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THE ROLE OF PROFESSIONAL ASSOCIATIONS AND SIMILAR ORGANIZATIONS IN INDUSTRIAL DEVELOPMENT, WITH PARTICULAR REFERENCE TO THE DEVELOPING COUNTRIES

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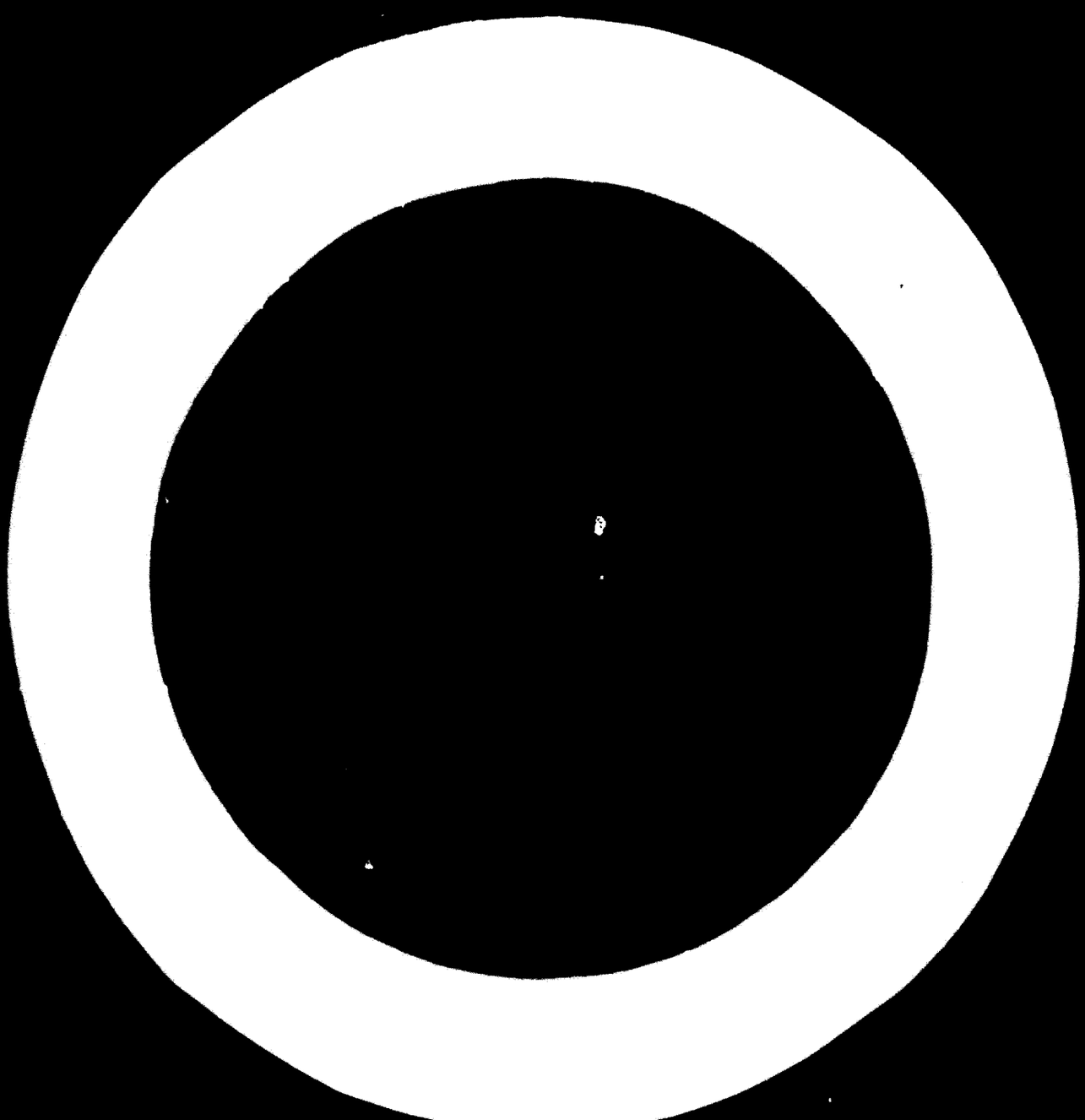

Contents

FOREWORD

The Committee for Industrial Development at its Sixth Session in May 1966, endorsed the work programme of the then Centre for Industrial Development, which included the undertaking of a study of the nature and role of non-governmental organizations and support services concerned with accelerating industrial development in developing countries.

The present report surveys various aspects of the contribution to industrial development of a particular class of existing non-governmental organizations, namely, national and international professional and technical associations that are active in the developing as well as in the developed countries. These organizations are non-governmental in that they are neither a government department nor form part of a government apparatus.

The primary objective of this survey is to examine the role of various professional associations of engineers, technologists, accountants, economic planners, management specialists, executive directors and others whose activities are directly or indirectly aimed at the acceleration of industrial development.

In its treatment of the subject matter the report examines those aspects of professional associations' participation in industrial development, that are likely to be of particular interest to the developing countries. First, it surveys the various types of professional and technical associations that are directly or indirectly involved in industrial development. Second, it outlines many of the diverse functions of these associations such as educational activities, publications, the setting up of voluntary industrial standards, and certification of professional competency. Third, and even more important, it shows that many of these national associations have become international in character by establishing chapters, branches, or counterpart associations in many other countries, including some of the more sophisticated developing countries. Even in countries where these associations have not established associated branches or chapters, they have provided technical assistance to local professional associations in their initial organizational stage or in carrying out special projects.

This report has been prepared by the Industrial Institutions Section of the Industrial Services and Institutions Division of UNIDO with the assistance of Dr. Spencer Hayden and Mr. Richard J. Kempe.

CHAPTER I

INTRODUCTION AND HISTORY

Introduction

1. Generally speaking, professional associations are non-profit, co-operative, voluntary, and somewhat selective in their membership in that the individual or company member is required to meet certain qualifications. For some of the more specialized associations wishing to maintain a very select membership, academic credentials, an accrediting examination or a state licence may be required for membership, but this practice is not usual.

2. Although trade, professional, and technical associations have much in common, and there is some overlapping of functions and activities among the three, they do have substantially different roles to play. The trade association, for example, is concerned primarily with increased profits for its members from the sale of their products or services. A simplified example would be a trade association of dairymen that promotes the consumption of milk, maintains certain production standards and, to the extent that it can be done without violating the antitrust laws, maintains prices and establishes equitable routes. Clearly, the trade association's efforts are aimed at greater profits for its members.

3. On the other hand, the professional association is seldom involved in specific products or services. Its role is to establish and maintain professional standards among its members, and to attempt to solve those problems of management and day-to-day operations that concern them. For example, a professional association of engineers is concerned with continually up-grading the technical competence of the individual member, with improving the image of the engineer within the community and with helping its members to solve the managerial and operating problems they face within their individual firms. The same is true for professional associations of doctors, lawyers, accountants and the like. The emphasis would always be on improving the status, competence and well-being of the individual member.

4. Technical associations have still another basic role. Almost without exception they are concerned with the technical aspects of management and business or corporate activities, with setting standards of production for

an entire industry or country, with establishing guidelines (unofficial) for patent and trade mark registration on a global basis, with setting and promoting safety standards and with improving the state of the particular technology in question. They are not involved with increasing profits from the sale of products or services (trade association) or with improving the status and well-being of the individual member (professional association).

5. Yet these three types of associations do overlap in their functions to a certain extent, and sometimes one association will perform for its members certain services that would more logically belong to one of a different type. Trade associations, for example, often perform services one might expect the professional or technical association to perform. The reason for this overlapping is quite simple: each association is anxious to make itself indispensable and of maximum value to its members. Nor is it really necessary that an association rigidly adhere to one particular set of functions (as outlined above) to the exclusion of all others. It is more important that the association provide services needed by its membership, and these can vary considerably.

6. However, one warning is necessary in this regard: when a new association is formed, its by-laws should define carefully those functions and services to be performed, and every effort should be made to restrict the association's services to them. Otherwise, the association's efforts will become diluted, its image unclear and its membership and prospective members confused. It is better to delineate a small segment of responsibility and work well within it than to attempt to perform tasks beyond the scope and resources of the organization.

7. It should be noted that the staff organizations of professional and technical associations also vary considerably. A small association such as the International Executives' Association (New York), will have a full-time, paid executive director or executive secretary and a small one- or two-man clerical staff. All other officers, such as the president and the various committee heads, serve on a voluntary basis, without compensation, and are elected by the membership. A much larger association, such as the National Industrial Conference Board (New York) will have a full-time, paid president and a number of full-time, paid executives and clerical personnel. Committees of these larger associations usually are headed by members who are appointed or elected and who serve without compensation.

Services of professional and technical associations

8. The services provided by these associations vary considerably and depend on the needs of the members, the size of the organization and the funds available. Since the main source of income for these associations comes from membership dues, the funds available for financing their activities will depend on the size and relative affluence of the membership. For example, a rather "wealthy" association of well-paid professionals is likely to have a higher initiation fee and higher dues than a less wealthy one. Thus, when deciding which tasks an association is to perform, it is important to estimate the size of the membership and the rate of dues that the members could pay.

9. However, certain services are performed in common by almost all active, dynamic professional and technical associations. The following list contains the most vital ones:

(a) Publication of a periodical newsletter or information bulletin.

(b) Dissemination of information to members, the press, and interested outsiders regarding the industry or profession represented by the membership. For example, the Packaging Institute would be expected to disseminate information on packaging materials.

(c) Presentation of orientation or training seminars, either on a regular basis or when specific problems or situations arise.

(d) Conduct of periodic luncheons, which may be entirely social or may involve some exchange of information.

(e) Conduct of other social programmes to encourage friendship and contact among members.

(f) Representation of the interests of the membership before governmental bodies, from the local to the national level, in matters regarding laws, restrictions and regulations affecting members.

(g) Maintenance of reference materials and library facilities of special interest to members and not likely to be found elsewhere.

(h) Conduct of surveys and research projects designed to increase the effectiveness and efficiency of individual members of the profession and publication of the results.

(i) Maintenance of an employment service for members. This takes the form of advising members of job opportunities, and of assisting member companies to find suitable and qualified personnel. This function is seldom official, but few professional or technical associations are able to escape it.

10. To be sure, other services are performed by these associations, but they relate to the specific needs of the individual organization. If the above list is used as a guide, the average professional and technical association will serve the needs of its members. Special services can then be added as needs arise.

History of professional and technical associations

11. Probably the first recorded instances of joint professional activity are found in the Bible, where, in both the Old and New Testaments, passing reference is made to groups of businessmen, such as goldsmiths, apothecaries and spice merchants. Also, records of the ancient Greek and Egyptian civilizations show that merchants joined together to conduct trade in distant lands. Often this was done simply for protection along the way. Thus, the professional association dates to the earliest days of business and trade.

12. However, it was not until medieval times, with the development of the merchant and craft guilds throughout western Europe, that these professional associations assumed the characteristics of the association we know today. At that point in history, associations of businessmen and tradesmen began to be more than simple groupings for protection against thieves and highwaymen, or small groups of artisans bent on exchanging skills and techniques; they actually began to control the profession or trade in the locality. They set standards of workmanship, prices, and regulations; and they protected business from capricious exactions and encroachment from other localities. Also, and importantly, they attempted to establish status in the locality for their members.

13. The guild system reflected the medieval desire for an orderly society. However, with the growth of unified national states in the fifteenth and sixteenth centuries, the guilds, which often had dominated municipal governments, began to lose their power. The introduction of the factory system, with its emphasis on quantity rather than quality, finally put an end to the guild system in England by the seventeenth century. The system managed to persist in continental Europe, however, until the French Revolution.

14. Yet even before the guilds disappeared in England, a kind of technical association appeared. The Royal Society of London "for the Improvement of

Natural Knowledge" came into being in 1660 and is still flourishing today. In fact, it provides facilities for increasing the efficiency of scientists of proved ability by enabling them to pursue research and learn new techniques or study in other Commonwealth countries. Moreover, it provides scholarships for young graduates of the United Kingdom to gain first-hand knowledge of scientific problems in the developing countries.

15. But the first society of professional engineers appeared only in the early nineteenth century. In 1818, the Institution of Civil Engineers was founded in London. It is not only the oldest engineering institution in the world, but also probably the oldest society of management-oriented professionals. Thirteen years later, in 1831, the British Association for the Advancement of Science was founded. Other scientific organizations were founded in other countries. One of these was the Czech Society of Sciences, one of two predecessors of the present Czechoslovak Academy of Sciences.

16. Modern professional associations first appeared in the United States in the post-Civil War period. One of the first was the American Society of Mechanical Engineers, founded in 1880. Another, the American Institute of Certified Public Accountants, founded in 1887, was originally known as the American Association of Public Accountants. The technical association arrived shortly thereafter with the founding in 1898 of the American Society for Testing and Materials (ASTM). The management society came into being in 1912, when the predecessor organization of the Society for Advancement of Management (SAM) was founded.

Projections for the future

17. The future for professional and technical associations seems bright indeed. A recent survey by a leading small business association revealed that companies, in the United States at least, are depending more and more on their various professional and technical associations and paying more for the support of these associations than ever before. It would appear that the role of the professional and technical association is destined to increase steadily, and that the activities performed by the associations will expand.

18. There is, however, a serious deterrent to overexpansion of the role of the association. That deterrent, in the United States at any rate, is the

body of antitrust law that prohibits too close co-operation among competing companies and businesses. Therefore, much of what the well-organized and sophisticated association could do for its members must remain undone for fear of violating the Sherman or Clayton Acts. This deterrent does not exist to the same extent in any other developed country. In the European Economic Community (Common Market), for example, it is possible for competing companies to enter into concerted actions that would be quite illegal in the United States.

19. Professional and technical associations can be depended upon to play a particularly significant role in business life in the developing countries. Business leaders in many of the emerging nations recognize that these associations can be among the most significant factors in the development of local business and in the growth of a professional and technical class. The important point is that the right kind of association must be selected, and it must be chartered to perform the right kinds of functions. Throughout the following pages, the various kinds of successful professional and technical associations are discussed with the hope that they will serve as guides for those who would call upon this unique institution for the strength and assistance it can provide.

CHAPTER II

MANAGEMENT ASSOCIATIONS AND THEIR ROLE

Top management organizations

20. Most top management organizations are concerned with national or international questions and with the formulation of position papers on current issues or planning for future development. One example is the CED type of organization.

21. The Committee for Economic Development (CED) was formed in the United States in 1942 to help prepare for an orderly transfer from high-employment war production to high-employment peacetime production. CED undertook its work in the face of widespread fears that a depression would follow soon after the war ended. Its second and longer-term objective was "to develop, through objective research and discussion, findings and recommendations for business and public policy which will contribute to the preservation and strengthening of our free society, and the maintenance of high employment and living standards, greater economic stability and greater opportunities for (the American) people".

22. During the past 25 years, those who have served as CED trustees have been individually concerned with these goals. They have worked together to make recommendations designed to increase public understanding of the importance of healthy economic growth and the ways in which it can be achieved.

23. The CED today consists of 200 trustees drawn from the ranks of board chairmen and presidents of business corporations and financial institutions and from the ranks of university presidents. CED is supported mainly by voluntary contributions from business and industry supplemented by grants from foundations. Its annual $1.8 million budget is devoted almost entirely to research, publication, and education. The trustees are chosen for their individual capacities, for their interest in and knowledge of public problems and for their willingness to approach these problems from "the standpoint of the general welfare and not from that of any special political or economic group".

24. CED's trustees speak neither as the "voice" of the business community nor as a trade or industry organization, but as a group of independent businessmen dedicated to the advancement of business and public policies that will

improve the economic health of the nation as a whole. Adherence to this principle is one of the major reasons why CED is recognized as an educational force and not as a political or pressure group.

25. To aid the trustees in reaching their conclusions on the important economic, social, and political problems of the day, CED maintains advisory boards of outstanding scholars from universities and research institutes. Recognized specialists are retained, as needed, for consultation on particular problems and participation in the business-academic discourse that is so essential to CED's committee studies. As a result of its method of research and dissemination, CED is credited with considerable influence over the past 25 years in strengthening the economy of the United States.

26. The major product of CED is a series of publications, Statements on National Policy. These are prepared from time to time by CED subcommittees after careful study by the 50-man Research and Policy Committee (R&P). It is this latter group that alone can speak for CED. Aided by the advisory boards, the R&P Committee chooses the subjects for study. The subjects are then assigned to subcommittees, which often spend many months studying every aspect of their assignments. In addition, papers by specialists are prepared for their use. Experts from within industry as well as from the universities are consulted.

27. Drafts reflecting the consensus developed through discussion are prepared by able professionals, including staff members. Finally each subcommittee agrees that its paper is ready for consideration by the full R&P. Once the R&P has approved the subcommittee's work a final draft is prepared.

28. The members of the R&P and of the subcommittee then vote whether to approve or disapprove publication of the Statement on National Policy. Each has the right to add footnotes of comment, of reservation, or of dissent, and these footnotes must be printed. In CED's eyes this is analogous to the academic freedom accorded university scholars. Although there is never full agreement among the trustees themselves or the academic and business communities on recommendations in a policy statement, the Committee can take positive positions because the policy statements need not be weakened by compromise or by unanimous agreements.

29. Following publication of a statement, the R&P often publishes documents originally prepared by scholars for the use of a subcommittee but deemed worthy of wider circulation. Some of these supplementary papers, such as Edward F. Denison's Sources of Economic Growth have become classics in their field. Other CED research projects have led to the publication of supplementary reference books in the fields of area development, international affairs, and labour-management relations.

30. Whenever a publication is released, the business leadership from whom CED draws its trustees and the nearly 4000 corporations that support CED are informed of CED findings and conclusions on a particular subject.

31. During its first quarter of a century CED has spoken out on key issues 71 times by issuing Statements on National Policy. These Statements have covered the following subjects:

(a) Fiscal and monetary policy for high employment
(b) International economic policy
(c) Agriculture
(d) Prices, wages, employment and labour relations
(e) Education
(f) Improvement of management in government
(g) Area development problems
(h) National security
(i) Economic growth

32. The activities of CED and its approach are not unique to the United States, for CED has counterparts in many of the other leading industrialized countries. For example, Great Britain has its Political and Economic Planning (PEP), founded in 1931. PEP has acted as a bridge between research on the one hand and policy-making on the other, in Government, industry or the social services. Its declared aim is "to study problems of public concern, to find the facts, to present them impartially, to suggest ways in which the knowledge can be applied".

33. Sweden has its Studieforbundet Naringsliv och Samhalle (SNS), which brings together scientists from Sweden and other countries with leaders of Swedish business and industry in the belief that a "mutual exchange of viewpoints between men of theory and those of practice will be advantageous to all concerned". France, Germany, and Italy have their Comité Européen pour le

Progrès Economique et Social (CEPES), which was formed in 1952 by French, German, and Italian businessmen to give its members an opportunity to co-operate on a supernational basis in the formation of European economic policy. Japan has its Keizai Doyukai (KD), which was established by leading business executives in 1946 and dedicated to the development of a free-enterprise system, enhancement of the national welfare, and building a social environment to help realize those goals. In addition, Trinidad has the Committee for Economic Development of Trinidad and Tobago (CEDTT) and Australia has the Committee for Economic Development of Australia (CEDA).

34. Patterned after CED in the United States, CEDA was founded in 1960. CEDA feels that all phases of economic research should be developed, but it does not enter into competition with other bodies devoted to research. Instead, it co-operates with them and benefits from their activities. At the same time it seeks to make its own contribution to the common cause of promoting research and formulating basic economic policy. It is this combination of research and policy-formulation that gives CEDA its distinctive character. CEDA has two distinct committees concerned with publishing economic studies, its Export Potential Research Committee, and its Research Projects Committee. CEDA also issues two regular publications: Growth and Review of Australian Economic Development.

35. Another top-level organization, somewhat similar to CED, is the National Planning Association (NPA). Founded in the United States in 1934, NPA is an organization in which leaders of agriculture, business, labour and the professions have joined to maintain and strengthen private initiative and enterprise. Those who participate in the activities of NPA believe that the tendency to break up into pressure groups is one of the gravest disintegrating forces in American life, and only by joint efforts can programmes be devised that counteract it. In essence, NPA believes that through effective private planning the United States can avoid a "planned economy".

36. NPA's standing committees on agriculture, business and labour, national and international policy and its special committees are assisted by a permanent research staff. Whatever their particular interests, members share a desire to find facts and a socially responsible attitude. The aims of NPA's publication programme are to pool knowledge and different skills, to narrow areas of controversy and to broaden areas of agreement. Publications include a monthly

bulletin, Looking Ahead, planning pamphlets on the American economy, special reports (mostly on agriculture, long-range planning and labour), reports on Canadian-American relations, and a series of case studies on "Business Performance Abroad". NPA's operating costs are defrayed through individual and corporate memberships and through the sale of its publications.

37. NPA's Canadian counterpart, the Private Planning Association of Canada (PPA), a non-political, non-profit organization, was established in 1958 "for the purpose of undertaking independent and objective study of Canadian problems and policies, mainly in the fields of economic affairs and of Canada's international relationships with other countries". Its work is based upon considerations of public interests and welfare, and the results are published. Like the NPA, a large part of the PPA's work is carried on through committees, comprised of agricultural, business, labour, educational and professional leaders, which consider and sponsor studies of important national issues.

38. Currently, the Association jointly sponsors with the NPA, the Canadian-American Committee. In 1961 it established under its own sponsorship the Canadian Trade Committee which examines Canada's international trading position and commercial policies.

39. There are similar planning organizations in other countries. Among these is the German Society of Economics (Deutsche Volkswirtschaftliche Gesellschaft e.V.) of Hamburg. Its functions are to clarify economic and social trends in the Federal Republic of Germany, with particular regard to industrial development, and to improve the social climate. It engages in fundamental research and organizes discussions among all groups in industry. Special emphasis is placed on management training programmes.

40. The Society is governed by a Council composed of industrialists and labour representatives. The scientific staff is largely composed of economists and sociologists.

41. There is no regular research programme. The Council is responsible for the planning of individual research projects, for which specialists are engaged. The Society publishes monographs on the results of its research, plus a quarterly Zeitschrift der Akademie für Führungskräfte der Wirtschaft (Middle Management).

42. Then there is the Institute of Economics (Institut ekonomiki) in Moscow. The Institute, which is under the Academy of Sciences of the Union of Soviet Socialist Republics, is concerned primarily with problems related to the long-range development of the Soviet economy. The Institute has studied the use of computers for planning and statistics. Also, it has investigated the economic effectiveness of new techniques such as automation, and has carried out studies in the field of labour economy. Several recent studies have been concerned with the economics of the use of radioisotopes in industry.

43. Also, there is the Australian Industries Association (AIDA) now in its forty-fourth year. AIDA is a non-profit association of private enterprise organizations, whose prime aim is to promote the development of Australia. It is a non-sectional, non-party political association, financed by voluntary subscriptions from its members. It is AIDA's conviction that the skill, knowledge and experience of leaders of private enterprise should be brought to bear on the planning and direction of national growth policies and that this may be done best collectively. AIDA has always attempted to present balanced and considered opinions on behalf of private enterprise; and its written and oral submissions are made after consultation with its member organizations and research into their problems.

44. AIDA's monthly publication, Director Reports, has a wide circulation in Australia and overseas, and is an important means of disseminating news of AIDA's activities and its opinions on matters of national importance. This publication covers a wide range of subjects, including Australia's overseas trade problems, the need for a vigorous and sustained immigration policy, significant industrial developments abroad and their meaning for Australia, surveys of various Australian industries and their potentials, opportunities for development of new industries in certain localities around Australia, and a review of employment and economic trends. The Association also sponsors research studies, such as "Capacity For Import Replacement: An Analysis of Imports". Among the other subjects AIDA has concerned itself with are housing and defence and industrial development.

45. A relative newcomer to the field of economic planning is Turkey's Economic Research Foundation. A private, non-profit organization sponsored and supported by the business community, it is designed "to promote Turkey's economic development with the fullest contribution of free enterprise".

The Trustees believe that Turkey's "future prosperity and happiness lies in her development along Western lines. For this reason they are also determined to direct the efforts of the Foundation...to the spread of successful methods applied in the West to economic and social questions". By following this approach the Trustees feel that "they can help Turkey to the shortest and safest path to modernization".

46. The Foundation's research programme includes studies in the balance of payments, industrial expansion, agricultural exports, tourism, money and credit policies, improvement of economic education. Seminars are held on the status of state enterprises, labour relations and private industry, and the creation of a capital market. Among the topics covered at the Foundation's lectures are: tax reform, the development of tourism, international aid organisations, and economic ideology in the universities.

47. The Foundation also publishes pamphlets on such subjects as: "Productivity and its Relation to Economic Development", "Economic Development and International Aid", "The Role of Free Enterprise in Developing Nations". Further, it arranges informal monthly meetings between private entrepreneurs and top-level government officials.

48. Not all top management organizations fit into the two patterns covered in the previous pages. For example, Japan has two major business organizations in addition to Keizai Doyukai. The first Keidanren (the Federation of Economic Organizations) is the most important business organization in Japan. The regular members, who make up the bulk of its membership, consist of 103 organizations - covering every aspect of national economic activity, and 744 leading firms in manufacturing, commerce, banking, insurance, mining, construction, and transportation. The Keidanren is financed solely by membership fees and is not only independent of the Government but often critical of its policies.

49. Keidanren speaks for Japanese business both in the local and international spheres. It has nearly 30 standing committees on such matters as taxation, industrial technology, foreign trade, foreign capital, the EEC, tariffs, foreign relations, transport, forestry and even the peaceful uses of outer space. These committees meet frequently and submit their recommendations to the Government. The Keidanren secretariat is well staffed with

economists and other experts and publishes large numbers of bulletins and special reports.

50. The second organization is Nikkeiren, the Japanese Federation of Employers' Associations, formed in 1948 as management's counterpart to the labour unions. It links together some 500 organizations of employers' groups to negotiate agreements, conducts productivity studies, and runs training schemes for both management and labour.

51. Another such organization is The Swedish Employers' Federation (Svenska Arbetsgivareforeningen, SAF) the largest organization of employers in Sweden. It not only includes the greater part of Swedish industry but also large groups of enterprises engaged in handicrafts, transport, and other services. They have associated themselves in SAF in order to present a common front in employer-employee relations. SAF is a central organization for 44 affiliated employers' associations covering various sectors of the economy, while the number of enterprises affiliated to these organizations is about 16,000. The biggest companies in Sweden stand, in SAF, alongside a large number of small ones; nearly three fourths of the firms in the Federation have fewer than 25 workers.

52. SAF's principal objectives are:

(a) To consolidate employers and organizations of employers into one joint body,

(b) To further good relations between employers and employees,

(c) To assist affiliated employers or organizations of employers in negotiations with organized labour, and

(d) To compensate affiliated employers for damages caused by labour conflicts.

Though SAF is concerned primarily with collective bargaining agreements, its interests go further. For example, it publishes two major periodicals: Arbetsgivaren, a bi-weekly paper addressed to its affiliated enterprises, and Industria, a monthly journal directed to the outside public.

53. Another significant activity of SAF is its training programme. Since 1950 SAF's management training institute near Flen - 80 miles from Stockholm - has held courses all year round, designed for managing directors and other top executives. Courses covered include: company management, personnel management, personnel and wage policy, office rationalization, the activity of works councils, finance, industrial organization, and industrial health

and occupational hygiene. Instruction follows modern lines, with frequent use of the group method. The lecturers are academicians from universities or other educational institutions, specialists with wide industrial experience, or SAF's own experts. The length of the courses varies from six weeks for the managing directors' course to a few days. The fees paid by the enterprises cover the expenses of the institute.

54. At Skogshem, a boarding school founded in 1953 in Lidingö near Stockholm, SAF has its Supervisory Training Institute for workshop supervisors and foremen. Though the instruction is intended primarily for those aspiring to a supervisory job, it is also open to older and more experienced supervisory personnel. Courses run two to three weeks and cover such subjects as: industrial economics, the techniques of rationalization, industrial psychology, the methods of supervision and personnel administration, industrial legislation, collective agreements and industrial hygiene and workers' protection. Those attending the Institute also receive a thorough orientation on the technical development of industry and the function of supervisory personnel. And through special informational conferences, top executives from the students' companies are shown how to apply the training their employees have received at the Institute.

55. RATI stands for Rationaliseringstekniska Institutet, which is concerned with the third major branch of SAF's training activities - time and motion study. It endeavours to fill the great need for well-trained time and motion study men in industry. RATI arranges courses in various places in Sweden, and the courses comprise such subjects as method study, job evaluation, costing, materials handling, and industrial psychology.

56. In addition to conducting its own training programme, SAF co-operates with trade union organizations in apprenticeship training programmes set up by affiliated organizations and labour groups. SAF also maintains contacts with national and local educational authorities with regard to vocational training programmes.

57. Unique among top management organizations, and a true reflection of our times is the Young Presidents Organization (YPO). This organization "was founded to further friendships among young chief executives, and thus provide opportunities to exchange ideas on mutual business problems, and create an educational environment to help its members become better presidents and better

men". The organization is composed of a dynamic group of men and women who become presidents of their companies before the age of 40 years. YPO offers many programmes to assist its members in enlarging and improving their management and leadership skills, and to provide opportunity and inspiration for self-development in all areas of personal and public responsibility.

58. YPO has an international membership of some 2100 young, successful chief executives who are presidents of sizeable companies. Members are located in more than 30 countries. Chapters are situated throughout the world - in Canada, Europe, Japan, Mexico, the Caribbean; there are 35 in the United States. The organization is governed by a Board of Directors elected by the entire membership. Standing committees plan for the organization's growth, issue publications and communications, and provide educational opportunities for the members. A headquarters staff in New York City assists the officers and committees to fulfil their responsibilities.

59. Nearly every form of business activity is represented in the membership. Two of every three companies are engaged in manufacturing; the remaining third are in finance, insurance, real estate, transportation, communications, construction, or other services. Annual sales range from $1 million to over $300 million, and the number of persons employed ranges from 25 to 70,000. The typical company employs about 200 persons and does about $5 million worth of business a year. Companies are equally divided among those in which the stock is family owned, closely held, and publically owned.

60. Each year YPO offers a broad array of educational programmes. These accurately reflect the educational demands of the young corporate presidents. Surveys indicate that the needs most frequently expressed by the members cover almost every phase of business and personal life:

(a) Most YPO members have an overwhelming desire to gain more practical business know-how and to learn the fundamentals of better management. They want to improve their marketing policy and strategy, their ability to analyse and use financial controls, measure capital investment payoff, guide and work with people, appraise and develop subordinates, plan presidential time and carry out mergers and acquisitions smoothly.

(b) They are eager to broaden their business perspectives. They concern themselves with the ethical conduct of their businesses, the implications of automation and electric data processing, and the role of business in their societies.

(c) They want to increase their leadership skills - to understand themselves and their management behaviour better; to improve their skills in reading, concentration, public speaking, creative thinking; to lead and participate in meetings.

(d) In addition, many YPOers seek to develop their personal philosophy and sense of values, and increase their understanding of local, national, and world affairs.

To meet all these various and diverse needs, YPO provides many different types of educational opportunities at various levels.

61. Chapter meetings generally include two to four hours of educational programming and discussion. Members both call upon outside experts for their chapter sessions and make full use of other members as sources of information and as discussion leaders. To keep the unique idea exchange strong at the chapter level, members stress innovation in the form the meeting may take. A popular variation is for chapter members to disappear for a week-end to devour and digest a challenging topic, or a meeting and plant tour might be built around the case study of a member's crucial problem.

62. Because of the increasing complexity in chapter education, several years ago YPO introduced the Chapter Officers Workshop. This annual two-day session for all Chapter Chairman and Educational Chairman is designed to aid these key men improve their local meetings.

63. The University for Presidents, YPO's international convention for members and their wives, is held each spring. In a six-day period, 50 courses are offered to husbands and wives, with emphasis on business subjects. In addition, area conferences, basically miniature versions of the University for Presidents, bring together members and wives from chapters in geographical areas for a few days each fall. Also, seminars are held on university campuses such as Harvard, Stanford, and Virginia on an annual basis. These intensive sessions involve fifteen-hour days of classes and discussions on specific subjects such as president's responsibility, finance and company strategy.

64. Special conferences and seminars designed to meet the educational needs of the members are offered periodically on a wide variety of subjects, including business, philosophy, critical issues, government affairs, or training in public responsibility. Conferences are often held with top government officials. Also, educational seminars are held regularly in Europe, the Far East, South America and Mexico. These give the young Presidents an opportunity to exchange information and ideas with businessmen from these areas.

65. All members receive the monthly magazine, YPO Enterprise. YPO also issues public service brochures such as "How To Get a Job With a Future" and "Focal Points For Improving Executive Meetings".

66. Another organization of young chief executives is France's Centre des Jeunes Patrons. Founded in 1938, it numbers today some 4000 heads of business and industrial enterprises and is made up of 100 local sections. In terms of wealth and numbers this is microscopic compared with the 900,000 enterprises - employing some 7 million workers - that are represented by delegates at the General Assembly of the Council National du Patronat Francais (National Council of French Employers).

67. But size is not everything, and the Jeunes Patrons are not overawed by the larger organization. Their confidence lies in the attraction exercised by the boldness of youth, and in their conviction that the way forward today lies through a radical reform of traditional attitudes to executive responsibility. They insist that their organization is neither a union nor confederation of employers as such. It is, they insist, "a Centre of Formation, a Centre of Research, and a Movement for Action".

68. To qualify for membership an applicant must first be under 45 years of age; and although he can remain in the organization after that age he can no longer hold any office. The second qualification is that of direct, executive responsibility. An homme d'affaires who goes from one important boardroom to another but has no direct contact with the human machinery at the producing end is not accepted. On the other hand, the Centre welcomes anyone who exercises effective control, whether or not he is an employer. This means that members include executives from nationalised undertakings as well as from commerce and industry.

69. The specific objectives of the organization are: "Better social and economic training for all members of the movement". To this end, members in the local and professional sections meet regularly in working groups and committees. This, however, is only a step towards another objective: "to become involved in all developments concerning executive responsibility, so that members can participate in social and economic decisions and rejuvenate existing economic organizations by an influx of a new generation of executives". Next, by no means least, the movement aims at active co-operation with young representatives of other agencies such as the trade unions or the Civil Service.

70. These young executives mean what they say when they speak hopefully of "an economic system which is more just because it is based on increased human solidarity", and they add: "Economic development is an imperative objective which can only be fully attained by democratic planning. Parallel with the growth which produces wealth must come a better distribution of the fruits of this expansion among all groups of the nation". Above all, they hold the conviction that for any enterprise to prosper there must be some participation in management by every level of employee. This does not mean, they say, that a factory or any other business should be turned into a kind of soviet, but it does mean that, to get the best results in modern conditions, union delegates must be informed and consulted. After that it is the responsibility of the executives to make a decision in the light of what they have heard. On the other hand, they score the older executives for tolerating the unions "merely as a disagreeable necessity".

71. They are also strong proponents of "medium-term planning", feeling that such planning has become absolutely vital in present conditions. They accuse the Old Guard of disliking the idea in principle and doing its best to frustrate the application in practice.

72. Still another type of top management organization is the Institute of Directors, which was founded in England in 1903 and granted a Royal Charter in 1906. Although the Institute had fewer than 425 members in 1948 today it has some 40,000. These members are spread throughout the Commonwealth, the United States, Europe, and South Africa.

73. A directorship of a public or private company or other body corporate not incorporated by statute is the major qualification for membership. However, the size of the company bears no relation to the eligibility of the candidate - it is the candidate's own qualities that count. The Institute has no intention of replacing any trade body and works in close collaboration with other organizations on questions concerning directors. It is an association of directors in every trade and industry and serves as their guardian and spokesman. It has been described, not inaccurately, as "the bosses' trade union".

74. The keynote of the Institute's chartered objectives is to provide information valuable to every director of every sort of company. With this aim

in mind, the Institute has embarked on an extremely ambitious publications programme. The book Standard Boardroom Practice, published to guide directors in their business dealings, is evidence of the Institute's dedication to the maintenance of a high standard of ethical behaviour by directors. It was compiled by a distinguished committee of the organization. The Institute also sponsored the first book published in Britain on the legal functions and duties of directors: The Company Director. First published in 1953, this book has proved of great service to directors of public and private companies and has gone through several editions.

75. Among the Institute's other monographs are: Business Finance, Understanding Labour Relations, Isotopes at Work, Advertising and Marketing, Investing Company Funds, and Management Consultancy. Also, the Institute publishes a monthly magazine, The Director.

76. The Institute has been a prime mover to encourage British exports. A special export advisory service is available to members. A fighting campaign, "Export Action Now", launched at its 1960 Annual Conference stressed to manufacturers and the public the need to increase exports.

77. The Institute's standing committees include a Company Law Committee, which has made recommendations for amendments to the law governing limited liability companies, with particular reference to the obligations of directors. Another is the Institute's Education Committee, which is constantly exploring ways and means by which the Institute may advance higher management education. It has endowed a Fellowship in Higher Management Studies at Balliol College, Oxford. It has also set up a permanent series of courses on "communication" - or what, according to Standard Boardroom Practice, in less complicated days was known as "telling others what you are doing and why you are not doing it". The Institute also arranges special courses for directors on current economic, political and foreign affairs, and one-day courses on industrial organisation. It also arranges visits to organizations of direct interest to members, such as the United Kingdom Atomic Energy Authority establishment at Harwell.

78. In addition to the branch discussion meetings, the Institute holds an annual conference - reputed to be "the biggest function of its kind in the business world".

Middle management organizations

79. In today's highly complex and competitive business world, effective executives must have a firm understanding of the fundamentals of modern, scientific management. They must also keep up to date on the latest developments and changes in their particular fields. But, in-company training and general exposure to management practices are no longer sufficient to meet this challenge. That is why executives and companies throughout the world have turned to the programmes of management associations.

80. Probably the most highly regarded management association in the world is the American Management Association (AMA). Since 1923 the AMA has played a growing role in helping executives increase their efficiency by improving management skills and techniques. The Association is dedicated to finding, developing, and sharing better methods of management. To carry out this objective, AMA conducts a continuing programme of courses, conferences, seminars, information and publication services. AMA's 43 years of success stem from its belief that managerial skills and techniques are best taught by those who are most familiar with them - experienced managers who are themselves full-time operating executives. For this reason, speakers and discussion leaders at AMA meetings are selected from among the top practitioners in the management profession.

81. Membership in the AMA is open to both individuals and organizations. AMA now has more than 35,000 members. They come from over 100 nations, from every state in the United States, and from every Canadian province.

82. Company membership in AMA is designed to benefit both the individuals enrolled and the company as a whole. It complements intra-company development.

83. AMA members come from all departments of industry, finance, commerce, government, service organizations, and educational institutions. Their diversity of background makes possible the broadest exchange of experience. Yet, because of the programme's extensive scope, there is opportunity for concentration on specific problems in all phases of business. Moreover, it offers managers with similar responsibilities an opportunity to exchange viewpoints and ideas on solving problems directly related to their on-the-job challenges.

84. The Association has nine operating divisions corresponding to major areas of management responsibility. Each division is headed by a volunteer vice-president, who is assisted by a division manager. Under him is a non-salaried planning council of seasoned executives who work together in initiating new activities and evaluating present ones. Each division publishes Management Reports, Bulletins and Research Studies and sponsors an extensive programme of conferences, seminars, and, in some cases, training courses. Association members enrol in divisions according to their professional needs. A brief description of the various divisions follows:

(a) Administrative Services Division is interested in a wide range of subjects in the areas of administrative management, data processing, and information systems.

(b) Finance Division activities are related to financial and treasury functions, profit-budget planning, reporting, cost control and other fiscal-industrial matters.

(c) General Management Division appraises the problems of top-level planning and control and considers appropriate courses of action.

(d) Insurance Division is chiefly composed of industrial insurance buyers and executives concerned with employee benefit programmes. Discussions are conducted from the buyer's viewpoint.

(e) Manufacturing Division, though mainly concerned with the management of the various functions responsible for the efficient production of a quality product, is also occupied with engineering, warehousing, and related problems.

(f) Marketing Division programmes and activities cover all areas of marketing including: planning, market research, advertising, product and brand management, sales management, and their interrelated activities.

(g) Personnel Division is concerned with personnel practices, employee relations, collective bargaining, all phases of training, management development compensation, and how best to utilize the company's human resources.

(h) Purchasing Division activities cover specific problems involved in procurement and the management of materials.

(i) Research & Development Division activities are concerned with the problems of planning for tomorrow's new business interests and products and the integration of new venture activities with other company functions.

85. AMA produces four regular periodicals devoted to new management developments: The Management Review digests and abstracts the best in current business reading and presents original features on timely topics; the bi-monthly

Personnel covers human relations in industry; Management News summarizes current AMA activities and reviews current management problems and developments; The Manager's Letter provides concise information on new management ideas, practices, and trends.

86. In addition to the above, the AMA publishes reports, studies, books, and special training materials to provide a continual flow of information on current management topics. These are outlined below:

(a) Management Reports, Management Bulletins, Research Studies. Each AMA Division sponsors reports and studies covering management problems in its own particular area. Content is compiled from questionnaires, materials presented at AMA meetings, and other information sources of the Association.

(b) Special publications and materials. These include many special books and other management training materials.

(c) PRIME (Programmed Instruction for Management Education), an open-ended series of specialized courses covering the essentials of management and using the newest educational technique.

(d) Supervisory Management - AMA's monthly magazine created specifically for the supervisor and providing him with up-to-date information about his job as manager. Over 5000 companies use it as a key element in their over-all training and development programme.

In addition to the above, AMA provides its members with a "Management Information Service". Here, it has a reference library of 100,000 items plus a staff of specialists and librarians. This is not a consulting service; it simply provides background information, much of which comes from companies where its value has already been demonstrated. Another unique service is the "Executive Compensation Service". This is a series of seven reports - comprehensive annual surveys that cover the compensation of top and middle management, technical, administrative, sales supervisory personnel. Other studies detail supplementary methods of compensating executives and tell how they can be best administered.

87. Still another AMA activity is its "In-Company Training Programmes", a fully prepared course in The Basic Principles of Supervisory Management for present and potential first-line supervisors. Subject matter is presented (on films) by leading management authorities, dramatized case studies (also filmed), and programmed instruction texts. The eight-unit programme is designed for in-plant presentation by the company, using its own resources, and at its own convenience.

88. The AMA also has established domestic and overseas Management Centers to enable executives in all parts of the United States and in many other countries to enjoy the benefits of AMA's development know-how as conveniently as possible. Centers exist in Dallas and San Francisco (United States), Montreal (Canada), Brussels (Belgium), and São Paulo (Brazil). The Association also holds conferences, courses, and seminars in various cities throughout the United States and Canada.

89. Not all management associations operate in the same fashion as the American Management Association. Their functions may vary according to their facilities and according to the particular needs of the country in which they are located. It is perhaps valuable to examine another of the world's leading management associations - the Japan Management Association (JMA) - and compare it with the AMA.

90. JMA was established in 1942, as a result of a merger of the Nippon Industrial Management Association (founded in 1931) and the Nippon Scientific Management Federation (founded in 1928). Today JMA is the largest private organization of its kind, with a staff of over 300. Its Tokyo headquarters has expanded several times since the organization's inception, and in 1950 a branch was opened in Osaka. Over the last decade, as the JMA services to Japanese industry have developed from the area of general management to include such specialized fields as methods engineering, time and motion study, and wage incentive planning, many co-operative agreements have been made with consulting firms in America.

91. Unlike AMA, JMA engaged in management consulting. Its staff of management consultants now numbers 130. Surveys, consultation, guidance in achieving improvements, and continuing advisory services are offered in the areas of finance, production, marketing, personnel, Research and Development (R & D), and industrial relations, as well as in general management. A special feature of JMA's consulting service is the provision for consulting during regularly scheduled two-week units. Though special arrangements may be made, the larger part of JMA's consulting activities is organized in this fashion. Sixteen such consulting periods are prescheduled each year. The consulting staff is free for one week between consulting units. These one-week periods are used by JMA to improve the professional skills of its consultants. For this purpose, nine Technical Conferences are held each year. The entire consulting staff uses these

for advanced training in the newest management techniques and for study of any special problems encountered on field services.

92. JMA is not only the leading management consulting organization in Japan but is also the largest centre of industrial education in the country. At present some 30 courses and seminars are in session each month. These are held throughout the country, but mainly in Tokyo and Osaka. Each attracts up to 50 participants - supervisors, engineers, and other management men. Seminars generally last three to five days, while courses frequently run to ten days or more. The latter are sometimes scheduled at regular intervals over a period of several months. Both, however, employ the same effective teaching methods - case study, "brain-storming", mock sessions, and other procedures carefully selected to maximize participation and learning among all members of the group.

93. In JMA's management seminars and courses, JMA consultants occasionally supplemented by outside experts, are the faculty. They serve as programme designers, instructors, and discussion leaders. Thus, it is not surprising that the range of courses offered by JMA extends through the entire spectrum of management. Among the subjects covered are: executive development, office management, industrial engineering, office mechanization, management simulation, control charting, motivation research, inventory control, personnel management, business forecasting, research management, production control, consumer behaviour analysis, sales management, systems engineering, plant maintenance, electronic data processing (EDP), engineering economics, quality control, product planning, materials management.

94. JMA's educational activities include long-term workshops that are specially designed to meet the needs of Japanese business. These were developed to help technicians practise the analytical problem-solving techniques of a specific field under the skilled guidance of JMA consultants. The workshop brings together a small group of trainees for three weeks of continuous work in the operating shops of a selected plant. Such workshop ocurses are conducted twice a year in the following fields: methods engineering, work measurement, systems engineering, and job analysis.

95. JMA also sponsors study groups and plant observation tours. The study groups are generally organized from members of JMA's regular training courses or seminars following the close of formal instruction. JMA provides the group

with technical advice and guidance as may be required. Meanwhile, JMA members have been given the privilege of participating at least once a month in a group tour of a specially selected company and its plant. Members thus find it possible to discuss common problems with key personnel of other companies, all based upon a first-hand view of the organization in operation.

96. Still another educational activity of JMA is its audio-visual services. The film library of JMA includes a large and comprehensive collection of domestic and foreign films and slides especially chosen for use in industry. Some of these films are produced by JMA's own film unit. By special arrangement, JMA members are invited to preview new acquisitions. All films are made available to companies or other business groups on a rental basis. If requested, JMA may present them "on location".

97. Although most of the educational and training activities of JMA are planned and executed by its own staff, occasionally JMA's International Division invites lecturers and discussion leaders from Europe and America to join in JMA's effort to provide Japanese business with the latest management techniques available. This International Division in fact, serves a multiple purpose: it fosters the interest of its members in foreign matters, while also assisting overseas companies and management groups to maintain contact with the best in management thinking and practice in Japan.

98. Among its principal activities are the following:

(a) Arranging overseas tours for businessmen and technicians to study management abroad.

(b) Assisting visiting foreign executives who wish to become acquainted with Japanese industry and its management.

(c) Arranging for foreign consultants, when required by members.

(d) Taking charge of programmes through which JMA consultants serve abroad on foreign assignments.

(e) Maintaining liaison with foreign management groups.

99. JMA also operates a Management Research Centre and an EDP Research Centre. The former keeps the JMA consultants abreast of the latest developments in their fields and also undertakes industrial research for members. Lately, this Centre has served an increasing number of companies interested in finding new areas of application for operations research and electric data processing. Attached to this Centre is JMA's extensive management library. The EDP Centre consists

of an Operations Research Department plus a Systems Engineering Department with a fully equipped Business Machines Centre. This Centre performs a dual function - it provides technical facilities for JMA consultants and also for industry directly. EDP Research Centre specialists provide consultation on the selection and use of business machines and advise on their installation and effective operation. Scores of business machines - from typewriters to the most advanced electronic computers - are on display.

100. Through this Centre, JMA also trains company employees in the mechanization of office work. Moreover, the Centre sponsors five EDP Study Groups - on Hardware, Software, Systems, Organization and Training - that issue semi-annual research reports.

101. A third centre operated by JMA, the Industrial Survey Centre, collects and studies a wide range of foreign and Japanese technical and business publications. From these it analyses recent managerial developments, and conducts special studies for member companies, other organizations, and JMA consultants.

102. Finally, JMA has a Plant Engineering Centre which sponsors the Plant Engineering and Maintenance Show and the Plant Engineers National Conference to promote modernization of plant and equipment throughout industry. The Show and Conference are held annually in Tokyo and Osaka. PM Journal, the monthly organ of this centre, is the only specialized publication in the field of plant engineering published in Japan.

103. Among JMA's other publications are Management, an industrial management monthly, Industrial Engineering, Marketing Management, Management News, a semi-monthly newsletter that covers recent developments of interest to the executive plus forthcoming books and technical reports of general significance. In addition JMA publishes Management Booklets. Each month a 50-page booklet focusing upon a single subject of importance to managers appears. Among the titles are "Development and Sales of the New Product", "Economic Forecasting", "Industrial Engineering and Cost Control". In addition to its pamphlets and periodicals, JMA generally publishes a half dozen management books each month. These may be the works of JMA consultants or translations of foreign management classics.

104. As does AMA, JMA welcomes foreign members either as individuals or as corporations, and on the same terms as it admits those domiciled in Japan.

105. Not all management organizations are as sophisticated, nor have they been in existence so long as AMA and JMA. Probably the youngest management association today is Czechoslovakia's Institute of Management. Established on September 1, 1965, it is one of a number of nation-wide central institutions constituted as a branch of the State Commission for Management and Organization. The Institute's primary task is the "education and training of managing personnel being contemplated for top-level posts". More specifically, the Institute is a central scientific and educational institution for research in management and for training managers. The Institute is a non-profit organization that receives State support and subsidies. This covers only a part of the Institute's expenditures; the balance is covered from its own income.

106. The Institute has two major divisions. The first, the Research Division, has the following departments:

(a) The Scientific and Research Department, the fundamental task of which is to work out a comprehensive scientific theory of management.

(b) The Rationalization Department, the basic aim of which is: to implement and test the results obtained from research and to put them into practice; to establish model rational systems in specific enterprises; and to provide expert consultant and advisory services while introducing new projects to management.

(c) The Information Department, which collects and disseminates information pertaining to management.

The second, the Educational Division, has the following departments:

(a) The Pedagogical Department, which provides education and training for senior managers and other top-level executives.

(b) The Co-ordination Department, which co-ordinates the executive training with the research activities so that results gained through research may be applied to the training of managerial personnel.

107. To keep general managers abreast of the most up-to-date methods and developments of scientific management throughout the world, the Institute sponsors three-day seminars about two or three times a year. This training concentrates on consolidating the practical aspects of "the new system of management".

108. For cadre reserves, contemplated for top-level posts, the Institute arranges for one-year boarding school type training, with lectures based on

newly acquired management experience and practice. The first such programme started in January 1966. Among the subjects covered: management decision-making (through mathematical methods and computer techniques); staffing policies (selection and promotion of talented personnel); work motivation (encouragement of initiative); marketing and salesmanship (market research and the development of high quality products); general business (including book-keeping, accounting, pricing and finance); determining technical development; incentives to encourage innovators; capital investment and planning policies. These studies are to be supplemented by visits to factories, industrial complexes and other organisations and institutions, and by discussions with experienced executives and researchers.

109. At the end of the course the student will be required to submit a "practical application thesis" relating to his own particular enterprise. He will have defended this thesis first before the general manager of his own enterprise, and afterwards before the Institute of Management. Thus, it will be possible to judge not only the trainee's ability to grasp the subject matter but also, to what extent he is capable of applying the acquired knowledge in scientific management.

110. In carrying out its functions the Institute works closely with the College of Economy in Prague. The Institute is not intended as a substitute for the many research institutes already engaged in studying scientific management, or for the many institutes, planning bodies and industrial enterprises concerned with rationalisation, or for the numerous colleges, universities and professional training institutes. Instead, it will help unify and harmonise these endeavours, by supporting the work of these institutions and assisting in their development.

111. The Institute "will welcome the co-operation of foreign specialists and will sponsor sending Czechoslovak executives and staff workers to acquire experience abroad".

112. The staff of the Institute is not large, nor will it be expanded greatly. Instead, it will rely on a "broad circle of external (mostly permanent) collaborators". Though activities got under way in early 1966, the Institute does not expect to be fully operational until 1970. Most probably, the last activities to be fully developed will be the Institute's own research work - 'concrete results of which may be expected within the next two or three years'.

113 Some large countries have numerous local management associations. The All Indi Management Association (AIMA) for instance, has eighteen local management associations and institutes affiliated to it, and it is through these that it conducts its activities. AIMA was founded in 1958 "to improve professional management in India by strengthening both the foundation of science and the motive of service which govern all professional activity by developing the management movement and encouraging friendly relations and co-operation among the associations and institutes on all subjects connected with good management". AIMA organises conferences, lecture courses, seminars, exchange programmes and provides library facilities. It also publishes a bi-monthly journal, Indian Management, and AIMA Notes.

114. By examining the activities of two of AIMA's leading members, The Bombay Management Association (BMA) and the Calcutta Management Association (CMA), one can see how management associations operate and how management training is conducted in India.

115. BMA was founded in 1954 "to promote mutual exchange of knowledge, experience and ideas of sound management principles and practice". It is an association of institutional and individual members with a common desire to improve the standards of business management and to increase their effectiveness. BMA's educational programme consists of residential and non-residential courses, seminars, conferences, lecture series, evening lecture meetings, subscription programme, and film shows and plant visits.

116. Among the courses given are general management, marketing, finance, production management, materials management, line management and industrial relations, and operations research. BMA's seminars include a management seminar, one on the application of economics to business decisions and another on management development today. While its lecture series are entitled 'The Budget - Uses and How It Can Be Used', 'Organisation and Methods', and 'Company Taxation', the evening lecture meetings cover other significant subjects such as "Trade Union Contribution to Industrial Engineering Practices in America", "Marketing Vision", "Recent Developments in the Management of People in Industry", and "The Role of Universities and Industry in Management Education".

117. In 1965 BMA held a production seminar and a finance course at Thana, a seminar on financial information for management control at Kalyan, and a seminar on maintenance management at Vithalwadi. BMA also has its own reference library, which circulates books to its members, and also publishes books of its own. Those published in 1965 included one on the Marketing Vision, one on Business and Society and a third on Corporate Planning.

118. Further BMA holds Overseas Examinations of the British Institute of Management and the Institute of Marketing and Sales Management, London. It also has plans under way to establish a Management Development and Research Centre in Bombay, in collaboration with the Kilachand Devchand and Ford Foundation. BMA will run the management training and development programmes at the Centre.

119. Somewhat younger than BMA, CMA was founded in 1958. Essentially, its objectives resemble those of other management associations and are:

(a) To provide facilities for the exchange of information and opinions on management practices.

(b) To co-operate and collaborate with educational, research and other institutions having objectives similar to or likely to assist in the pursuit and development of those of this association.

(c) To establish and maintain a complete and currently comprehensive library on all subjects relating to management.

(d) To promote, encourage, assist and take part in studies, surveys and research that may be calculated or intended to develop and improve management practices.

120. Both CMA and BMA have individual and corporate membership classifications, but CMA's membership is slightly under that of its older brother. Most recent figures give CMA 93 corporate and 608 individual members, compared to 143 corporate and 659 individual members for BMA.

121. CMA's educational programme is not so extensive as that of BMA. It does, however, include a management development programme, a four-week residential course in General Management based on the Henley Course (British), but modified to suit the Indian environment. The curriculum includes case studies, regular lectures on management subjects, and a series of talks on more general topics. Twenty-four executives from industry and the Government addressed the course participants in 1965. Moreover, a special feature of that course was a two-day session in speech training.

122. For its advanced management programme, CMA relies on the four-week course conducted by AIMA in collaboration with the Indian Institute of Management. Only eight senior executives from the eastern region of India attended this course in 1965. Thus, for the benefit of those executives from Calcutta who were unable to attend, CMA, with the assistance of the Indian Institute of Management organized a seminar in that city on "The Analysis of Decision Making".

123. CMA also holds seminars and courses on other subjects such as "Selecting Managers", "Sales Management", "Accounting and Control", "Management Development", and collaborates with the Calcutta Productivity Council in the presentation of three appreciation courses - on executive development, office organization and methods, and sales management and market research. The latter are conducted part-time, over a three-week period.

124. Another important aspect of CMA's programme is its discussion groups, which meet once a week throughout the year. And as does BIA, CMA holds occasional lecture meetings and film screenings. Similarly, it gives graduate examinations of the British Institute of Management and the Institute of Marketing and Sales Management, London.

125. A country need not be large to have a management association. The Supervisory and Management Association of Singapore (SAMITAS), founded in 1955, is an excellent example of a successful management association in a small developing country.

Its stated objectives are:

(a) To promote interest in the effective implementation of supervisory and management training in Singapore by:

(i) promoting social relations between trainers, trained supervisors and management;

(ii) arranging group studies for improvement of techniques;

(iii) circulating reports and other relative reading matter;

(iv) providing a reference library;

(v) arranging visits to examine applications of techniques to particular industries;

(vi) providing a forum whereby members can share their training experience and improve their skill.

(b) To improve facilities for supervisory and management training.

(c) To establish and maintain contact with organisations with similar interests in Singapore and elsewhere.

126. SAMTAS has three categories of members: ordinary, associate, and corporate. Its educational programme, like those of cost management associations, consists of seminars, courses, lectures and film screenings. Its recent seminars included such topics as "Working With People", "Raising Productivity Everywhere Through Good Human Relations", and "Introduction to Electronic Data Processing". Titles of some recent lectures include: "Modern Management Trends and Practices", "Factories Ordinance", "Partnership of Management and Government", "Office Services", "Essentials of Management Planning", and "Risk Management". Visiting lecturers are provided by the British Institute of Management.

Management research organisations

127. There are also special management research organizations such as The National Industrial Conference Board (NICB). The NICB's work covers the operation and environment of industry and the responsibility of business management. Its major fields of study include: business trends and economic factors, international trade, human relations in industry, sales and marketing, corporate finance, organisation planning and other areas of executive decision. At its head office in New York the Board employs a staff of over 270. Its branch office in Montreal, with a staff of fourteen, participates in all phases of its programme.

128. More than half of the Board's budget is devoted to the work and published reports of four research groups: (1) Division of Economic Research, (2) Division of Personnel Administration, (3) Division of Business Practices, (4) Division of Public Affairs. The groups' studies owe much to the generous co-operation of business executives.

129. Integrated with this research function, the Board's other services to its subscribers and the public are conducted by a Conference Division, a Division of Information Service, a Division of Public Information, and a Service Extension Division.

130. The Board's charter specifically prohibits propaganda or any attempt to influence legislation. Moreover, it does not advocate doctrines or prescriptions. Its research studies are prepared and published by staff members.

131. In its conferences, the Board brings together leaders in business, labour, and public affairs at meetings where economic policy, business prospects, and executive experience are discussed in an atmosphere of free inquiry. From

New York, these meetings have spread through the bigger cities of North America, attracting wide participation and attention to regional problems. The Board's staff conducts seminars in selected areas of management responsibility in which the Board's continuing experience supplements the findings of its research.

132. In addition to its major research reports, the Board publishes three periodicals: The Conference Board Record, a monthly magazine written by staff specialists; Focus, a monthly digest of current NICB research, conferences, and activities; and "Weekly Desk Sheet", a concise presentation of weekly changes in business and economic conditions, that follows trends through the 21 most commonly used business indicators.

133. The Board has no endowment and depends on the support of its Subscribing Associates. Now numbering more than 4000 in North America and abroad, these include business organisations, professional firms, trade associations, labour unions, universities, and government agencies.

134. Another specialised management organisation is France's Centre d'Etudes et d'Application pour la Formation des Cadres (CEAFC) (Management Training Study and Application Centre). Created in 1957 through the amalgamation of three other organisations, its aims are:

(a) Practical management training.

(b) Research and in-training and development of new programmes.

(c) Information and documentation services (including a library on social and industrial psychology, training and organisation, a register of training organisations, etc.)

135. The Centre's research deals with the measurement of the effects of training, the improvement of diagnostic techniques, and the establishment of new programmes. It is carried out through interviews, questionnaires, group observation, and statistical processing. Among its publications are: Industrial Accidents and Safety Training and Elementary and Advanced Management Training.

Personnel administration and research

136. Many countries have established special organisations exclusively to research personnel problems and industrial psychology. One such organisation is the Swedish Council for Personnel Administration/PA-Council (Personaladministrativa Radet, PA-radet), which was founded in 1952 on the initiative of the Swedish Employers' Federation (SAF). The Federation wanted to make an employer

contribution to research in labour productivity. More specifically, the aims of the Council are:

(a) To study the problems related to the most effective use of manpower.

(b) To develop, through consultation with firms and institutions, methods for the study of personnel administration and industrial psychology.

(c) To test the reliability of different selection methods through systematic surveys and to assist firms and institutions in the selection of personnel.

(d) To disseminate the results of research and consultation through publications, courses and conferences.

(e) To help produce suitable audio-visual aids, through pedagogical counseling for use, first, in plant employee training programmes involving the assistance of Council personnel, and second, in the activities being developed by central training institutions.

137. The work of the Council is so arranged that research and advice to individual firms on questions of personnel administration and industrial psychology complement each other. The Council co-ordinates and finances scientific work carried out by its own staff or conducted by universities and other educational institutions. The final reports of the Council's research projects are published in a series of monographs.

138. Although the Council was created on the initiative of an industrial organisation, its services are available to all; and they have been made use of by nationalised, community-owned and co-operative enterprises, as well as by private firms in industry and commerce.

139. The Council has sections for its consultative activities, for recruitment and selection questions, for training, and for films and other visual aids. For recruitment questions, there are offices in Gothenburg and Malmö as well as in Stockholm.

140. To increase understanding of personnel administration among university students preparing themselves for positions within industry, the Council financially supports courses in this subject at the Institutes of Technology and the Schools of Economics. The only chair in Sweden in personnel administration - at the Stockholm School of Economics - has been financed by a grant from the Council.

141. The PA-Council is governed by a Board, comprising industrialists and representatives of SAF, the Federation of Swedish Trade Unions, the Central Organization of Salaried Employees in Sweden and public officials. It is financed partly by annual grants from SAF and partly by income derived from its advisory and consulting services. The Council is assisted by an administrative office staff and two groups of specialists, one engaged in research and the second occupied with its practical application.

142. The administrative office includes the following sections: research, selection and recruitment, employee training, other consultation on matters of personnel administration, co-ordinated production and distribution of audio-visual aids, and accounting.

143. Another organization active in this field is the Indian Institute of Personnel Management. The Institute was established to spread ideas concerning the importance of human values in industry and to promote and encourage the study of personnel and industrial welfare problems. It organizes lectures, meetings, seminars, conferences, and publishes a bi-monthly journal, Industrial Relations.

144. The Max Planck Institute of Industrial Physiology (Max-Planck-Institut für Arbeitsphysiologie) in the Federal Republic of Germany is a pure research centre that selects its own projects. It maintains close contact with all authorities, organizations, institutions and firms interested in the human problems of work. Its activities cover fundamental research in the laboratory in ergonomics and the study of practical problems, such as fatigue, permissible human performance and how to influence it, fitting the job to the worker, physiological aptitude. Similar investigations are also carried out in industry. The research staff is composed of physiologists, physicians, chemists, physicists, technicians, etc.

145. The Institute is attached to the Max Planck Association for the Advancement of Science. It is financed by this Association through funds provided by the States of the Federal Republic and by contributions from industrial and trade-union organisations. Research projects are financed by the appropriate authorities of the States and by the Federal Republic, as well as by industry and trade unions. One of its departments deals with psycho-physiological problems.

International trade

146. The National Foreign Trade Council (NFTC) is a private, non-profit United States business association, founded in 1914. NFTC is the oldest and largest national organization of diversified American corporations that is concerned exclusively with foreign trade and investment. It is maintained by funds subscribed by member firms. These firms represent a broad cross-section of industries throughout the country; they include manufacturers, exporters and importers, petroleum, mining, and agricultural enterprises, retailers, banks, railroads, airlines, steamship companies, publishers, insurance companies and allied industries.

147. The Council's over-all objective is the promotion and protection of America's foreign commerce through expansion of trade and investment abroad under private, competitive enterprise. The Council is the voice of the American international business community. It contributes to the establishment of sound commercial policies, provides a forum for the continuing exchange of ideas among world-minded business executives and serves as a catalyst in the development of common solutions to international business problems.

148. Council operations are controlled by the directors, who are company executives elected by the membership at an annual meeting. This Board, which ordinarily meets monthly, elects the officers of the Council and determines Council policy.

149. Council officers direct the activities of a staff of about forty, the President acting as chief executive officer. Staff members are specialists in such areas of foreign operations as Europe and the Common Market, Asia, Western Hemisphere, Africa, the Middle East, Australia and New Zealand, and in such fields as international finance, taxation, industrial relations, public relations, licensing, economic analysis, tariffs, and travel and transportation.

150. Council committees are composed of member company executives with experience in specific areas of international operations. They constitute a primary medium for the mutual exchange of ideas in dealing with common problems and for promoting the Council programme. Their function is to advance American foreign commerce in accordance with policies established by the Board of Directors, and to make recommendations to the Board. Some committees meet regularly, others are on a stand-by basis.

151. The Country and Area Committees deal with commercial relations in specific parts of the world. These Committees analyse economic developments, tariffs and other barriers to trade, foreign exchange developments, the investment climate and similar questions. They consult with appropriate officials of the United States Government and with foreign diplomats and businessmen.

152. The Technical Committees are composed of specialists primarily concerned with business functions that come within the particular Committee's frame of reference. They include the following: Customs Drawbacks, Foreign Property, Industrial Property, Industrial Relations, Insurance, International Finance, International Public Relations, Merchant Marine, Tax, Transportation, Travel, Treaty and United States Government Controls and Regulations.

153. Council Groups are similar to Committees but are generally discussion groups without policy functions. There are three: Balance of Payments Group, International Economic Analysts Group, and War Claims Group.

154. The Council programme is based on service to the membership in these areas:

(a) General Information Services: NFTC provides members with a wide variety of staff reports, texts, official dispatches and other documents covering major business developments at home and abroad that affect foreign trade and investment. NFTC also publishes such regional periodicals - restricted to its members - as [illegible], a weekly digest of Latin-American business news, and [illegible], a similar publication on Europe and the Common Market.

(b) Special Information Services: As a central point for the systematic collection and exchange of information relating to foreign commerce, the Council performs a wide range of services for individual members. This information may vary from material on establishing a compensation programme for employees transferred abroad to necessary data on negotiating a licensing agreement.

(c) Liaison with Government: On behalf of the membership, the Council and its Committees make known the views of the nation's foreign trade community in appearances before Congress, informal discussions with representatives of government agencies, and off-the-record meetings with foreign visitors. Also, representatives of the NFTC - staff and member companies - testify at public hearings as experts in their special areas of competence with regard to legislation affecting foreign commerce.

(d) Convention: The Council sponsors the annual National Foreign Trade Convention which is a major forum for the enunciation of foreign economic policy by the foreign trade community of the United States and for exchange of views among business, government spokesmen, and foreign diplomats. The Convention's Declaration, an annual expression on views on economic policy, is widely distributed by the Council among opinion leaders. This document also provides a policy guide for the Council itself throughout the year.

CHAPTER III

TYPICAL PROFESSIONAL ASSOCIATIONS

155. There are two basic types of professional associations that are concerned with management problems. The first is limited exclusively to a particular profession or trade, such as a society of mechanical engineers, a welding society, or an industrial management society. The second is interdisciplinary and is concerned with developing a scientific understanding of management and has a much wider scope. Both the Society for the Advancement of Management (SAM) and The Institute of Management Sciences (TIMS) fall within the latter category. Nonetheless, both types of organizations are concerned with advancing scientific management or their particular area of interest within the field. Also, both carry on research projects and publications programmes to inform their members and the public of significant new developments within their particular area of concentration.

156. There is also a significant difference between the British and the American type of professional association. Essentially, the British type of association is an accrediting organization that gives examinations to certify the member's professional qualifications, while the American one is not. On the other hand, American engineering societies and other technical bodies are concerned with setting up industry standards, but the British are not. It is interesting to note that most professional associations throughout the world follow either the British or American pattern. That is because both the United Kingdom and the United States were responsible for or assisted in the organization of professional associations in many other countries.

Engineering Societies

157. The British Institute of Chemical Engineers was founded in 1922. Its aims are:

(a) To promote, foster, and develop the general advancement of chemical engineering in all its branches as an end in itself and as a means of furthering the scientific and economic development and application of manufacturing processes in which chemical and physical changes of materials are involved.

(b) To promote, assist, and finance such research and experimental work in chemical engineering as the Institution may consider likely to conduce to these ends and to the benefit of the Community at large.

158. The Institute, as a professional qualifying body, grants certifications of competence to chemical engineers, holds examinations and assesses training and experience, whereby professional qualifications are conferred. It organizes a range of technical meetings, including international congresses, national symposia, branch meetings and research colloquia.

159. Through its Research Committee, the Institute appoints Industrial Research Fellows to explore specific fields and report on needs for research and establishes working parties for the exchange of information. In this and other ways it assists in maintaining lively and realistic programmes of fundamental research, and suggests speculative and exploratory fields of research.

160. While its Educational Committee gives guidance on study courses for chemical engineers and on training courses in industry for graduate chemical engineers, it also assesses and recognises academic chemical engineering qualifications as exempting, completely or in part, the Institute's exam, and approves training schemes for graduate chemical engineering as meeting in part the experience requirements for associate membership. Further, it provides a chemical engineering careers advisory service, and in general seeks to promote high standards in and development of education and training in the chemical engineering branch of the engineering profession.

161. Like most professional societies, the Institute has an excellent library, and publishes a monthly journal, The Chemical Engineer, and also The Transactions.

162. The American Society of Mechanical Engineers (ASME) was founded in 1880 as an educational and technical membership society. Its principal aims and objectives are:

(a) To develop and disseminate technical information in order to provide a continuing education to mechanical engineers, the industries they serve, and mankind in general.

(b) To develop industry's mechanical standards, codes, safety procedures, and operating principles.

(c) To encourage the personal and professional development of practising and student engineers.

(d) To foster the engineer's skill by means of an exchange with his fellows.

(e) To maintain a body of current engineering knowledge.

(f) To assist in maintenance of a high level of ethical conduct.

163. ASME has some 60,000 members, of whom 10,000 are student members. They are organized into eleven geographic regions, 10[illegible] local sections, and [illegible] student sections. Each region is headed by a vice-president of the national organization, while each section is headed by a chairman. Student sections are governed by student chairmen and faculty advisers.

164. The ASME carries on one of the largest technical publishing operations in the world, covering a broad spectrum of engineering practice and research. The transactions of the Society are published in a series of five quarterlies: Journal of Engineering for Power, Journal of Engineering for Industry, Journal of Heat Transfer, Journal of Basic Engineering, and Journal of Applied Mechanics. The main spokesman for the ASME, however, is the monthly magazine Mechanical Engineering, which maintains a running account of all the Society's meetings and conferences, publishes [illegible] papers, and articles of general interest to the member. Another monthly publication is Applied Mechanics Reviews, which presents critical reviews of books and articles on applied mechanics and related sciences published throughout the world. The ASME also issues special publications such as Codes, Standards and Handbooks, plus an annual Mechanical Engineers Catalog in which over 1,000 manufacturers and their products are indexed through 30,000 listings.

165. Another significant activity of the ASME is its formulation of standards and codes, an activity it undertook within five years of its inception. Since then the Society has taken the leadership in establishing standards and codes that are the backbone of the industrial strength of the United States. One of its major accomplishments - standard screw threads - is one of the foundation blocks of the country's industrial economy. Today, some 3000 members contribute to the Society's published work in standardization, industrial safety, boiler codes and power test codes, thereby assisting in the creation of new standards and the review of old ones.

166. The Society also plays a co-ordinating role in engineering research. Although it operates no research laboratory, it does sponsor research projects, the results of which intended to be useful to large segments of industry and to increase the engineering effectiveness of the members. Such projects generally are proposed by Professional Divisions or standing Research Committees that have found areas in a field where the present knowledge is either lacking or

conflicting and where research on [illegible] the engineering in the whole field more satisfactory. If there is need for a project, a special committee to supervise it is formed. Panels are then recruited from industry, and the work is contracted to some research organization under committee supervision. The results are subsequently published.

167. National meetings are also an important part of the Society's activities. These fall broadly into two principal categories - General Meetings and Division Conferences. The General Meetings, currently held in June and November, include formal business meetings of the Society and meetings of many committees and boards. In addition, the November meeting includes an extensive technical programme covering a wide variety of engineering specialities. Meanwhile, the Division Conferences - sponsored by one or more of the Professional Divisions of the Society and often with the co-operation of other technical societies - feature technical programmes, inspection trips and committee meetings related to a single area of interest, such as aviation and space, heat transfer, machine design, or petroleum mechanical engineering.

168. The ASME is also active internationally. For example, in recent years, industrial expansion in Mexico has pointed up the need for construction rules for boilers and pressure vessels. As a result, the officers and other members of the Boiler and Pressure Vessel Committee visited Mexico City and held discussions with the Mexico City Section of ASME, and also with the Mexican Association of Mechanical and Electrical Engineers. These local groups are actively at work to have the ASME Code put to [illegible] use in Mexico.

169. It should be noted that there are specific engineering societies for each branch of the profession (i.e. mechanical engineering, chemical engineering, electrical engineering, civil engineering, etc.) within the more technically advanced countries such as Great Britain and the United States. This, however is not the case in the developing countries. For example, India has its Association of Engineers, founded in 1919, "to promote the general advancement of the science of engineering and allied subjects and to improve the status of engineers". Because of its long association with Britain, this organization resembles the British professional society. It conducts its own examinations and awards certificates and diplomas of membership. Like most professional societies, it also maintains a reading room and library, and publishes a quarterly Journal.

170. In Mexico the [illegible] founded in 1924 "to promote the progress of [illegible] engineering in Mexico", now has over 200 members and chapters in various parts of the country. It has a library and [illegible] for its members, [illegible] meetings, study tours and conferences, and publishes a monthly journal, Ingenieria Mecanica y Electrica. Moreover, because of its proximity to the United States, this organization, [illegible], cooperates with its counterparts in the United States, which it [illegible].

Welding Societies

171. The American Welding Society was founded in 1919. The primary function of the Society is educational - collecting, correlating, assigning and disseminating information about welding.

172. More than 30 per cent of the members are graduates of engineering and [illegible] colleges. Others - foremen, inspectors, [illegible], welding operators, management, development and sales personnel - may not have as technical an education. Since welding, with more than forty different processes now being used commercially, affects every engineering and construction discipline, many members also belong to other professional and engineering groups.

173. Members of the society, now numbering over 16,000, are grouped into 95 sections, which serve the same number of metropolitan areas throughout the United States. The size of each section varies from a minimum of 50 members to a maximum of over 700. Every year each section conducts six to twelve technical meetings or plant tours, several social events and educational courses, and usually at least one exhibition program. Section officers recruit new members, engage in public relations, provide technical advice, and encourage industry and public regulatory bodies to use American Welding Society standards, codes, and specifications.

174. The Society's major activities may be broken down as follows:

(a) Welding Handbook: The society publishes a 3000-page, five-section handbook. One section is published each year. Five years later, that section is rewritten, updated, and published as part of the next edition. During each five-year period, some 500 members participate in this work.

(b) Technical activities: Some 100 committees and working groups are actively engaged in the preparation of standards, manuals of recommended practices, tests, specifications, translations, and English technical books covering information not available in commercial publications. More than 100 members are active in these projects each year.

(c) Educational activities: The Society provides authoritative and comprehensive information about new equipment, new materials, new processes, and new procedures. It also provides educational materials for initial training courses in welding. Probably one fourth of the Society's members participate in some manner in these activities: planning and presenting course materials, working with high schools and other groups, and conducting or attending courses and seminars.

(d) Society Operations: About 200 members are directly concerned with the operations of the society and devote up to one fourth of their working time to them.

173. The Society has two important advisory groups, which are quite effective in developing a better understanding of the Society's basic role. The manufacturers' committee includes a representative and an alternate from each of 25 leading manufacturers of welding equipment and supplies. Noteworthy is noted as that over a five-year period 30 manufacturers are represented on this committee. The distributors' committee provides a similar output with the large group of independent and direct distributors of welding equipment and supplies. A third such group, which will represent the corporations having major metal fabricating operations, is planned.

174. National and regional meetings and exhibits provide an excellent opportunity for member participation and for direct communication with members. These group at least one third of the members present papers, present talks, study exhibits, engage in discussions, visit plants, listen to lectures, participate within committees, etc.

175. The Society's principal publications are the Welding Journal, a monthly publication sent to members and some 5000 non-members, and various committees for committee members.

176. To keep in touch with the local members, the president and the executive director visit, on a term, one third or more of the Society's sections. The Society's twelve district directors normally meet with each section in their district at least once each year. Other national officers and staff members meet with several sections each year.

179. Four years after the birth of the [illegible] British Institute of Welding was founded. Its main purpose is the promotion of the technology of welding and allied processes, such as [illegible] and spraying. Active in India as well as in the United Kingdom, the Institute, together with its associated branches, [illegible], organizes meetings and maintains a School of Welding [illegible] fifteen to sixteen short courses a year for members and nonmembers. [illegible] professional specialties, the welding [illegible] counterpart, the Institute conducts examinations for membership [illegible] professional qualifications for welding technologists.

180. The Institute cooperates with the British Welding Research Association (the industry's [illegible]) in [illegible]. Contracts for such research are placed with other bodies. [illegible], the Institute publishes the British Welding Journal (monthly) and various books and booklets. It also provides its membership with a technical information service, which is based on the systematic abstracting and indexing of a worldwide intake of periodicals.

181. Further, the Institute cooperates with the Ministry of Education, universities, and colleges of advanced technology in the promotion of their courses at the technological level.

Organizations of Foundrymen

182. Professional organizations of foundrymen exist in many countries. Probably the oldest is the Institute of British Foundrymen, founded in 1904. Its objectives are:

(a) To promote the intellectual welfare of its members by periodic meetings for reading and discussing scientific papers on subjects connected with the foundry and allied industries.

(b) To initiate, conduct and supervise researches into the science and technology of the art of metal and alloy production, casting and working.

(c) To organize and conduct or advise on schemes and systems of education for all or any grades of operatives or workers in the art and craft of metal casting and to collect and distribute information on the science and art of founding and allied subjects.

183. The Institute has some [illegible] members organized into fourteen branches and ten sections, including sections in South Africa, Australia, and India. Technical activities of the Institute are directed by the Technical Council,

with some fifteen active sub-committees. The Technical Council, however, does not engage in any primary research; rather it interprets primary research for industrial purposes. Such investigations are carried on by the members in their own foundries, with the Institute providing secretarial and administrative services.

184. Publications of the Institute include a monthly journal, The British Foundryman, and special volumes, such as Typical Microstructures and Cast Metals, A Guide to Lecturers and Students of Foundry Practice, etc.

185. The Institute also maintains a small library for members. Among its other activities are the promotion of a system of education suitable for the foundry industry and the provision of professional status for certain grades of membership.

186. Close relations are maintained with foreign foundry associations through the International Committee of Foundry Technical Associations. Since [illegible] the Institute has fostered the international exchange of technical information through the system of annual "exchange papers" arranged between the Institute and kindred foreign associations.

187. The Institute's Indian counterpart, the Institute of Indian Foundrymen, was organized in Calcutta in [illegible]. Its stated objectives are "to bring together foundrymen of India engaged in any and all aspects of founding and to raise the standard of Indian founding by pooling the experiences and knowledge of various categories of technical men". The Institute organizes lectures, exhibits, and symposia for its 600 members and also publishes a monthly journal. The Institute was responsible for starting the Foundrymen's Training Centre at Kharagpur and also is a member of the International Committee of Foundry Technical Associations.

The Institute of Fuel

188. The Institute of Fuel, an organization dedicated to the field of fuel technology, was founded in 1927 in Britain for the advancement of scientific knowledge in the preparation, treatment, and utilization of sources of heat and power of all types in all applications. Its corporate members are entitled to describe themselves as Chartered Fuel Technologists. There are also Indian, Australian, Argentine, Irish, and New Zealand sections of the Institute.

189. Once or twice a year the Institute holds [illegible] for the discussion of technical papers in various parts of the country [illegible]. Every two years the Institute conducts special [illegible] of topical or national interest, the proceedings of which are published as separate reports. Reports of these meetings as well as papers covering all branches of fuel technology, are published monthly in the Journal of the Institute. Another monthly publication is Fuel Abstracts and Current Titles.

The Textile Institute

190. A learned society devoted to the dissemination of scientific and technological knowledge and information on textiles is the Textile Institute, founded in England in 1910. It has nearly [illegible] members throughout the United Kingdom and in practically every country in the world where there is a textile industry.

191. The activities of the Institute range over all fibres - natural and synthetic - and all textile operations. The membership is organised geographically in 30 sections and branches covering the United Kingdom, India, Australia, Hong Kong, [illegible], and South Africa. These arrange their local meetings, lectures, film shows, works visits, etc.

192. The Institute holds an annual conference plus several special conferences in the United Kingdom and on the Continent. Other important activities include work on the unification of testing methods and the clarification of textile terms and definitions. It also publishes a monthly Journal and a Hand Book and maintains a technical library for its members.

193. However, much of the Institute's work is devoted to education in textiles. It conducts examinations for candidates who aspire to professional status as Chartered Textile Technologists. Also, in conjunction with the Ministry of Education, the Institute is responsible for the National Certificate in Textiles scheme. It also awards scholarships and studentships, holds competitions in the design and structure of yarns and fabrics and publishes textbooks.

[illegible]

194. An example of a professional accounting society active in industrial development is the Institute of Chartered Accountants in England and Wales. The Institute was incorporated by Royal Charter in 1880 on the petition of five societies then existing in England. Its objects are "the elevation of the profession of public accountants as a whole and the promotion of their efficiency and usefulness by compelling the observance of strict rules of conduct as a condition of membership and by setting up a high standard of professional and general education and knowledge". Membership is now close to 40,000; this figure includes some 5,000 overseas members, more than half of whom reside in 35 Commonwealth countries. The Association's revenue is derived principally from the subscriptions of members.

195. The spreading and development of the accountancy profession throughout the world, and especially in the Commonwealth, springs largely from the pioneering work of British chartered accountants and in particular of members of the Institute. It is therefore only natural that the Institute should maintain contact with accountancy bodies both within and outside the Commonwealth. Moreover, the Institute invites members of other accountancy bodies to attend its meetings, courses and social functions from time to time and often sends representatives to attend functions of similar bodies.

196. The designation "chartered accountant" although deriving from the incorporation of the English, Scottish, and Irish Institutes (and later of the Australian Institute) by Royal Charters granted by the Crown, has nevertheless been adopted by legislation in a number of other countries. It is the policy of the Institute to encourage the formation of an accountancy body in any country where a need for such a body exists. The Institute also encourages international conferences every few years.

197. From time to time the Council of the Institute issues statements dealing with technical matters. Among these are the series of Recommendations on Accounting Principles, the issue of which commenced in 1942 and the series of Statements on Auditing, the issue of which commenced in 1961. The technical statements of the Council that appear in the Members Handbook cover such subjects as: Recommendations on Accounting Principles, Company Law, Practical Points, Taxation, Management Accounting, Miscellaneous Technical Statements,

Mechanised [illegible]

[illegible] will stimulate [illegible] other [illegible] activities of the [illegible] foundation of the Institute.

198. Through its [illegible] equipment are given to members. [illegible] with general advice and [illegible] accounting principles are frequently followed by [illegible] Accountancy Examination [illegible] Institute gives advice on establishing and conducting examinations of [illegible]

199. Membership in the Institute may be obtained only by serving for a specified period (usually three years) under articles with a member of the Institute who is a practising public accountant in the United Kingdom and by passing the Institute's professional examinations.

200. The Institute maintains a reference library at its headquarters, and many of the fourteen district societies maintain libraries of their own. The Institute publishes a monthly journal, [illegible], and issues a large number of technical publications.

__Production and Inventory Control__

201. The American Production and Inventory Control Society (APICS) was founded in 1957 as a professional association for those principally employed in the field of production and inventory control. Its objectives are to evolve a broad programme of education and research in these fields of production planning, production control, material control and inventory control that will make significant contributions to the knowledge and understanding of persons in these fields of work. More specifically, APICS seeks:

(a) To develop efficiency by studying the scientific principles and methods of production and inventory control management.

(b) To provide direct means whereby executives, engineers, teachers, public officials and others concerned are aided in applying scientific methods to production and inventory control management problems, and promoting this common interest.

[illegible]

(d) [illegible]

(e) [illegible]

(f) [illegible] unrestricted [illegible]

(g) To assist [illegible] in the development and improvement of [illegible] in the management science of production and inventory control.

202. The Association [illegible] including: The [illegible] The [illegible] Committee, The [illegible] Committee, and the [illegible] Committee. These groups and various committees concerned with chapter operations further the education and research programmes of APICS. In addition, the Society has established a separate foundation, APICS Educational and Research Foundation, to assist in furthering its main objectives. Each year grants are made from its funds "to encourage the scholarly investigation of specific production and inventory control problems and to determine the facts or principles involved in any subject in the field of work represented by the Society". The Foundation is supported through contributions from industry, individuals, APICS chapters and the APICS National Society.

203. An Advisory Planning Council of "management statesmen", composed of individuals with records of leadership, pioneering and devotion to the production and inventory control field, guides and assists the officers of APICS in charting long-range plans and goals in terms of the Society's role in American life and economy.

204. APICS has an extremely ambitious publications programme that includes:

(a) APICS News - a monthly non-technical newsletter for its members.

(b) Production and Inventory Management - a quarterly journal containing articles by members, speeches given before chapters, evaluation of books reviewed by members, results of research projects, and various other original technical and management information. The journal, distributed free to members, is sold by subscription to educational institutions, public libraries and business firms.

(c) Conference Proceedings - a complete transcript of the papers presented at the annual National Conference, including charts, graphs, and illustrations.

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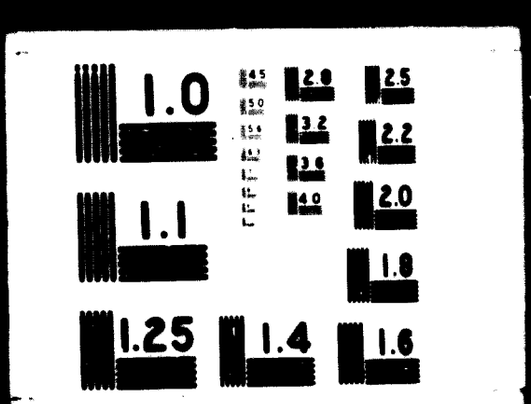

(d) Training Manual - the first complete training manual for production and inventory control. It contains basic material on Economic Order Quantity, ABC Concept, Statistical Order Points, Production Planning, and Machine Loading. Bound in a three-ring binder for easy handling, the Manual contains 151 pages of text, charts, and references, with key questions at the end of each of its eleven sections.

(e) Dictionary - for the specialized field of production and inventory control. The APICS Dictionary was created as a working handbook for the entire field of management.

(f) Production Control Handbook - written and edited by members.

(g) Bibliography - published periodically, contains a selected listing of books, articles, films and graphic materials of interest and educational value to practitioners in this field.

(h) Special Reports - such as "Management of Lot-Size Inventories", plus a training aid for this technique, complete with slides. Other reports cover machine loading, economic order quantity, etc.

205. Each autumn a National Conference and Technical Exhibit is held in a key city located in one of the APICS chapter areas. Experts from industry, education, and government present papers outlining new techniques and developments and describing successful case histories in the field of production and inventory control. Leading companies also exhibit the latest equipment, products and services applicable to the field.

Industrial Management Society

206. The Industrial Management Society (IMS) was organized in the mid-1930s in the United States with the following objectives:

(a) To advance the profession of management.

(b) To promote research in the various fields of management.

(c) To study problems of the social sciences as related to industry.

The Society is active in publishing vital material on industrial management. It also sponsors conferences, seminars and workshops for its members. Its major publication is Industrial Management, a monthly magazine that reports progress in this field and presents case histories and practical applications of new techniques. This magazine is distributed to members but is also made available to public, business and educational libraries by subscription.

207. Another major IMS activity is "Executive Techniques for Industrial Engineering" (ETIE), a seminar that brings together a group of top-echelon executives to discuss and search out new ideas in the field of industrial engineering and exchange experience.

208. Still another major activity is the Society's annual clinic, where industrial management personnel from the United States and abroad have the opportunity to seek answers to mutual problems. Under the guidance of industry, education and government experts, registrants participate in forums, lectures and panel discussions designed to broaden their knowledge of the entire field and aid them to develop practical ideas for on-the-job application. Printed proceedings of the Clinic are distributed to members.

209. One unique programme of the Society is its Methods Improvement Contest to stimulate interest in cost reduction through methods improvement in education, industry and business. Contestants submit their entries to this competition in 16 mm film form, depicting "before" and "after" phases of methods improvements made on actual jobs. Films of the winners of this annual competition form the basis of the IMS Film Library, with its more than 100 films. These films, which provide graphic demonstrations of methods improvements and work simplification, are made available to educational institutions for classroom instruction and to industry for employee training.

210. The society also assists schools in planning courses in industrial engineering and management so that graduates are better equipped to enter industry. It conducts research on the problems of management. These studies are conducted nationally or locally through the organization's chapters, with the National Headquarters acting as a clearing-house.

211. Major sources of revenue for the Society are membership dues (individual and corporate) and proceeds from the sale of its films and publications and fees from the rental of its films.

212. The Institute of Work Study grew out of the Motion Study Society of Great Britain (founded in 1944) and the Society of Industrial Engineers (founded in 1941). It promotes the use of work study and industrial engineering through lectures, meetings, conferences and through its monthly publication Work Study and Management. Like other British professional organizations, it holds examinations for the Work Study and Industrial Engineering Certificate and Diploma. Technical colleges throughout Great Britain conduct two-year courses for the Institute Certificate, covering the subjects of pre-production planning, production control, operational analysis, determination of performance and costs standards, and production incentives. The basic functions are Methods Study and Work Measurement.

213. The Institute is supervised by a General Council. Its membership is located in the United Kingdom and many other countries.

214. A new organization with virtually the same aims is India's Institute of Industrial Engineers founded in 1957. Designed to promote better understanding and appreciation of the techniques of industrial engineering practice, it organizes lectures, meetings, film shows, symposia and the like for its members. It also conducts short-term intensive courses in the field of industrial engineering. The Institute's membership is both professional and institutional.

Society for the Advancement of Management

215. The Society for Advancement of Management (SAM) is the oldest among professional management societies. It stems from a meeting held on 11 November 1910 by colleagues of Frederick W. Taylor, but it wasn't until 1912 that the Society to promote the Science of Management was actually formed. In 1936 this group joined with the Society of Industrial Engineers to form SAM. Shortly thereafter, the Industrial Methods Society also merged with SAM. The Society continues as the leading professional inter-disciplinary management society in the United States, strongly committed to the principles of Taylor, the "father" of modern management.

216. The Society's publications which disseminate the latest ideas in scientific management include: Advanced Management Journal and SAM News International, a monthly newsletter recording the activities of the Society and management events throughout the United States and abroad. The Society also publishes periodic research bulletins on critical issues facing American management, and Proceedings of SAM conferences.

217. The society organizes monthly meetings and seminars at the chapter level, plus dinner programmes, workshops and plant tours. Further, it holds International Management Conferences on a regular basis. Not all the SAM chapters are in the United States; there are four outside the country, in Canada, Japan, the Netherlands and Iran. These overseas chapters may also hold international conferences of their own. For example, in April 1965, an International Management Conference was held in Teheran under the auspices of the Iranian chapter. The theme of the Conference was "The Role of Management in a Developing Economy".

218. Among the other activities of SAM is sponsorship of the Council of Independent Managers - Society for Advancement of Management (CIM-SAM), which was organized "to provide the independent manager with an organization in which he can build and exchange experiences with those who face similar problems". Membership is restricted to officers of companies whose decisions to take business risks are backed by their own assets, money and credit. Moreover, their companies must not be dependent on any single supplier and/or customer and must not be a division of another company, directly or indirectly. These companies must deal in tangible products and be of sufficient size to have at least a second level of organization, so that responsibility may be delegated.

219. CIM-SAM activities are programmed by members. Monthly meetings are mainly question and answer discussions and workshops, as owner-operators have less time and inclination for learning through lengthy lectures by specialists. Other CIM-SAM programmes include small "executive council" luncheons, arranging individual contacts, and company tours.

220. The SAM also has established a research and Development Management Section. An Advisory Committee has been established to help develop Research and Development Sections in SAM chapters abroad. Also, Local Top Management Advisory Councils, consisting of leading management authorities of the community, meet several times a year with local SAM chapters to offer guidance in improving services to members.

The Institute of Management Sciences

221. The Institute of Management Sciences (TIMS) is an interdisciplinary, international scientific society founded in 1954 to develop a scientific understanding of management. Its members include managers, advisers to management, scholars and scientists drawn from various disciplines such as economics, mathematics, operations research, psychology, and statistics. TIMS encourages and promotes an interchange within management and science by:

(a) Identification of existing scientific knowledge that contributes to the understanding and practice of management and application of such knowledge.

(b) Extension and further development of scientific knowledge, either within existing disciplines or in areas between disciplines, to meet management needs.

(c) Unification of bodies of knowledge relating to management.

(d) Communication of scientific methods and results to management and communication of managerial methods, needs and difficulties to scientists.

222. TIMS has a membership of some 4500 in over 50 countries. It sponsors national and international meetings to stimulate thinking among members on significant topics. It also arranges joint meetings with related societies to encourage an exchange of ideas.

223. TIMS publishes a number of periodicals and monographs dealing with management subjects. Its principal publications are Management Science, a monthly magazine with alternating emphasis on science and management, and Behavioral Science which contains articles on general theories on behaviour and on empirical research specifically oriented towards such theories.

224. TIMS sometimes furthers needed research in critical areas of management by providing technical assistance in conjunction with financial support by governmental or other organizations. It helps support and guide International Management Sciences Research Centres in Rotterdam and Mexico City. Occasional research symposia bring together specialists in related fields to exchange notes and formulate new approaches in particular areas.

225. A vital objective of the Institute is the ultimate development of a single science of management, unifying the many significant contributions of a wide range of disciplines. TIMS feels that "a pooling of the abilities of theoretical and applied scientists with the experience and insights of the professional manager will be instrumental in the growth and development of sound management science".

226. Members of TIMS are organized into local chapters based on geographical divisions and functional groups, or "colleges", based on special interests. There are nineteen chapters in the United States, one in Tokyo, and a European Section. In contrast to chapters, with their local membership, the membership of the colleges is world-wide. The colleges hold their meetings during the national or international conferences, although some of the colleges have local groups that meet more frequently.

227. The colleges provide a forum and platform for detailed discussion and analysis of problems in specialized areas of management. They conduct research, publish proceedings of symposia, and compile and publish bibliographies. The colleges include the following: Planning, Research and Development Management, Management Control Systems, Measurements in Management, Management Psychology, Management Philosophy, Simulation and Gaming, Organization Theory, Managerial Economics, Management Communications, and Logistics.

228. The Council is the chief legislative, policy, and review body of TIMS. According to the by-laws, the Council, "shall have preemptive authority in Institute matters over all officers, members, applicants, committees, boards and subdivisions of the Institute.... The Council shall establish policies, objectives and programs of the Institute and shall authorize their implementation with suitable budgets, resolutions, authority for contracts and expenditures...". The Council consists of the officers of TIMS plus Council members, all of whom are elected at large. TIMS operating expenses are defrayed through membership dues and through the sale of its publications.

CHAPTER IV

INDUSTRIAL STANDARDS AND THE ROLE OF THE PROFESSIONAL AND TECHNICAL ASSOCIATION

229. One of the principal factors in any country's expanding economy is the continuing utilization of voluntary standards. Today, these standards are on the threshold of a new era of usefulness and need. They are essential, both domestically and in the representation of the country's interest in international trade.

230. These standards, sometimes designed "industrial standards", are used advantageously by companies to minimize confusion and cost in their businesses. Since a more efficient industrial operation ultimately benefits investors and consumers, standards benefit the general public. Many thousands of these standards have been developed and used, but only a small proportion are ever visible.

231. The most important types of standards are:

(a) Definitions, terminology, symbols and abbreviations.

(b) Standards for materials, performance characteristics, procedure and methods of rating.

(c) Methods of testing and analysis.

(d) Standards of size, weight, volume and rating.

(e) Standards of practice, safety, health and building construction.

Technical Association of the Pulp and Paper Industry

232. Among the most significant activities of professional and technical associations is the formulation and establishment of industry standards. These activities may be carried out by an industry association within a professional society or through a special technical association. The latter organization may be restricted to one industry, or a portion of the industry, or it may be a large engineering organization such as the American Society for Testing and Materials.

233. An example of a United States technical organization that sets its own standards is the Technical Association of the Pulp and Paper Industry (TAPPI) with its 11,000 individual and 500 company members. In 1933 this organization set up

its official Standards Committee and published the first edition of TAPPI standards. Since then, TAPPI has adopted 240 Standards, almost all of which are testing methods. These are accepted all over the world as referee methods in cases of dispute between buyers and sellers of pulp, paper and paper products. Moreover, the majority of United States Government specifications for paper products are based on the Association's Standards.

234. The development and improvement of test procedures for the industry are co-ordinated by TAPPI's technical committees. This includes Standards and Suggested Methods, and Routine Control Methods. Standards, after recommendation by a committee, require approval by ballot of the Standards Committee, and, finally, of the voting TAPPI membership before adoption. All adopted Standards are examined periodically and up-dated if necessary. In addition to formulating an extensive list of pulp and paper testing procedures, TAPPI also has added new ones for testing containers and chemicals. Besides Official Standards, there are Tentative Standards, Suggested Methods and Historical Methods, copies of which are distributed annually to members.

235. In 1950, TAPPI began issuing Routine Control Methods, based on information received from mills and individuals, on routine procedures valuable for mill and product control, but too empirical for consideration as standards or suggested methods. Thus far, some 300 have been published and distributed to TAPPI members. Several subsequently formed the basis for Standards and Suggested Methods.

Colour Associations

236. Another area that is extremely important when determining standards is colour. The activities in this field are co-ordinated by the Color Association of the United States, which was founded in 1915. Its membership of over 2300 is composed of companies around the world engaged in producing, promoting, and selling merchandise in which colour is a factor. Major industries, including home furnishings, automobiles, textiles, fashions, retailing, and men's wear are all represented.

237. Each year the Association issues advanced forecasts embodying the colour thinking of the leaders of industry. Thus, manufacturers can co-ordinate the colour styling of their products with their own and allied markets. This

organization and its associated organization, the British Colour Council, have adapted specific standard colour cards comprising 216 colours. These standard colours are used throughout industry for everything from buttons to telephone wires. Moreover, the Association makes individual colour cards for the United States Government and for the Armed Forces.

238. The British Colour Council was formed in 1930 by the textiles and allied trades to co-ordinate colour and design and determine colour standards and fashion colours. It is supported entirely by membership of individual firms. Its services cover the apparel trades and the interior decoration industry, and it is equipped to offer advice and assistance on all colour problems. More specifically, the Council issues regular seasonal colour ranges to members in the Women's, Men's, and Children's Wear Divisions.

239. Also, the Council has conducted a great deal of research in the field of colour in factories for machinery, in schools, etc. Here, lighting is vital; and the correct combination of colour and lighting in industrial buildings is of proved benefit to eyesight, promotes health and reduces absenteeism and the risk of accidents. Further, the Council is constantly conducting research to promote economy in production through the scientific use of small colour ranges.

240. The Council first published the Dictionary of Colour Standards in 1934. The colours and colour names shown therein are now accepted throughout all the colour-making and colour-using industries. The colours are shown on silk ribbon and on wool yarn. A second edition, with the colours only on silk, shows the original 220 colours plus an additional 20 and contains a history of each.

241. Another major publication of the Council is the three-volume Dictionary of Colours for Interior Decoration, which was published in 1949. Now in use in 40 countries, it lists 378 different colours in the first two volumes. The third volume contains an index of over 500 names, cross-referenced with the colours illustrated on both glossy and matt surfaces, as well as on a pile fabric.

242. The Council has established other colour ranges to meet specified requirements. Among these are ranges for textiles, plastic and cotton cable coverings, vitreous enamels, radio components, and drawing inks. Further, the

range of colours for paints shown in "Colour and Lighting in Factories and Offices" now is internationally used. Moreover, colours for machinery, for the Safety Colour Code, and for pipe identification are also established.

American Society for Testing and Materials

243. The most important industrial standards research organization in the United States and probably in the world is the American Society for Testing and Materials (ASTM). This organization, founded in 1898, is best known for its standardization of methods of test, specifications, recommended practices, definition of terms, and for its data relating to materials. Its purposes are achieved largely through the work of more than 100 main technical committees, with over 2500 subcommittees responsible for the development of standard specifications and methods of test and for keeping them up to date. These groups also sponsor and carry out much research in the development of sound dynamic standards. The Society's function is advanced by the presentation and subsequent publication of technical data in the form of reports, papers, and discussions. The activities of the Society have played a major role in the high productivity and advanced economy of the United States.

244. The membership of the Society is drawn from a broad spectrum of individuals, agencies and industries concerned with materials. It includes some 10,000 individual engineers, scientists, researchers, educators, and testing experts; 2,500 companies, associations, and research institutes; and 1,000 governmental agencies and departments (federal, state, and municipal), educational institutes, and libraries.

245. The Society adheres to a time-tested policy of rigorous examination, debate, and ballot in technically qualified committees and before the members of the Society. To assure the development of reliable, acceptable and practical standards, committees are made up of producers who are familiar with the limitations of the producing processes; consumers, fully acquainted with the desired requirements; and general interest members from independent consulting organizations, universities, laboratories, engineering societies and government agencies.

246. Since an ASTM standard represents a consensus of the interested parties, it is intended to aid industry, government agencies and the general public by providing a knowledge of exactly what is being bought and what is being sold.

The use of an ASTM standard is voluntary. It does not preclude anyone from manufacturing, marketing or purchasing products or using products, processes or procedures that do not conform to the standards.

247. ASTM committees have developed over 3700 standard specifications and methods of test for materials. These have been used to specify and evaluate thousands of millions of dollars worth of materials of all kinds for design, manufacturing, construction and maintenance. The interests of these technical committees range from adhesives to zirconium, from absorption spectroscopy to resinography and temperature measurement, from materials for surgical implants to materials for construction and for outer space. More than 17,000 persons participate in these committees and their many subcommittees and contribute their specialized knowledge.

248. From the beginning ASTM has maintained international interests. It co-operated in the congresses sponsored by the International Society for Testing Materials and its successor (after the First World War), the New International Society for Testing Materials. It has participated in many international conferences, such as those held periodically on soils, on fatigue testing and on deep drawing of metals. ASTM committees join in sponsoring International Conferences such as those on Creep and Fracture, Mass Spectrometry and Electrical Contacts. An International Conference on Materials was sponsored by ASTM in Philadelphia in February 1964 with the co-operation of the International Union of Testing and Research Laboratories (RILEM).

249. The United States member body of the International Organization for Standardisation (ISO) is the USA Standards Institute (USASI). ASTM committees have been delegated by USASI to handle the United States participation in a number of technical committees of the ISO and of its electrical division, the International Electrotechnical Commission (IEC). Moreover, in a few instances, ASTM standards have had their genesis in the discussions in an ISO committee.

250. Co-operation is the keynote to ASTM activity. Not only is this true within a committee, but also between committees and between ASTM and other organizations. In some cases formal agreements have been reached whereby the co-operating organization develops technical information to serve as background for standards, and ASTM develops the standards. In other cases the co-operative work is sponsored jointly, usually through a joint committee or through cross

representation. In some instances ASTM standards have been adopted directly, or form the basis of the standards of other organizations, both here and abroad.

251. The organization method of developing voluntary standards has been most effective in the United States. A recent study disclosed that the principal problems in the standardization field in this country are in the areas of co-ordination of activities and the recognition and designation of appropriate standards as being "U.S.A. Standards". The study stated that "the technical societies and trade associations which are principally concerned with the development of voluntary standards were found to be competent and effective. The primary responsibility for development of standards should be left in their hands.

252. However, some organizations developing a large number of standards of national importance have not recognized the advantages of further designation as American Standards, the current counterpart of "U.S.A. Standards". Of the 13,675 nationally used standards identified by this study, only 2,300 (16.8 per cent) had been advanced through the procedures of the USA Standards Institute for recognition and designation as American standards.

The Standards Association

253. In other words, once standards have been established, they must be cleared through the national standards association. This association may be a private, as in the United States, or a governmental organization. In any case, it should function as the national clearing-house for voluntary standards in the country. The Canadian Standards Association may be taken as a case in point.

254. The development of Canadian Standards by the Canadian Standards Association (CSA), founded in 1919, is based on democratic principles. Producers, users, Government, general interests and enforcing authorities have equal voices in expressing opinions as to suitable and adequate standards. Representation of interests on a broad geographical basis provides a national aspect to CSA Standards. The Canadian Standards Association itself acts as a co-ordinating medium by bringing all interests into co-operating groups.

255. CSA procedures provide for balanced national representation of all interest concerned and is based on the consensus principle. In other words, acceptance of a standard need not be unanimous. If there are certain requirements that are

not acceptable to one or more members of a committee, such members register a negative vote on the formal letter ballot and submit their considered objections for review by the preparatory specifications committee. Such objections are included in a minority report, which is supplemented by explanations and recommendations of the committee chairman. Thus, the minority report procedure provides that full consideration will be given to objections and, at the same time, prevents a filibustering minority from delaying the adoption of a standard. The latter is taken care of through the reply of the Committee chairman, justifying his committee's standard in maintaining its recommendations.

256. Unlike the USA Standards Institute, the Canadian Standards Association operates its own testing laboratories. The CSA Testing Laboratories, inaugurated in May 1940 as a division of CSA, is recognized as a testing and investigating agency by Inspection Authorities and by Fire Marshals and Fire Commissioners throughout Canada. Its purpose is to certify by investigation and test that products comply with applicable CSA Standards for safety.

257. In the United Kingdom, virtually all of the larger associations and very many of the smaller ones are the standards authorities for their industries and as such are in touch with the British Standards Institution (BSI). Some, including a few of the smaller associations, also work out their own industry standards, which may or may not ultimately become British Standards. The larger industry associations have special departments to deal with standards and, behind these, numerous technical committees concerned with different products or processes. For example, the Society of British Aircraft Constructors has, since 1938, introduced some 6000 standards for use in the manufacture of aircraft and their equipment. They range from complicated items such as complete control columns, rudder bars and pilots' seats to more general standards such as rivets, bolts and small engineering parts. Through the society several hundred engineers in the aircraft industry serve on those committees of the British Standards Institution that deal with aircraft standards introduced for general use.

258. It should be emphasized that most standards associations do not write standards; they are merely co-ordinating agencies intended to avoid duplication in the creation of an integrated body of recognized national standards. In addition, as in the case of the USA Standards Institute and the British Standards Institution, they look to their member bodies for the development of these standards. In summary, the main functions of a standards association are:

(a) To provide systematic means for developing national standards and to promote their use in the association's own country.

(b) To approve standards as national standards provided they are accepted by a consensus of all national groups substantially concerned with their scope and provisions.

(c) To co-ordinate standardization activities.

(d) To serve as a clearing-house for information on national and foreign standards.

(e) To represent national interests in international standardization work.

The latter point is particularly important where a given product or material is to be sold internationally. Many countries will not accept it unless it meets their national standards. This, too, entails problems as the multiplicity of national standards and the absence of any agreed-upon international standards often creates a good deal of misunderstanding between buyer and seller. In practice, the significant question is frequently not who sets the standard, but who does the grading.

CHAPTER V

ASSOCIATIONS OF FUNCTIONAL SPECIALISTS IN MANAGEMENT AND THEIR ROLE IN INDUSTRIAL DEVELOPMENT

Interchange of patent rights

259. Essentially, patents are merely unique ideas, in the application of which the originator or his assignee is granted a legal monopoly for a limited time. These grants are made by governments in the interest of public welfare. Experience has demonstrated that the recognition and protection of the right of exclusive exploitation of an original idea affords the most effective means of stimulating invention and further, that the fruits of inventive genius, despite the temporary private advantage inherent in a system of legally established monopolies, are in the end made freely available to the entire community.

260. Nevertheless, the establishment of distinct legal monopolies frequently leads to friction and disorganization within a given trade or industry. The mechanisms, devices and processes represented by patents are numerous and varied. Because patent rights cover so many different methods of performing so many minute tasks, each producer, although protected in the utilization of his own discoveries, frequently finds himself balked at many points in improving his industrial processes. In fact, one patent may be rendered quite useless - "blocked" - by another patent that covers a vitally related feature of the manufacturing process or of the finished products. Accordingly, a manufacturer may willingly sacrifice his own special privileges to be rid of the obstructions stemming from the special privileges of his competitors. The bewilderment and confusion created in many branches of industry by the existence of a congestion of patents can be alleviated only through voluntary co-operation; and the patent association constitutes the most readily available instrument for such co-operation.

261. Since patented ideas generally represent a very valuable part of the assets of an industrial enterprise, it might be expected that this would be about the last element of trade knowledge to be put through the trade association clearing-house. The mere fact that a discoverer has deemed it desirable to secure letters patent would tend to preclude any disposition on his part to renounce his exclusive proprietorship. Indeed, this is normally the case with regard to any basic invention.

262 If the patent is basic, so that the patentee may exclude all others from manufacturing a given product, the patentee will have no reason to relinquish his special privilege However, he may find it advantageous to license others to make and sell the article thus protected. In this case he will exact a royalty, in all probability as high as the traffic will bear, which involves no limitation upon the exercise of his exclusive rights However, basic patents of this sort are rare, perhaps only one in a thousand.

263. As far as the other 999 incidental patents are concerned, greater advantage may accrue to the patentee from the privileges obtainable in exchange for his contribution to a common fund of trade patents than he would derive from the sole exploitation of his own inventions The resulting benefits to the general functioning of the industrial structure can be far-reaching and substantial.

264. Even in the case of minor patents, there are many intricate and perplexing problems that must be settled in the formulation of an equitable arrangement for the interchange of patent rights. Most of the difficulties are economic in character. For example, are association members who at the time are holders of patent rights the only ones entitled to secure licences under the patent pool? How many, and what kinds, of patent rights make an association member eligible to participate in the pooling arrangement? Must each associate contribute all of his outstanding patents to the common fund? If not, what patent rights may be reserved? On what terms are the cross-licences to be granted? If output is to be restricted or royalty rates stipulated, on what basis are these adjustments to be made? Also, if these adjustments are to be based on the relative contributions of each of the associates to the common patent fund, how is the worth of a patent or group of patents to be measured? The best way to understand this type of association is to examine the Manufacturers' Aircraft Association and how it evolved.

The Manufacturers' Aircraft Association

265. United States aircraft manufacturers, prior to the entry of their country into the First World War, were confronted with the necessity of either ignoring certain important patents and being sued for infringement or agreeing to some arrangement that would make licence rights available to all companies on a reasonable basis. A number of patents were considered basic and called for royalty payments of $1000 or more per aircraft. Many suits for infringement

had been brought or threatened, and normal expansion and growth of the industry seemed impossible.

266. To meet this situation, in January 1917, at the request of the Acting Secretary of the Navy, a government committee was appointed to discuss the problem with the aircraft patent holders and manufacturers. After many conferences and a careful study of the existing patents to determine their value and validity, a cross-licence agreement was prepared and submitted to the industry. To administer this agreement, the Manufacturers' Aircraft Association was organized in July 1917, and most of the then active American aircraft manufacturers became members Later, the Government acquired licences covering aircraft made in government factories at the same royalty rate as paid by the manufacturers. This agreement has continued to operate upon practically the same basis for nearly 50 years. More than 6000 patents are now under its operation, and all military and commercial types of aircraft, as well as rotary-wing aircraft and guided missiles, have been licensed under terms of the agreement

267. The original agreement called for payment of a flat royalty of $200 per aircraft, and licences were granted to each subscriber to use all of the patents owned by all other subscribers. However, with the advent of small commercial aircraft, most of which are sold for less than $10,000, it was apparent that a flat fee of $200 per aircraft was frequently excessive Accordingly, the agreement was modified in December 1926.

268. The modified agreement provided for the payment of 2 per cent of the selling price of each aircraft, minus the cost of the power plant and airscrews with a maximum of $200 per aircraft. The modified agreement ran until October 1933, after which time no further royalties were required, except for payments to cover the cost of administering the agreement and on patents awarded special compensation by Boards of Arbitration functioning according to the terms of agreement From October 1933 through September 1935, this administrative expense was fixed at 0.25 per cent of the selling price. Subsequently, the rate was reduced to 0.125 per cent of the selling price (less cost of power plant and airscrews). The rate has remained substantially at that level, with the notable exception that during the Second World War the rate was reduced to a token level

269. The primary function of the Association since its formation has been to administer the various cross-licensing agreements and licence contracts under

which the industry has operated since the original agreement was adopted. In this capacity, the Association has received the reports of the patents and granted all of the patent licences, including licences to the United States Government It serves as a collecting and disbursing agency for the payments required under the terms of such licence agreements and contracts And, it has developed a specialized procedure for arbitrating claims for compensation on patents reported by members and the relatively few disputes that have occurred within the industry.

270. The arbitration of claims based upon patents issued since the adoption of the amended cross-licence agreement has become one of the most important functions of the Association Now that payments on account of the original Wright and Curtiss patents have expired, the only royalty payments currently required are those resulting from the appraisal of new patents that have been issued by the member companies.

271. The Association also provides its members with a comprehensive library devoted to engineering research and technical developments in the field of aeronautics. Further, its patent research division prepares a weekly digest of all patents of aeronautic interest currently issued in the United States, a tri-monthly supplement on those issued in Britain, and annual indices of patents issued in the United States and the United Kingdom. It also issues special bulletins to its members and, on request, prepares special technical and legal reports for them.

272. The advantages of the cross-licence agreement to the industry, to the Government and to the public have been manifest. By continuing to make important technical progress available to all manufacturers, the Association has encouraged engineering development and research in the United States without wasteful litigation or hardship due to any monopolistic tendency within the aircraft industry Membership in the Association has never been restricted, nor have qualified applicants ever been refused the right to acquire licences under terms of the agreement. Moreover, there have never been any withdrawals from the Association with the exception of firms that have either gone out of business or have ceased to manufacture aircraft

273. There has been no price-fixing, no regulation or control of markets or any other restriction with regard to the sale of products. Patents of lesser consequence that might have been grouped for the purpose of controlling certain

manufacturing processes or products of the industry have been licensed free of charge, while inventions of a more basic character, that otherwise might have been held by individual companies to dominate the industry or withheld to prevent competition, have been made available at rates of royalty that have permitted unlimited use by every member of the Association of all inventions coming within the operation of the agreement.

Other patent associations

274. There are two other basic types of organizations that warrant discussion before leaving the subject of patents. The first of these is the patent law association. One such association is the American Patent Law Association (APLA). Founded in 1897, it is a professional association of lawyers with special interests in patents, trade marks, copyrights and unfair competition. Its membership - now over 2500 lawyers from all parts of the United States - is devoted to continuous improvement in the administration and practice of patent, trade mark, and copyright law. APLA seeks to safeguard and advance the powerful incentives to invent and invest that are inherent in the United States patent system. In pursuit of these purposes and on the proper occasion, the APLA urges appropriate legislation by the Congress and sound interpretation of the relevant law by the Patent Office, the Copyright Office, and the courts. Also, special attention is given the patent policies of the various government agencies.

275. APLA endeavours to promote better public understanding of the patent system and its role in the nation's technology and economy. However, its most important role is in framing new laws and proposing amendments to existing laws relating to patent, trade mark and copyright practice.

276. Like most professional associations, APLA has an outstanding reference library; indeed, it is one of the best ever assembled in the field of patents, trade marks and copyrights. APLA headquarters in Washington serves as the administrative arm of the National Council of Patent Law Associations. In addition, APLA provides some thirty local patent associations in the various cities and states of the United States with a Reporting Service. Once a year APLA collaborates with a local association in holding a meeting in one of the major cities of the country. This is in addition to APLA's annual meeting and its meeting with the federal judiciary.

277. The monthly APLA Bulletin contains current vital information about patents, trade marks and copyrights. Included in the Bulletin are reports on legislation, reports from the standing and special committees of APLA, notices of the activities of local and regional patent groups, editorials, reports on practice and procedure in the Patent Office and Copyright Office and notes relating to foreign practice. This Bulletin forms an important and permanent part of the libraries of APLA members.

278. The second type of organization that merits discussion here is an association of patentees and inventors. One such organization is Britain's Institute of Patentees and Inventors. The Institute is a public body formed to give inventors unbiased technical advice and information on the protection of their rights and interests. It also endeavours to introduce inventors to industry in all countries through correspondence, interviews and exhibitions, and to carry out the necessary financial transactions.

279. Although the Institute undertakes no research, it assists industry by providing information on new ideas at the time of provisional protection in the United Kingdom and foreign countries. Regular meetings are held, with authoritative speakers and periodic demonstrations of members' inventions. These exhibitions create competitive stimulation of invention, enliven active interest in industry and ensure quicker and more practical offers of production and sale. A commission of 5 per cent on profit is claimed after acceptance by industry of an invention through the Institute.

280. The Institute publishes a bi-monthly journal, The Inventor, and provides its members with a complete information service and unprejudiced advice on patent law, taxation, cases of infringement, and legal action.

Co-operative research programmes

281. The problem of conducting a research programme is one eventually faced by virtually every company or industry. Constant experimentation is necessary to keep pace with competition in this day of complex technology. Where a continuous and all-embracing programme is planned, co-operative research may prove the only effective answer.

282. In a co-operative programme, individual companies unite to meet competitive advances and to understand better the problems within their own industry. This sharing of technical and scientific data prevents duplication of effort

and promotes faster solutions, since the total abilities within the industry are focused upon the problem. A co-operative effort can cut research and development costs substantially, since they are shared among the participants. More importantly, a broad scope of research can be undertaken that an individual company, for financial or personnel reasons, could not attempt. Moreover, each firm's assessment can be more easily justified to the board of directors, since risk is also spread throughout the industry in this type of programme.

283. In setting up a co-operative programme, careful initial planning and an understanding of operating requirements are essential. Contributions to the research effort must be scaled proportionately, with each individual or company assessed according to sales volume, production volume, or through special agreement. However, an upper limit should be set on the payment made by the largest companies so as to minimize the total load they must carry. In the case of the British Scientific Instrument Research Association (BSIRA), the annual subscription for the largest full member is "no more than the salary of one qualified scientist".

284. If at all possible, the majority of companies in the industry should participate in the co-operative research effort. If this cannot be achieved, the effort and scope of the programme will be greatly reduced and, ultimately, dissatisfaction may grow among those who contributed, for there is no way to deprive non-participants of the fringe benefits of the programme. All participants should have active voices in the programming and planning of the research effort. Though the multi-company co-operative system may tend to be cumbersome, the benefits far outweigh the procedural and managerial problems involved.

285. Among the factors to be spelled out before undertaking any co-operative research project are: (a) state of the problem; (b) scope of proposed research; (c) the economic incentive; (d) the over-all cost involved; and (e) budget planning.

286. In the screening process the technical feasibility of research programmes should be determined. As money is always limited, programmes should be implemented not only on the basis of technical need but also on the basis of potential technical success. The bulk of the money expended and the major effort should be devoted to programmes of immediate and intermediate need. However, high-risk programmes as a co-operative effort should not be ignored. Probably

about 20 to 25 per cent of a programme should be devoted to high-risk research, both applied research and fundamental investigations.

287. Once a programme has been agreed upon, the supporting companies should not be assessed until qualified contractors have been selected. One must then decide whether it is best to build a research laboratory or make use of a university or government laboratory. In certain cases government laboratories will co-operate, provided, of course, the research is of mutual interest and potential benefit. In such cases, the work may be done on a matching funds basis, with the government spending an amount equal to that channelled into the programme by the sponsoring industry.

288. There are many advantages to an industry-financed laboratory, since both the sponsoring industry and its customers can be served. Product development, usually the most important phase of research work, can be carried out most effectively in such a laboratory. The laboratory can thus be used to demonstrate new developments to potential users, thereby bringing the sponsoring industry and its customers closer together. There also must be a source of actual product samples. Industry laboratories can be effectively used for this.

289. One important aspect of research is the pilot programme, which helps anticipate and solve future design and productior problems. Another advantage is that technical personnel and potential customers or licensees can be trained in the refinements of the process. Thus, the pilot programme helps close the gap between development and commercializir; research results.

290. Because of the relatively large investment involved and the time needed to implement a co-operative research programme, the establishment of a laboratory probably should not be considered during the initial organization. Rather, the pilot project should be let out on contract. In drawing up contracts for research projects it is essential to study the patent policies of the potential contractor, as they may affect objectives of the programme. In addition to patent clearance, other obligations that should be spelled out by the contractor are: priority rights on publishing research results, time intervals for progress reports and the like.

291. The actions of companies in a co-operative venture must, from a legal standpoint, be handled with care. All policies on patents, licensing, and know-how must be agreed upon in advance. Where possible, all research developments patented for defensive purposes or for reasons of prestige should be made

available on a royalty-free, non-exclusive basis. This includes developments that others can readily use with minimum investment in facilities and in technical and market development. On the other hand, exclusive licensing is most effective when substantial investment must be made in development.

292. Some member companies feel that participation in the co-operative effort justifies cutting the funds available to their own laboratories. Nevertheless, the opposite is the case: it is essential that supporting companies, as a matter of policy, do not cut back their own research programmes nor their research budgets. To do so would cause real resentment between the laboratory personnel of the supporting companies and the director of the co-operative programme. Also most companies cannot afford to lose their research personnel. If the co-operative programme is successful, it will generate new information and new ideas, and this will tend to build up the laboratories of the individual companies. It is natural that each company will explore its own avenue of interest as these new developments reach the stage of commercial application.

293. Each industry association approaches its technical research problems within the scope of its own resources. For the smaller ones, such as the United States Linen Supply Association, setting up a major laboratory is not always feasible or practical. In such cases the project is let out on contract. For example, several years ago the Linen Supply Association spent $100,000 over a fifteen month period to develop an electronic device that inspects laundry flat-work, such as towels and tablecloths, for stains and tears. Another small United States association, the National Association of Blueprint and Diazotone Coaters developed a "sensitometer" to permit users of all papers to obtain uniform results in their reproduction of originals. Its budget for this project was probably less than $25,000.

294. Larger associations have established laboratories as a part of their activities. The Asphalt Institute, for example, established a laboratory on the campus of the University of Maryland, College Park, Md. to develop and demonstrate new uses for asphaltic materials and to improve techniques and methods in the current use of those materials. Its current research activities include:

(a) The development of improved thickness design of flexible pavements.

(b) Development of new and improved procedures for testing asphaltic materials.

(c) A continuing investigation of the design and control of asphalt paving mixes in order to develop improved methods for mix design, and improved inspection and construction procedures for modern traffic.

(d) A study of methods and procedures for using asphaltic products to beneficiate soils and to up-grade borderline aggregates and materials of low-bearing quality.

(e) A study of asphalt pavement requirements for airfield surfaces.

(f) Development of methods and procedures for effective utilization of asphaltic materials in various types of hydraulic structures such as canal linings, dam facings, reservoir linings, groynes and jetties.

(g) Investigation of new uses for asphaltic materials such as stabilization of railroad ballast, protection of railroad bridges, sleepers and appurtenances, stabilization of soils against wind erosion and the use of asphalt on the farm.

295. Although a great number and variety of co-operative research programmes are currently being conducted, only a small portion of these are being carried out by "industry-segment research institutes" as opposed to laboratories operated by trade associations as part of their activities. In this latter group belongs the British Scientific Instrument Research Association (BSIRA), which is one of more than 50 grant-aided co-operative research associations in Great Britain. It is in fact the oldest, having been founded in 1918. Its members are mainly manufacturers of laboratory and industrial instruments and components, but they also include many large industrial users of instruments. BSIRA welcomes within its membership (now about 135) any organisation that has an interest in research, development or production relating to instruments, control systems and their components.

296. BSIRA's work takes five main forms:

(a) It carries on fundamental research in new technologies that have significance in the design and manufacture of instruments and their industrial applications.

(b) It undertakes experimental applied research.

(c) It provides day-to-day technical assistance as it is required to its member firms.

(d) It undertakes some sponsored research, on a confidential basis for individual member firms.

(e) It provides a comprehensive information and library service.

297. The laboratory has a staff of about 130, which includes 50 graduate professionals. The over-all activities of the Association are divided into four major groups and three departments. The major groups are: Industrial Measurement and Control, Precision Processes and Optical Systems, Instrument Performance and Standards, and Information Services. The three departments are: Physics, Semi-Conducters and Thin Films, and Engineering.

298. BSIRA is supported through annual membership subscriptions. The rate for full members is based on the number of people employed by the firm; for associates (that is, organizations with indirect or marginal interests) the fee is fixed individually by agreement. In addition, BSIRA receives a government grant through the Department of Scientific and Industrial Research (DSIR), a representative of which serves on the Council of the Association. This representation, as well as many less formal contacts, ensures that BSIRA is kept in close contact with official scientific work, while the DSIR grant means that members can receive from BSIRA benefits worth far more than the costs of their individual subscriptions.

299. In certain cases a research organization sponsored by two related industries has proved effective. One such organization in the United States is the Co-ordinating Research Council, Inc. (CRC). This organization, which is jointly sponsored by the American Petroleum Institute and the Society of Automotive Engineers, provides a mechanism through which research personnel in the equipment and petroleum industries can work together to solve mutual problems. It was started in 1919 with the following objectives: "To encourage and promote the arts and sciences by directing scientific cooperative research in developing the best possible combination of fuels, lubricants, and the equipment in which they are used, and to afford means of cooperation with the government on matters of national interest within this field".

300. Despite the fact that this organization spends $1.5 million a year, it does not have its own laboratory for conducting direct research. None the less, CRC is purely a research organization. It limits its investigations to industry-wide problems through co-operative research and similar joint efforts. The criterion for determining whether a project should be undertaken is: "when industry is willing to pay for it.....This means that the work is necessary, the need for it is widely felt, and the results will be accepted and used".

301. The research laboratories of more than 200 organizations are participating in the various phases of co-operative work now in progress under CRC sponsorship. From 600 to 700 individuals serve as members of 135 Groups, Panels and Sub-Panels that are working on some 40 projects. The actual number of projects never remains static, since new projects are initiated when co-operative work is justified, and they are terminated when their stated objectives have been

accomplished or when changes in the situation have resulted in lessened interest on the part of industry.

302. The following are the three types of problems with which CRC is concerned, and the source of support for each:

(a) Military projects, carried out for one of the branches of the Department of Defense. Financial support is provided by direct arrangement with the military and includes a proportionate share of CRC overhead expense.

(b) Industry projects, carried out for industry as specific assignments, with detailed objectives, programmes and schedules. Financial support comes from the appropriate equipment industry and the petroleum industry on a matching-funds basis.

(c) CRC general projects, including those in their initial stage of development or ones which, because of their small size, do not require specific support. The American Petroleum Institute and the Society of Automotive Engineers each contributes an equal share towards the costs of these projects.

303. CRC's accomplishments are manifold. For example, it has developed ways of measuring the combustion behaviour of fuels; this included development of the "Research" and "Motor" octane number ratings of fuels used in automobiles. It also developed a technique for evaluating turbine fuels and a means of rating the ignition quality of diesel fuels.

304. Among applied research with which CRC has been concerned are: vapour-lock testing techniques, combustion chamber deposits, octane requirements, the development of an oil test engine, gear lubricants, the development of analytical techniques and special instrumentation used in the analysis of exhaust-gas composition, jet fuel thermal stability, electrical discharges within aircraft fuel systems and the evaluation of rust-preventive properties of greases for airframe lubricants. In fundamental research, CRC has conducted studies of gum formation in fuels in storage to establish new techniques for predicting storage stability of motor fuel and the instantaneous measurement of combustion temperatures, using sound-velocity and absorption techniques. Most of the fundamental research has been carried out by university laboratories or by independent research organizations under the guidance of a CRC group composed of men having a special interest in the particular problem.

305. One of the major benefits of this co-operative effort has been the recognition by the equipment industry that petroleum products are as much a part of engine design as any of the other materials, such as steel. There has also

been a recognition by the petroleum industry that factors other than petroleum products have an effect on over-all vehicle design. There is general understanding by both industries that the optimum combination will involve compromises, since the optimum engine design might be restrictive in fuel requirements and the most available fuel might necessitate penalties in engine performance.

Trade mark associations

306. The right to enjoy exclusive ownership of a trade mark, protected by fair legislation and practices, is a basic principle of free enterprise. If business were to lose the right of identifying its products, and thus of guaranteeing the quality of goods that bear its marks, the entire structure of the competitive system would fall.

307. Most countries have trade mark associations; that is, organizations concerned with protecting trade mark rights and improving trade mark practices. Probably the first such organization was the United States Trademark Association (USTA), founded in 1878. Its history has closely paralleled the progress of better laws and improved practices for the protection of trade mark owners.

308. In brief, USTA is an organization devoted to these fundamental aims:

(a) To protect the rights of all trade mark owners.

(b) To act as a legislative watch-dog on federal, state and international levels.

(c) To give business, the press and the public acquaintance with, and appreciation for the use of trade marks.

(d) To report on undesirable legislation concerning trade marks and on restrictive legislation by government bodies.

(e) To unify all segments of industry, the professions and trade groups in common support of the trade mark system.

309. The roster of USTA includes more than 700 regular, supplementary and associate members. It includes not only companies owning trade marks but also many other groups and persons with an inherent concern for the protection of trade mark rights. Among them are lawyers specializing in trade mark matters, advertising agencies and public relations counsellors, business associations, packaging designers, and similarly interest parties in the United States and abroad. Activities of the Association are supported solely by annual membership dues.

310. USTA is governed by a Board of Directors, elected annually from its membership. Under the direction of this Board a number of Board-created Committees deal with trade mark matters in various areas of responsibility. The entire USTA membership is kept advised of their activities through regular bulletins. Seven such committees are now active. They are: the Editorial Board, the Committee on Dictionary Listings, the Lawyers' Advisory Committee, the State Trademark Committee, the International Trademark Committee, the Information Committee and the Membership Committee.

311. Under sponsorship of USTA, a Clearing House on Trademark Information has been created to collect and disseminate reports on activities in the trade mark field. It is a means of apprising USTA's members and about thirty trade and bar associations of developments throughout the world.

312. Meanwhile, the Committee on Dictionary Listings co-operates with publishers to encourage proper listing of trade marks in dictionaries and directories. A master reference file of the marks of members has been established and is maintained at headquarters for use by such publishers.

313. The official publication of the Association is The Trademark Reporter, which traces its origin back to 1887. This monthly journal contains articles, full case reports and digests, notes from other nations, reports on patent office matters, book reviews and bibliographies, legal notes on trade marks, and related material.

314. Like many other professional and business associations, USTA sponsors special projects from time to time. One such project evolved from the need for a handbook, written in layman's language instead of legal terms, on how management should cope with trade mark problems. Entitled Trademark Management - A Guide for Businessmen, this concise 130-page volume was the result of three years of careful research by a volunteer USTA committee. It has been supplemented by similar books for the businessman, such as: Trademark Selection, Trademark Licensing, 'Honest' Truth or Unfair Competition?, and Trademarks in the Marketplace.

CHAPTER VI

THE INTERNATIONAL MANAGEMENT AND DEVELOPMENT ASSOCIATION

The International Council for Scientific Management

315. CIOS are the initials of Conseil International pour l'Organisation Scientific, which is the official name of the International Council for Scientific Management. It held its first International Management Congress in Prague in 1924 and was founded formally in Paris in 1926. Its present headquarters is in Geneva, Switzerland.

316. CIOS is the international association of national management movements. It is composed of national organizations representative of the management movements in 38 countries or territories including: Australia, Austria, Belgium, Brazil, Canada, Chile, China (Taiwan), Colombia, Finland, France, Federal Republic of Germany, Hong Kong, Iceland, India, Ireland, Israel, Italy, Japan, Korea, Lebanon, Mexico, Netherlands, New Zealand, Norway, Panama, Peru, Philippines, Ryukyu Islands, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, United Arab Republic, United States of America, Uruguay and Venezuela.

317. CIOS is a non-political, non-profit organization, subject to Swiss law, and has category B Non-Governmental Organization (NGO) consultative status with the United Nations Economic and Social Council (UN/ECOSOC) and the United Nations Educational, Scientific and Cultural Organization (UNESCO). The organizational structure of CIOS includes an Assembly, a Board of Governors, a Management Committee, and a Secretariat. The CIOS Assembly, composed of delegations from all active member organizations, is the supreme body of CIOS. It meets at least once every three years, usually at the triennial CIOS International Management Congress. The CIOS Board of Governors, comprising one delegate from each active member, is the governing body of CIOS. It meets once or twice each year. The CIOS Management Committee, consisting of the President, Vice-Presidents, Treasurer, and four members-at-large, is responsible for the implementation of policy and other decisions.

318. Three Regional Committees have been created within CIOS, headed by regional Presidents who are also CIOS Vice-Presidents. They are the European

(CECIOS), Pan American (PACCIOS) and Indo-Pacific Committees (IPCCIOS), within which members of CIOS can co-operate regionally.

319. Since its founding, the aims of CIOS have been broadened considerably. In the beginning, the main task of CIOS was to call the attention of practising managers to the principles and methods of time-and-motion studies (what was then called "scientific management") that had been developed and were being taught by the pioneers of the movement: Taylor, Fayol, Gilbreth, Mayo and others. However, soon afterwards, the application of systematic and scientific work methods was extended into other areas of management. In the course of this development, which today covers all areas of management in the private and public sector, many CIOS member organizations were founded and grew. This was particularly noticeable at the first IPCCIOS Conference in Manila (November 1962) and at the XIIIth CIOS International Congress (New York 1963) in which more than 3400 registrants from 83 countries participated.

320. Essentially, "the general purpose of CIOS is to promote the principles and methods of the art and science of managing, in order to improve standards of living in all nations through the more effective release and utilization of human and material resources". CIOS operates in any spheres in which the principles and methods of scientific management can be usefully applied. Although CIOS admires recent computer developments, EDP, operations research and computerized automation, these must not be confused with the methods of scientific management as promoted by CIOS. As defined by CIOS, scientific management is the integrated conception and exercise of all functions within an enterprise and not just the mechanical setting up of processes, methods and procedures. It is rather a harmonious interplay of men, machines, methods and materials, within units of human organization. In other words, CIOS attaches full significance to the human, technical and economic aspects of scientific management. Thus, it aims at securing for its work the understanding and constructive collaboration of all sections of society.

321. Long ago, Taylor insisted that there can be no scientific management as long as employees and employers are not fully convinced of their common purpose and interest in the success of their enterprise. That is why CIOS actively promotes management education, training and development, by bridging the gap between school and work and university and work. In addition, considerable attention is focused on management's prime responsibility, which is the proper formulation and dissemination of company objective and decision-making policies.

322. Finally, CIOS is dedicated to the interdisciplinary integration of management functions. CIOS activities are founded on the conviction that the accelerated exchange of knowledge and experience in the art and science of managing on all levels gives the greatest impetus to the spiritual, intellectual, and material growth of all peoples everywhere. To this end, CIOS and its affiliated members encourage acceleration of exchange by:

(a) Triennial CIOS International Management Conferences (the most recent one was held in Rotterdam in September 1966).

(b) Regional International Management Conferences.

(c) Regional International Top Management Seminars.

(d) International meetings for staffs of CIOS member organizations.

(e) "Travel with CIOS Programme", which promotes visits to CIOS members by travelling executives, lecturers, as well as officers of CIOS.

(f) Publication of the CIOS Bulletin, What is being done in the Scientific Management Movement, in English, French and Spanish.

(g) CIOS Gold Medal awards, given at Congresses, for outstanding service to management.

(h) CIOS Prize Paper Award, given at each Congress to a manager under 35 for the best paper submitted on a stated management topic.

The Council for International Progress in Management

323. The United States affiliate of CIOS is the Council for International Progress in Management (CIPM). Founded in 1933, CIPM's over-all objective is to help managers in all countries to understand what professional management can do to improve the conduct of enterprises involving organized effort, including governments, businesses, labour unions, educational institutions and other non-profit associations. CIPM's membership consists of 21 associations, 127 business firms and 47 educational institutions.

324. CIPM believes that management is important and that a vital means for developing the economic stability of a nation is through up-grading the managerial capacities of its decision-makers. Thus, CIPM is equipped to assist developing countries by:

(a) Producing from its ready enrolment, experts in every aspect of management who can become available for overseas assignment, fluent in virtually every language.

(b) Preparing and conducting study tours of the United States of any duration for foreign teams of any size in any areas of managerial or technical interest.

(c) Researching any field or problem in international management.

(d) Establishing an effective management association in any country in the world.

(e) Advising and assisting foreign management associations to achieve better standards in terms of their own countries.

(f) Planning for and conducting major or minor importations of foreign executives for purposes of academic, practical or combined education in management.

(g) Creating new concepts of manager education designed to meet the needs of particular national groups.

(h) Directing development and operation of regional or multinational management conferences or courses anywhere in the world.

(i) Preparing and publishing material to any specifications in the international management field.

(j) Providing critical evaluation of any idea contemplated in connexion with international management.

(k) Making available first-rate speakers on international management subjects.

(l) Recommending competent consultants on matters of foreign or international management or management education.

325. How well has CIPM done its job? Here are a few concrete, measurable accomplishments in which CIPM has played an important motivating or executing part:

(a) A top management seminar programme has been created involving some 600 active American senior management executives. Through this programme in Europe, Latin America, the West Indies, Asia, Africa, and the Near, Middle and Far East, thousands of foreign executives have learned American methods (both technical and managerial).

(b) Through guided studies in the United States over 3000 foreign managers from the above-mentioned areas have acquired skills and insights they could utilize in their home countries. For example, in 1965 the Council programmed nine study missions to the United States for visiting German managers and technicians.

(c) In Turin, Italy, the Institute for Postgraduate Studies in Business Administration (IPSOA) was founded with CIPM assistance. The IPSOA curriculum covers production, management, marketing, human relations, business policy, internal control, finance, statistical quality control, statistics and banking. The case-study method is practically the sole teaching method. This institute served as a model for advanced management institutes throughout Europe and Latin America. These include the Institute for Advanced Management Training in Helsinki, Finland, with its American trained staff that provides courses and seminars plus management education assistance to other countries, such as Turkey; the Fondation Industrie-Université in Brussels, Belgium; an Advanced Management Institute in Medellin, Colombia; and a Graduate School of Business Administration in Lima, Peru.

(d) CIPM assisted in setting up the Colombian Institute of Administration (INCOLDA) in Bogata and the Instituto Chileno de Administracion Racional de Empresas (ICARE). It also participated in Jamaica's first long-range Management Development Programme and a managerial development programme for Okinawa in co-operation with the Management Promotion Council of the Ryukyu Islands.

326. Among CIPM's current projects are its International Enterprise Fellowships. These provide one year's practical training in American commerce and industry for foreign students completing their work at colleges or universities in the United States. Emphasis is placed on selecting Fellows from developing countries. CIPM is responsible for the Fellow, provides an appropriate maintenance allowance, insurance and travel expenses and makes arrangements for periodic guidance and evaluation meetings. CIPM assists the Fellow in finding a suitable position in his own country when his Fellowship year has been completed.

327. Another current CIPM project is carrying out a study in selected countries of North Africa and the Middle East to identify the type of institutions needed to encourage the growth of private industrial enterprise through comprehensive education programmes for managers. This study was made possible by a grant, administered by CIPM, from the James Graham Johnston and Marcelle Launay Johnston Foundation to the Foundation for International Progress in Management.

328. CIPM has produced two essential guidebooks: Training Managers Abroad, describing over 450 international management development programmes throughout the world, published in 1960; and Training American Businessmen for Work Abroad, detailing seven in-company training programmes for United States executives going overseas (a second edition was published in 1961).

329. For the future, CIPM has projects to provide management books for developing countries and scholars to introduce and/or teach modern management in these countries. Under the Council's third IMPACT programme, plans are being made for a multinational team of "multiplier" managers from developing countries to attend special management development courses at universities in the United States; and an important meeting of industrial managers. Another project in preparation is to promote international dissemination of management philosophy and technique by arranging for teams of American executives and specialists to study the latest developments in their specific areas of interest in the more advanced countries of Europe and the Far East.

330. Most of CIPM's regular activities are supported by dues or contributions from industry. However, it does undertake some development projects on a contractural basis for the United States Department of State (AID). Among these are an industrial development project in Bolivia, an industrial productivity project in Brazil, a development planning project in Uruguay and a project to strengthen the public services of Tanzania.

The International Executive Service Corps

331. A more recent American entry to the international management field is the International Executive Service Corps (IESC). This organization began operations on 1 January 1965, as a private, non-profit organization directed and managed by businessmen. Its primary aim is to provide management and technical assistance to business enterprises in developing countries in the belief that sound business management is essential to the development of a national economy and particularly to the attraction of investment capital. It operates essentially in the fields of general management, production, marketing and financial control. Although it is recognized that help is also needed in non-commercial fields such as education, public welfare and professional activities, this is beyond the planned scope of IESC.

332. IESC makes available, on request, experienced executives for limited periods of time, usually three to six months, to advise management of enterprises seeking assistance and to help implement the recommendations made. IESC deals directly with individual businesses, and not through the governments of either the United States or the host country. Assistance is available to all types of companies except those likely to obtain the desired help through other channels. The size of the company is not a determining factor, but the company must be able to benefit from the type of services IESC provides. Also, while its primary objective is to assist private companies, IESC will also consider providing assistance to public projects or to companies partially government owned that are significant to the development of private enterprise. IESC does not furnish capital.

333. Each company selected to participate in the programme enters into an agreement with IESC. This agreement includes a description of the problem for which assistance is to be provided, the qualifications of the executive to be selected, the expected duration of the project, an understanding regarding the financial and other information to be made available to IESC and a statement of the amount to be paid to IESC.

334. The charges made by IESC include a monthly fee based upon local salary levels plus round-trip air transportation from the United States for the executive and his wife. IESC executives are generally retired businessmen with general, as well as specialized, management experience, or in some cases men in mid-career with the particular skills and experience required for a specific project. Before any assignment is made, a statement of the background of the proposed executive is submitted for approval to the company requesting assistance.

335. The IESC executive is not paid. As noted above, he receives round-trip air transportation and a per-diem living allowance for himself and his wife if she accompanies him, as she usually does; on the other hand, he (or his company, if he is a mid-career man), contributes his time, talent and experience. Paralleling the decision to use only volunteers as executive advisers was one to charge for IESC's service. The fee is not great; it is scaled to local standards and to what the client can pay comfortably, and may range from $250 to $1200 monthly.

336. It was thought at first that six months or more would be needed for the executive to achieve significant results. Instead, it was found that three months may well be enough, and some projects have required as little as one month.

337. IESC emphasizes that the executive is there to advise, not to manage; having made his recommendations he goes home and leaves the client to carry on (although he is often asked to return later to evaluate progress). In essence, IESC aims only "to help the foreign businessman to help himself". With these principles, IESC believes that it has established the basis for continued growth and long-range effectiveness.

338. Approximately two thirds of IESC's budget is met through grants from the United States Agency for International Development (AID), with the balance privately subscribed. Thus IESC's work is supported by a unique blend of public and private funds, but its management is private.

339. Since its inception, IESC has accepted 244 projects (as of 1 August 1966). Of this number, 72 have been completed. Companies benefiting from this programme range in size from 12 to 5000 employees. About one fourth of the projects are with firms having fewer than 75 employees. Client firms

are engaged in many types of business. The first 40 projects included: television, construction, detergents, household appliances, plastics, lubricating oils, mill-work, fruit and vegetable canning, a glass company, pharmaceuticals, paper converting, metal working, aluminium production, rubber flooring, dairy products and auto parts. Of the projects completed, approved or in progress, 60 are in Central America, 32 in South America, 62 in the Middle East, 9 in Africa and 61 in the Far East. All told, 30 countries are represented.

The Overseas Development Institute

340. A recent British entry to the international management field is the Overseas Development Institute (ODI), founded in 1960. It is concerned with the economic development of the countries of Asia, Africa, and South America, and their relations with the industrially developed countries. ODI has personal contacts in the developing countries, and with international organisations, universities, and research institutes. ODI is a non-profit institution financed by foundation grants and industry donations. Its main functions are:

(a) To provide a centre for work on development problems, but not to provide technical aid or financial assistance.

(b) To direct studies of its own where necessary and to encourage and assist works on development topics.

(c) To be a forum where those directly concerned with development can meet others and share ideas.

(d) To spread the information collected as widely as possible among those working on development problems.

(e) To keep the urgency of the problems before the public and the responsible authorities.

341. The research programme of ODI consists of studies on the nature, direction, organisation and effectiveness of the British contribution from public and private sources to developing countries, with comparative studies of the contributions and methods of other donors. Information on research, organisation, projects and the like, concerned with the problems of economic development of the developing countries is available at the Institute.

342. Among ODI's publications are The Development Guide, a directory of development facilities provided by non-commercial organisations in Britain; development pamphlets on fertilizers, co-operatives and power supplies; and a

handbook on developing countries. Also, in collaboration with the Nuffield Foundation, ODI has a scheme to provide a limited number of young economists for work in essential planning posts overseas.

The Society for International Planning

343. A professional society of international development specialists also exists. Founded in 1957, with headquarters in Washington, D.C., The Society for International Development (SID) is an international, non-profit, membership organization. Its purpose is to provide a forum for the exchange of ideas, fact, and experience among all persons professionally concerned with the vital problems of economic and social development in modernizing societies. The Society cuts across the lines of nationality, organization and profession. Its membership, now about 5000 persons, is organized into over 50 chapters on five continents.

344. SID holds an Annual Conference, and the first held outside the United States was in Milan, Italy, in 1967. Workshops are held in conjunction with these conferences.

345. The Society publishes a quarterly journal, International Development Review, and a monthly newsletter, Survey of International Development. Also, a directory of members, published annually and distributed to all members, provides a useful cross-referenced listing of development experts throughout the world.

346. Two activities of the Society are supported by the Ford Foundation. The first, the Reference Service on Development Information, provides a clearing-house for individual inquiries from members on sources of materials covering every aspect of international development. The Service does not attempt to provide substantive data needed. The second, the International Roster of Development Specialists, offers information on the skills and experience of the SID membership. The Roster, based on an information retrieval system, is being used by development agencies seeking employees, researchers looking for colleagues, and others desiring to identify sources of special knowledge.

CHAPTER VII

WHAT DEVELOPING COUNTRIES ARE DOING TO ACCELERATE DEVELOPMENT

347. Most developing countries have set up special development, investment or productivity centres. These generally are private independent organisations set up by the Government, probably with the co-operation of local groups. Frequently, foreign or international organizations such as CIOS or its United States affiliate, CIPM, have assisted in the initial stages.

The Development Centre

348. One such organisation is the Centro de Desarrollo (CENDES), the Development Centre in Quito, Ecuador. CENDES was organized as an autonomous non-profit organisation by special law No.26 of 14 July 1962. The basic aim of this organisation is to promote the industrial development of the nation and thus improve Ecuador's standard of living. Its functions are as follows:

(a) Co-operation with the Government in its industrial promotion policy, which has as its basic aim to reach a faster rate of economic growth for the country.

(b) Preparation of complete feasibility studies of industrial projects, with particular emphasis on better utilization of national raw materials.

(c) Assistance in the study and implementation of investment plans of both national and foreign private investors.

(d) Technical and administrative assistance to new and established industries in order to achieve increased productivity.

(e) Technical and Professional Training on all supervisory levels of an industrial organisation.

(f) Technical assistance to artisan and small industries.

(g) Evaluation of industrial loan requests.

(h) Assistance to investors requesting the benefits of the Industrial Development Law, as well as credit - both national and foreign.

(i) Consulting services for industry in legal, economic, financial and technical matters.

(j) Promotion of new methods of industrial production and organization.

349. The Board of Directors of CENDES is composed of the Chairman, who is the country's Development Minister, and four other members: The President of the National Planning Board, the President of the National Development Bank, a representative of the Chambers of Industry of the Sierra, and a representative of the Chambers of Industry of the Coast. The Executive Director is an Ecuadorean and is appointed by the Board. He is assisted by a staff that includes six chemical engineers, three mechanical engineers, two industrial engineers, eight industrial economists, two lawyers and two technical advisers on industrial promotion. The clerical and administrative staff is 70 per cent bilingual, and 80 per cent have more than six years of experience in industry.

The Productivity Centre

350. After the Second World War many productivity centres were set up in Europe to rehabilitate war-torn economies and to improve the means of production. Within the framework of the Organisation for European Economic Co-operation (OEEC), which has been re-named the Organisation for Economic Co-operation and Development (OECD), the European Productivity Agency (EPA) was set up to help member countries meet their own productivity problems. In each of these countries, a national productivity centre was established and charged with drawing up and implementing programmes designed to improve the over-all level of productivity. Since then, these centres have been instrumental in the creation of appropriate agencies to foster economic development, in making better use of the human factor, in the development of backward areas and in the development of applied research.

351. The Greek Productivity Centre (EL.KE.PA) was founded in 1953 with United States financial assistance (through Benton-Hoody Funds). By special statute, it became an "independent public utility organisation" entitled to enjoy all franchises and tax exemptions granted to legal entities of public law. The most important aim of the Centre was to raise the level of productivity in Greece. At the time that the Centre came into being this problem was particularly acute and presented great difficulties.

352. One of the reasons for this was, and continues to be the structural weakness of Greek industry, which consists of a great number of poorly organized small and medium-size firms. Moreover, the shortage of capital and technical know-how and scarcity of competent technicians has prevented industry from following up the rapid technological progress made in other parts of the world. Finally, statistical information was inadequate, and there were no organizations or experts able to provide documentation or information or carry out research, offer advice in the field, or act as business consultants etc.

353. Thus, the Centre had to face vast problems in its initial thrust to develop the Greek economy. Its first aim was to familiarize Greek business, Government, and the public at large with the principles and methods of productivity and stress its contribution to economic development. Another objective was to set up sound business undertakings, to train business executives and to help establish organisations or institutions to promote development. However, the Centre had first to organise itself, to find a qualified staff and train its own employees. All of this took time, but it was successfully achieved. It should be pointed out that most of the conditions that existed initially can be found in any developing country.

354. Since its start, the Centre has organised many different training programmes. These include executive development seminars, special seminars (including standardisation, simplification and specialisation of production, sales techniques, the textile industry, study of labour methods, business management, personnel management, materials handling, marketing and business management, packaging and practical aspects of foundry operations), seminars for civil servants, courses for shopkeepers and commercial employees, seminars for businessmen in provincial towns, vocational training, training programmes for union leaders and members, scholarships and special lectures. The text of many of the lectures have also been printed as monographs or reprinted in the Centre's magazine.

355. Specific projects undertaken by the Centre frequently with the assistance of European Productivity Agency consultants, include: packaging, materials handling, productivity in foundries, marketing and market research, accident prevention and improvement of working conditions, arts and crafts

and the development of small industries. The Centre also administered Productivity Loans under the Benton-Moody Agreement. The Centre pays particular attention to publicity and promotional activities to underline the importance of increasing productivity and of the work of the Centre itself. Further, with the assistance of EPA, the Centre provides Greek industry with a Technical Information Service. This Service has a Technical Documentation Unit, and a General Documentation Unit on Management, Economics and other subjects of relevance to the Centre.

356. Besides its quarterly review, Paragoghikotis (Productivity), the Centre publishes a monthly Bibliographic Bulletin and, twice monthly Greek Technological Digests. It also presents weekly fifteen-minute programmes over the Central Athens Radio Station. The Centre also maintains reference and film libraries.

357. In addition to the general programmes that are drafted and implemented by the Centre, much effort has gone into the study of specific subjects related to productivity on an advanced level. These include: quality control, human relations, productivity measurement and work study, cost accounting and financial management, applied research, standardization of banking procedures, and regional development projects.

The Industrial Co-ordination Bureau

358. Many development organisations are affiliated with the Industrial Co-ordination Bureau (ICB). This is a non-profit, non-political association, established under Swiss law in Geneva in 1960, with headquarters in Stockholm, Sweden. Its objective is to serve as a contact and clearing organization to facilitate the establishment and growth of small and medium-sized industries in the developing areas of the world. Through ICB, entrepreneurs in the developing countries can receive proposals for complete production units, together with the required technical know-how for their operation. Since communications between these entrepreneurs and the international capital markets, particularly for smaller projects, are poorly developed, ICB also assists in establishing necessary contacts when funds for a project cannot be raised locally.

359. Contact with entrepreneurs in the African, Asian, and Latin-American countries in which ICB operates is effected by members and correspondents, while contact with suppliers of equipment and industrial know-how in Europe and North America is handled by representatives.

360. The financial resources of ICB are derived from public and private donations; no membership fees are charged. It is estimated that total expenses will be met by income from fees for services rendered when the organization achieves full operating capacity.

CHAPTER VIII

RECOMMENDATIONS TO THE UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

361. Although many developing countries have set up management and professional organizations, one of the weaknesses of these organizations and centres is that they lack the necessary technical personnel and specialists, within the centre itself as well as within the country at large, to conduct a thorough and well-rounded training programme in management development. Thus, we recommend that a Corps of Travelling Specialists (COTS) be established to give lectures and short courses at these centres. These specialists could be volunteers or employees of the United Nations Industrial Development Organization (UNIDO), and they could work on the programme for as little time as one week or for as long as one year. They could be engineers, management experts, scientists, consultants, professors, retired business executives, business executives on leave etc. The United Nations could set up itineraries by which they would travel to groups of countries in particular areas. Travel expenses would be underwritten by the United Nations, and local expenses by the host country or by particular organizations in these countries.

362. Second, we recommend that UNIDO provide local management centres with:

(a) A World Directory of Management Journals and Periodicals.

(b) A World Directory of Management and Development Organizations.

(c) A World Directory of Management Training Programmes.

(d) A Bibliography of Management Books and Monographs.

(e) A Monthly Abstract of Management Articles - drawn from the Abstract Publications of various associations throughout the world.

363. Third, we recommend that the UNIDO encourage the acquisition of management and other technical texts by local management groups through the UNESCO coupon purchase programme.

364. Fourth, we recommend that UNIDO establish a centre of education for the purpose of training qualified personnel to undertake the establishment of local professional and technical associations within the various developing countries. Ideally, such a centre should be located within a country that has a high level of experience and sophistication in dealing with such associations so that talent from these associations might be drawn upon. An ideal location, of course, would be New York City, for here one finds more kinds of successful associations than anywhere else. The tasks of the education centre would be as follows:

(a) To conduct orientation and discussion seminars on techniques and procedures of organization and development.

(b) To serve as a centre for the exchange of ideas for alumni once they have returned to their respective countries.

(c) To serve as a clearing-house and central agency for the continuing study of the problems and opportunities associated with the organization and development of professional and technical associations.

Index of associations referred to in text

All India Management Association - AIMA

American Association of Public Accountants

American Management Association - AMA

American Patent Law Association - APLA

American Production and Inventory Control Society - APICS

American Society for Testing and Materials - ASTM

American Society of Mechanical Engineers - ASME

American Welding Society

Asociacion Mexicana de Ingenieros Mecanicos y Electricistas

Asphalt Institute (USA)

Association of Engineers (India)

Australian Industries Association - AIDA

Bombay Management Association - BMA

British Association for the Advancement of Science

British Colour Council

British Institute of Chemical Engineers

British Institute of Management

British Institute of Welding

British Scientific Instrument Research Association - BSIRA

British Standards Institution - BSI

British Welding Association

Calcutta Management Association - CMA

Canadian Standards Association - CSA

Centre d'Etudes et d'Application pour la Formation des Cadres - CEAFC (France)

Centre des Jeunes Patrons (France)

Centre of Young Employers (France)

Centro de Desarrollo - CENDES (Ecuador)

Chilean Institute for the Rational Administration of Enterprises - ICARE

Colombian Institute of Administration

Color Association of the United States

Comité Européen pour le Progrès Economique et Social - CEPES

Committee for Economic Development - CED (USA)

Committee for Economic Development of Australia - CEDA

Committee for Economic Development of Trinidad and Tobago - CEDTT

Conseil International pour l'Organisation Scientific - CIOS

Coordinating Research Council - CRC (USA)

Council of Independent Managers - Society for Advancement of Management - CIM-SAM (USA)

Council for International Progress in Management - CIPM (USA)

Council National du Patronat Francais

Czechoslovak Academy of Sciences

Deutsche Volkswirtschaftliche Gesellschaft e.V.

Development Centre - CENDES (Ecuador)

Economic Research Foundation (Turkey)

Fondation Industrie - Université (Belgium)

German Society of Economics

Greek Productivity Centre

Indian Institute of Management

Indian Institute of Personnel Management

Industrial Co-ordination Bureau - ICB (Sweden)

Industrial Management Society - IMS (USA)

Institut Ekonomiki (USSR)

Institute for Advanced Management Training (Finland)

Institute for Postgraduate Studies in Business Administration - IPSOA (Italy)

Institute of British Foundrymen

Institute of Chartered Accountants in England and Wales

Institute of Directors (UK)

Institute of Fuel (UK)

Institute of Indian Foundrymen

Institute of Industrial Engineers (India)

Institute of Management (Czechoslovakia)

Institute of Marketing and Sales Management (UK)

Institute of Patentees and Inventors (UK)

Institute of Work Study (UK)

Instituto Chileno de Administracion Racional de Empresas - ICARE

Instituto Colombiano de Administracion - INCOLDA

Institution of Civil Engineers (UK)

International Committee of Foundry Technical Associations

International Council for Scientific Management - CIOS

International Executive Service Corps - IESC (USA)

International Executives' Association (USA)

International Organization for Standardization - ISO

International Union of Testing and Research Laboratories - RILEM

Japan Management Association - JMA

Japanese Federation of Employers' Associations - Nikkeiren

Keidanren - Federation of Economic Organizations (Japan)

Keizai Doyukai - KD (Japan)

Linen Supply Association (USA)

Management Training Study and Application Centre - CEAPC (France)

Manufacturers Aircraft Association (USA)

Max Planck Association for the Advancement of Science (Federal Republic of Germany)

Max Planck - Institut fuer Arbeitsphysiologie (Federal Republic of Germany)

Max Planck - Institute of Industrial Physiology (Federal Republic of Germany)

Mexican Association of Mechanical and Electrical Engineers

National Association of Blueprint and Diazotype Centers (USA)

National Council of French Employers

National Council of Patent Law Associations (USA)

National Foreign Trade Council - NFTC (USA)

National Industrial Conference Board - NICB (USA)

National Planning Association - NPA (USA)

Nikkeiren - Japanese Federation of Employers' Associations

Overseas Accountancy Examinations Advisory Board (UK)

Overseas Development Institute - ODI (UK)

Private Planning Association of Canada - PPA

Political and Economic Planning - PEP (UK)

Radet, På-radet - Swedish Council for Personnel Administration

Rationaliseringsteknisks Institutet - RATI (Sweden)

Réunion Internationale des Laboratoires d'Essai et de Recherches sur les Matériaux et les Constructions - RILEM

Royal Society of London

Society of British Aircraft Constructors

Society for the Advancement of Management - SAM (USA)

Society for International Development - SID (USA)

Studieförbundet Näringsliv och Samhälle - SNS (Sweden)

Supervisory and Management Association of Singapore - [illegible]

Supervisory Training Institute (Sweden)

Svenska Arbetsgivareföreningen - SAF

Swedish Council for Personnel Administration

Swedish Employers' Federation - SAF

Technical Association of the Pulp and Paper Industry - TAPPI (USA)

Textile Institute (UK)

The Institute of Management Sciences - TIMS (USA)

United States Trademark Association - USTA

USA Standards Institute - USASI

Young Presidents Organization - YPO

Bibliography

AMERICAN MANAGEMENT ASSOCIATION (1964) [illegible], New York, (Bulletin 55).

AMERICAN MANAGEMENT ASSOCIATION [n.d.] [illegible], New York.

AMERICAN PATENT LAW ASSOCIATION (1964) [illegible], Washington, D.C.

AMERICAN PATENT LAW ASSOCIATION [n.d.] [illegible], Washington, D.C.

AMERICAN PRODUCTION AND INVENTORY CONTROL SOCIETY, [n.d.] [illegible], Chicago.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (1966) [illegible], Philadelphia, Pa.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (1964) [illegible], Philadelphia, Pa.

AMERICAN SOCIETY OF ASSOCIATION EXECUTIVES (1963) [illegible], Washington, D.C.

AMERICAN STANDARDS ASSOCIATION (1966) "Report of the Panel on Engineering and Commodity Standards of the Commerce Technical Advisory Board", [illegible] (6).

AMERICAN STANDARDS ASSOCIATION [n.d.] [illegible], New York.

AMERICAN STANDARDS ASSOCIATION [n.d.] [illegible], New York.

AMERICAN STANDARDS ASSOCIATION [n.d.] [illegible], New York.

[illegible] (1966) [illegible], Athens.

[illegible] (1965) [illegible], London.

[illegible] (1966) [illegible], Potomac Books, Washington, D.C.

AUSTRALIAN [illegible] ASSOCIATION (1964) [illegible], Melbourne.

[illegible] (1964) [illegible], 5th ed., [illegible] Publications, London.

[illegible] (1963) [illegible], National Science Foundation, [illegible].

BOMBAY MANAGEMENT ASSOCIATION (1966) Twelfth Annual Report of the Bombay Management Association for the Year Ended December 31, 1965, Bombay.

BRADLEY, J. F. (1965) The Role of Trade Associations and Professional Business Societies in America, Pennsylvania State University Press, University Park, Pa.

BRAUN, R. H. (1965) CIOS, Its Purpose and Aims, CIOS Secretariat, Geneva.

[illegible], T. (1965) 'Les Jeunes Patrons', The Director, March.

CALCUTTA MANAGEMENT ASSOCIATION [n.d.] 8th Annual Report 1965-66 Calcutta Management Association, Calcutta.

CANADIAN WAREHOUSING ASSOCIATION (1965) CWA News Bulletin, April.

CHAMBER OF COMMERCE OF THE UNITED STATES (1960) Basic Operating Policies of Trade and Professional Associations, Washington, D.C.

CHAMBER OF COMMERCE OF THE UNITED STATES (1965) Associations in the Next Decade, Washington, D.C.

CHAMBER OF COMMERCE OF THE UNITED STATES [n.d.] [illegible] Associations [illegible], Washington, D.C.

COMMITTEE FOR ECONOMIC DEVELOPMENT [n.d.] CED [illegible], New York.

COMMITTEE FOR ECONOMIC DEVELOPMENT OF AUSTRALIA (1964) CEDA Annual Report, 1963, Melbourne.

COUNCIL FOR INTERNATIONAL PROGRESS IN MANAGEMENT (1965) [illegible] in CIPM International Management Programs, New York.

DEVELOPMENT CENTRE [n.d.] Development Centre, OECD [illegible], Paris.

ECONOMIC RESEARCH FOUNDATION [n.d.] The Economic Research Foundation, Istanbul.

EUROPEAN PRODUCTIVITY AGENCY [n.d.] [illegible] Paris. (Special [illegible] for Belgium, France, Germany, [illegible] Sweden, and the United Kingdom.)

FEDERATION OF COMMONWEALTH CHAMBERS OF COMMERCE [n.d.] Handbook of Commonwealth Organisations, Methuen and Co., London.

[illegible], A. W. (1962) Industrial Research in Britain, 4th edition, Harrap Research Publications, London.

[illegible] [n.d.] CIPM President's Report for 1965, Council for International Progress in Management (USA), Inc., New York.

INDUSTRIAL CO-ORDINATION BUREAU (1963) Quarterly Report on the Activities of the ICB, No.1.

INDUSTRIAL CO-ORDINATION BUREAU ([illegible]) [illegible], No.2.

INDUSTRIAL MANAGEMENT SOCIETY ([illegible]) [illegible], Chicago.

INSTITUTE OF DIRECTORS (n.d.) [illegible], London.

INTERNATIONAL EXECUTIVE SERVICE CORPS ([illegible]) [illegible], New York.

INTERNATIONAL EXECUTIVE SERVICE CORPS ([illegible]) [illegible], New York.

INTERNATIONAL EXECUTIVE SERVICE CORPS (n.d.) [illegible], New York.

JAPAN MANAGEMENT ASSOCIATION (n.d.) [illegible], Tokyo.

[illegible], S. (1963) [illegible], [illegible] Publications, Calcutta.

[illegible], E. P. (1965) [illegible], [illegible], Washington, D.C.

NATIONAL FOREIGN TRADE COUNCIL (1964) [illegible], New York.

NATIONAL FOREIGN TRADE COUNCIL ([illegible]) [illegible], New York.

NATIONAL INDUSTRIAL CONFERENCE BOARD (n.d.) [illegible], New York.

[illegible], J. G. (1950) [illegible], [illegible], New York.

[illegible], D. (n.d.) [illegible], International Executive Service Corps, New York. ([illegible])

[illegible], C. (1959) [illegible].

[illegible], V. (1963) [illegible], Columbia University Press, New York.

SOCIETY FOR ADVANCEMENT OF MANAGEMENT, (n.d.) [illegible], New York.

SOCIETY FOR INTERNATIONAL DEVELOPMENT (1964) [illegible], [illegible](3).

SOCIETY FOR INTERNATIONAL DEVELOPMENT (1964) [illegible], Washington, D.C.

SOCIETY FOR INTERNATIONAL DEVELOPMENT (n.d.) [illegible], Washington, D.C.

[redacted]

14. 3. 72