose to release the discoverer from his obligations to the School.

I. If the Board of Trustees does not attempt to protect the invention or discovery in the appropriate way within 90 days after receipt of the P and D Committee report, it shall be deemed to have waived all rights to same.

2. Consulting work supported by outside agencies (funds not administered through the School or the Colorado School of Mines Foundation, Inc.)

A. Staff who (1) engage in consulting for outside agencies, including the Colorado School of Mines Research Foundation, and (2) are using funds not administered through the School or the Colorado School of Mines Foundation, Inc., must file with the Dean of Faculty a letter requesting permission to perform such work. Laboratories and equipment of the School are generally not available to the staff for consulting work. Unauthorized use of such facilities for consulting may be cause for subjecting the work to the rule of section 1-B.

If the staff member wishes to employ the channels for patenting provided by the School and described in section 1, he will be required to sign a modified form of the agreement before the School will refer his invention to a nonprofit patent management organization such as Research Corporation.

3. Policy for unsponsored staff research.

Unsponsored staff research is defined for the purposes of this document as research not supported by funds from the School, the Colorado School of Mines Foundation, Inc. or any outside group or agency. Staff engaging in unsponsored research may, with the permission of the department head or administration, utilize the School's facilities in the research study insofar as such use does not interfere with the normal educational program.

Patents, inventions and/or mineral rights developed as a result of unsponsored studies and/or research by a staff member are considered to be the sole property of the inventor or discoverer. It shall be the responsibility of the staff member to review the extent of his use of the School's laboratories and equipment with his department head and the President at the time of application for a patent or at the time of revelation of a mineral discovery. If the staff member wishes to employ the channels for patenting provided by the School and described in section 1, he will be required to sign a modified form of the agreement before the School will refer his invention to a patent management organization.

'atent management agency: the Colorado School of Mines Foundation, which s currently considering a patent development agreement with Research Cor-oration; as indicated in the policy statement above, the equities of inventors n their inventions and discoveries of mineral deposits are recognized.

COLORADO STATE UNIVERSITY

Fort Collins, Colorado

'ormalized research and patent policy, adopted 31 March 1962 by the Colorado tate Board of Agriculture and set forth in general terms in the University Staff Manual; sponsored research is performed in accordance with prescribed proce-lures and subject to the terms of the research contract, inclnding such research :onducted under the Colorado State University Research Foundation, a separately ncorporated nonprofit organization established 4 October 1941 to handle spon-ored research and patents for the University; applicable on a university-wide)asis to all University staff members, employees and graduate students as a :ondition of their employment:

Statement of ownership principle. Technical discoveries, inventions and items of commercial importance resulting from the research or investigation conducted by staff members, employees or students of the University on University time or anyone utilizing University facilities shall become the property of the University or its designee. In the event that an investigation results in a discovery or invention which, according to common usage, may he patented, the University reserves the right to protect such discoveries or inventions by patent application with due regard to protection of the rights of the University and the interests of the inventor. The University shall own all the rights, title and interest in such patents and reserves the right to direct the assignment thereof to others, except in those cases of sponsored research projects where the terms of the research contract specifically require the assignment of patent rights to the sponsor.

University organization relating to patents. The President shall establish a standing committee on Patent Policy and Procedure consisting of five members selected from the general faculty of the University. The appointment of this Committee shall be for a term of five years, and appointments shall be so arranged that one member of the Committee is retired each year. This Committee shall he the official representative of the University for all matters pertaining to any invention or development of commercial value by the staff, employees or students of the University or anyone utilizing University facilities. The function of this Committee is one of review and subsequent recommendation to the President of the action to be taken for the best interests of the University. It shall not be charged with the responsibility for the procurement or the administration of patents or the exploitation of commercial items.

Any individual with emeritus standing is considered to be subject to the conditions of this patent policy as long as that individual is actively associated with the University or is utilizing University facilities. Any staff member, employee or student of the University shall have the right to present before this Committee any unusual or extenuating circumstances involving any individual rights to a particular invention.

It shall be the responsibility of Colorado State University Research Foundation to administer any patent rights accruing to the University. It shall also be the responsibility of the Research Foundation to receive, account for and properly distribute all monies received from any patent or from the sale of any commercial item.

Investigations financed wholly by the University, that is, sponsored by the University and carried out by public funds and by persons paid by the University.

In accordance with the principle of ownership, as stated above, the inventor or inventors shall assign all rights, title or interest in any patent or discovery to the University. The payment or just compensation to the inventor or inventors shall be made from the net proceeds of any monies accruing to the University from the commercial utilization of such patents. The cost of obtaining the patent shall first be returned to the University prior to any distribution of the proceeds from the patent. Any unusual or excessive expenses incurred by the University in supporting the research resulting in the invention shall also be returned to the University prior to the distribution of the proceeds from the patent.

Just compensation for the inventor or inventors shall be considered to be 25% of such net proceeds. The remaining 75% of the net proceeds shall accrue to the benefit of the University and shall be administered by the Research Foundation in concurrence with the President of the University in such a manner as to promote the research, development and growth of the University as a whole.

Investigations financed wholly or partially by governmental, industrial, philanthropic or other organizations or hy an individual not employed by the University. In this case the results of the research shall be prosecuted under a contract or written agreement stating the rights and ownership of patents which may result from the research. Such a statement of rights is to be an integral part of the contract or agreement signed and properly executed prior to the initiation of any sponsored research project. Before the work is started on a project covered by such an agreement or contract, the principal investigator shall be advised of his specific rights thereunder and the principal investigator shall be responsible to advise his co-workers of their rights. The Research Foundation is directed to exercise its best efforts in negotiating contracts to secure an appointment of patent rights as favorable as possible to the interests of the University.

Investigations performed by an employee of the University wholly or partly on his own time and at his own expense. The Committee on Patent Policy and

to the President that the distribution of equities be as follows:

(a) When the discovery is made wholly at the expense of the individual without the use of University facilities and outside the field of the individual's normal employment, the results of such research are the private property of the investigator and the University shall receive none of the proceeds.

(b) When a discovery is made partly at the expense of the individual but with the use of University facilities or in the normal field of the individual's employment, just compensation shall be considered to be 25% of the net proceeds.

(c) When a discovery is made by an individual acting as a consultant, its ownership shall first be subject to the terms of the consulting agreement under which the iudividual was acting. If the agreement does not require the assignment of patent rights to the sponsor the ownership and distribution of equities is to be determined by the Committee on Patent Policy and Procedure.

Commercial items not patented. In the event that inventions or developments of commercial value occur in the course of University research which are not patentable in themselves or which the Committee on Patent Policy and Procedure shall deem not advisable to patent, but are nevertheless of commercial value, they shall be subject to the same University policy as would any patentable invention. The Committee on Patent Policy and Procedure is to direct the administration of these inveutions and the distribution of any equities involved accordiug to the provisions applying to any patented invention or discovery.

atent management agencies: the Colorado State University Research Fonnda-on, which is authorized to act for the University, and also Research Corpora-on under an agreement with the Foundation; as indicated in the policy state-ıent above, the eqnities of inventors in their inventions are recognized and, 'hen an invention is assigned to the Foundation, the inventor receives 25% of ıe net income derived from the sale or exploitation of the invention or of atents obtained on the invention.

UNIVERSITY OF COLORADO

Boulder, Colorado

ormalized research and patent policies, adopted 17 May 1949 by the University enate, after extensive stndy by a faculty committee appointed by the President f the University, and revised 20 October 1950 to make the policy effective as of ıat date for all present members of the staff and to provide that each new mem-er shall be informed of its provisions so that such provisions shall become a art of the agreement of employment between the individnal and the University; pplicable on a university-wide basis:

1. All University employees shall be encouraged to disclose to the President of the University all discoveries which result from their research, which in their opinion may lead to valuable and patentable inventions, and which are the result of the use of University laboratories, time, or other facilities.

2. The President in turn shall submit the disclosure to a University Patent Committee.

3. The University Patent Committee shall be composed of seven members, one of whom shall be a member of the faculty of the School of Law, one a member of the administrative staff and the remainder members of the University Senate engaged in teaching or research.

4. The duties of the Patent Committee shall be to establish, review and when advisable modify the principles by which applications or patents of University employees so disclosed are to be handled.

5. The Patent Committee shall consider each disclosure and make recommendation to the President and Regents concerning action to be taken with respect thereto.

6. Such recommendations shall be based upon full consideration of the various equities involved.

7. The inventor shall have the right to appeal to the President and Board of Regents all decisions of the Patent Committee.

8. The inventor shall receive a percentage of any income which the University obtains from the exploitation of an invention so disclosed, such percentage to be determined by negotiation between the inventor and the Patent Committee, and the inventor shall receive such percentage of the income whether or not he remains an employee of the University.

9. All net income from patents received by the University shall be used to further the research functions of the University under the direction of the President and Dean of the Graduate School.

10. The Regents shall decide in each particular case what procedures they may wish to follow in patenting and exploiting inventions.

11. Wherever practical, the Regents shall work through organizations such as the Research Corporation, the Chemical Foundation and other similar institutions.

Patent management agency: the Board of Regents of the University; the Board whenever practical, utilizes the facilities of nonprofit patent management organizations such as Research Corporation and similar nonprofit organizations. As indicated in the policy statement above, the equities of the inventor in his invention are recognized and the inventor receives a percentage of any income which the University obtains from the sale or exploitation of the invention, the percentage determined by negotiation between the inventor and the University Patent Committee.

UNIVERSITY OF DENVER

Denver 10, Colorado

No formalized research or patent policy, although such a policy has been formulated and is currently awaiting approval by the Board of Trustees of the University; at present each situation is considered on an individual basis; under the proposed policy all employees of the University are required to execute a patent waiver agreement and, at the option of the University as recommended by a Patent Review Committee, discoveries and inventions conceived during their employment are assigned to the University; the proposed policy will be applicable on a university-wide basis, including sponsored research conducted under the auspices of the Denver Research Institute, an unincorporated nonprofit division of the University, organized in 1946 to handle contractual research for industry and government on behalf of the University.

ersity; the equities of inventors in their inventions are recognized and, when an ıvention is assigned to Research Corporation, the inventor receives 15% of the ross income derived from the sale or exploitation of any patents obtained on ıe invention; under the proposed policy, when an invention is handled by the niversity itself, the inventor will receive 25% of the net income derived by the niversity.

onnecticut

FAIRFIELD UNIVERSITY

Fairfield, Connecticut

ormalized research and patent policy, adopted 23 May 1962 by the Board of rustees of the University; sponsored research is subject to the approval of a ommittee on Research; applicable on a university-wide basis:

> Fairfield University acquires ownership of all patentable inventions and discoveries developed by any person connected with the University provided they result from research conducted under the auspices of the University or with the use of the University facilities, unless the University has entered into a research grant contract with express provisions to the contrary.
>
> If the University decides that the invention is to be patented, all expenses of securing patent protection and of the further development of the invention will be borne by the University. In this event, the University expects the inventor or inventors to assist the University in the prosecution of the patent application and its attempts to dispose of the rights resulting from inventions or patents. An equitable disposition of any royalties will be made with the inventor or inventors.
>
> If the University is not interested in patenting the invention, the inventor shall be informed that he shall be free to handle or dispose of his invention as he wishes.
>
> Inventions which result from research neither conducted under the University auspices nor involving the use of facilities under the control of the University shall be the exclusive property of the inventor.

Jo patent management agency other than the Board of Trustees of the University; s indicated in the policy statement above, the equities of inventors in their ıventions are recognized and, when an invention is assigned to the University, he inventor shares in an equitable disposition of the gross income derived from he sale or exploitation of any patents obtained on the invention.

SOUTHERN CONNECTICUT STATE COLLEGE

New Haven, Connecticut

Jo formalized research or patent policy, although the formulation of such a ıolicy has been under consideration; as a general practice the College at present ıbserves a laissez-faire attitude and leaves all patent rights to the inventor. No ıatent management agency.

UNIVERSITY OF BRIDGEPORT

Bridgeport 4, Connecticut

No formalized research or patent policy, although the formulation of such a policy is contemplated; at present the University observes a laissez-faire attitude. No patent management agency.

UNIVERSITY OF CONNECTICUT

Storrs, Connecticut

Formalized research and patent policy, adopted by the Connecticut General Assembly at its January 1945 session and stated in sections 3278-3285 of the General Statutes of Connecticut; sponsored research is administered by the University of Connecticut Research Foundation under the direction of a Research Council; applicable on a university-wide basis:

> 3278. Research Foundation. Definitions. As used in sections 3279 to 3285, inclusive, 'university' shall mean The University of Connecticut; 'board' shall mean the board of trustees of the university; 'foundation' shall mean the research foundation established in accordance with section 3279; 'employee' shall mean any member of the faculty or staff of the university or the foundation, or any other employee thereof; 'invention' shall mean any invention or discovery and shall be divided into the following categories: A. Any invention conceived by one employee solely, or by employees jointly; B. any invention conceived by one or more employees jointly with one or more other persons; C. any invention conceived by one or more persons not employees.
>
> 3279. Establishment and management of foundation. The board is authorized to establish and manage the foundation as provided herein. The foundation may, subject to direction, regulation and authorization or ratification by the board: (1) Receive, solicit, contract for and collect, and hold in separate custody for purposes herein expressed or implied, endowments, donations, compensation and reimbursement, in the form of money paid or promised, services, materials, equipment or any other things tangible or intangible that may be acceptable to the foundation; (2) disburse funds acquired by the foundation from any source, for purposes of instruction, research, invention, discovery, development or engineering, for the dissemination of information related to such activities, and for other purposes approved by the board and consistent with sections 3278 to 3285, inclusive; (3) file and prosecute patent applications and obtain patents, relating to inventions or discoveries which the university may be justly entitled to own or control, wholly or partly, under the circumstances hereinafter defined; and receive and hold in separate custody, assignments, grants, licenses and other rights in respect to such inventions, discoveries, patent applications and patents; (4) make assignments, grants, licenses or other disposal, equitably in the public interest, of any rights owned, acquired or controlled by the foundation, in or to inventions, discoveries, patent applications and patents; and to charge therefor and collect, and to incorporate in funds in the custody of the foundation, reasonable compensation in such form and measure as the board shall authorize or ratify; and (5) execute contracts with employees or others for the purpose of carrying out the provisions of sections 3278 to 3285, inclusive. All property and rights of every character, tangible and intangible, placed in the custody of the foundation in accordance with said sections, shall be held by the foundation in trust for the uses of the university. The entire beneficial ownership thereof shall vest in the university and the board shall exercise complete control thereof.