ASPECTS OF SPECIALIZATION
IN PRIVATE ARCHITECTURAL PRACTICE

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SUMMARY

The purpose of this study is to examine the evidence which points to a requirement for more specialization in private architectural practice and the implications which result from an acceptance of this as a necessity for future development from the point of view of the individual practice.

A summary of the background to the development of architecture as a professional occupation is followed by a discussion of the characteristics of professionalism, together with influences which are changing the traditional concepts and relationships. Particular influences of change which will increasingly affect architectural practice, functions and procedures, are described.

Direct observations and appraisals of attitudes and procedures from surveys undertaken during the period of study are contributed to support other evidence of the current situation regarding the expectations of architects by clients, and the approach of private firms to practice organization, skill development and forms of service.

A broad approach to defining specialization is adopted and the study presents a systematic description of the decision-making process facing practices attempting or intending to specialize in the services they offer, and shows that the major implication for the management of long-term stability when pursuing such a policy is that of strategic planning. This section concludes with a description of the process of implementing strategy, and an outline of organizational requirements for practices adopting a policy of specialization.

The study concludes by opening up the subject of future conditions of practice into a wider context, that of the private sector as a whole, and suggests that a greater inter-dependence among private architects would demonstrate the profession's determination to provide the best service collectively possible.

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section 1

INTRODUCTION

1.1 PURPOSE AND CONTEXT OF STUDY

This study is concerned with change and its influence on the architectural profession. It is an attempt to identify the influence of certain channels of change in a particular sphere of architecture. The central part of the study is an evaluation of a possible form of reaction to the implications of the changes described, and offers a systematic approach to the decision-making process which must accompany such a solution to the problems arising out of the effect of change.

The particular reaction to change which has been chosen for evaluation, namely specialization, is not offered as a finite solution to the problems faced by the architectural profession. Indeed, there can be no definite conclusion to a study of this nature, and no specific guidance for particular situations. The objective is only to examine the issues and establish principles as a framework for action in the chosen context. It is accepted that there are organizations in the private sector of the profession which may have already proved alternative courses of action either similar to, or entirely different from, what is proposed here. Their own experience and success will justify their own individual approach. This study is intended primarily for those who have yet to give thought and attention to the future, and who may be searching for an organized method of approach.

The context of the study is limited to private practice because it seemed that the private sector is the most vulnerable part of the architectural profession and yet, as will be described below, in having important functional roles to play, is the least able to safeguard its own future.

1.2 WHY SPECIALIZATION?

The need for specialization is a current topic of discussion and dispute in the architectural profession, as elsewhere. However, much of the discussion remains at a level itself too generalised to contribute much to any active development in this field. This can partly be explained by the usual lack of an agreed vocabulary which participants in the discussion may employ, and partly by the lack of facts with which to construct ideas and arguments.

There has been little analysis of what form specialization might take. This is related to the lack of strategic planning for the whole profession and most recent activity has been kept at the level of immediate, short-term needs. However, tactics will only be really effective within the context of a well developed strategy, otherwise they become defensive attempts to maintain a 'status quo'.

Whilst remaining a controversial subject, the discussion of specialization is undergoing a slight, but continuous, re-emphasis. The real questions to examine are: how much specialization, by whom, at what stage in their development, in what areas should they specialize, and to what degree?

The environmental problem scale is already sub-divided into areas of broad specialization by town planners, architects and engineers, who are all environmental specialists; the logical development resulting from increasing complexity within this scale must be further specialization.

"Design problems are reaching such levels of complexity that the alternatives and information involved are becoming too elaborate and varied to be manipulated and controlled intuitively or, for that matter, to be within the experience of

designers working individually. In future a large proportion of major building complexes are more likely to be created by individuals working in groups, and to deal with this situation, and to allow the co-ordination of knowledge and experience of all concerned with any but the simplest projects, some acceptable systematic method is essential." [1]

Part of this systematic method must deal with the task of subdividing the total function of work performed by the profession. In addition, if standards of service and design are to be raised significantly, if innovations are to be brought into building, more data has to be established and applied at the appropriate stages of the building process than at present. To enable this to be achieved the process must increasingly be broken down into specialist areas. The only effective way of raising standards of service, of closing the 'research and applicability gap' in applying new knowledge at all levels in architectural design, is to encourage the co-ordinated specialization of tasks and functions, so that each individual has improved prospects of commanding at least part of the building process at a higher standard and more remunerative level than before. The objective of this process is to enable practices to offer clients a degree of sophistication and efficiency than could otherwise be achieved.

Within the present social and cultural system of the advanced industrial countries there is an irreversible drive towards greater material production and economic growth, improved standards and increased efficiency, and the promotion of more specialization is the means to those ends. This movement is becoming more and more synonymous with the words 'science and technology', the implications of which have been described by Professor J. K. Galbraith in 'The New Industrial State'.

"Technology means the systematic application of scientific or

other organised knowledge to practical tasks. Its most important consequence, at least for the purposes of economics, is in forcing the division and sub-division of any such task into its component parts. Thus, and only thus, can organised knowledge be brought to bear on performance."

"The inevitable counterpart of specialization is organization. This is what brings the work of specialists to a coherent result. If there are many specialists this co-ordination will be a major task; so complex indeed will be the job of organizing specialists, that there will be specialists on organization. More even than machinery, massive and complex business organizations are the tangible manifestations of advanced technology." [2]

It is the combination of dual complexity in architecture, that of the architect's own design function coupled with that of co-ordinating the work of others whose own tasks are becoming more complex, which gives rise to misgivings about the current basis of both education and practice in the architectural profession.

1.3 SOME BASIC ASSUMPTIONS

When embarking on a study such as this, certain basic, reasoned assumptions have to be made to establish the validity of the subject, and to avoid the semantic traps which can detract from the main purpose.

The assumptions which were adopted at the outset of the study can be summarised under the following headings:

1) that there is a long-term role for an independent sector of the architectural profession consisting of private practices and consultancies

2) that there is a need to continually develop and raise standards of service, efficiency and performance within the profession; to examine and evaluate methods of achieving this

3) that there will continue to be increasing competition in the offering of design, design management and other related services in the building industry generally.

Reasoning Behind Assumption (1)

The role of the public sector in taking responsibility for certain areas of building is accepted; nevertheless, it is believed that society will demand a balance to be kept, and alternative sources to be maintained. Many public authorities do commission private practices, to ensure variety and efficiency within centralized planning frameworks. Further, as was described in the Architects' Journal, 10.03.71, the Department of the Environment has recently launched a three year study to evaluate the roles of the public and private sectors of the building design professions, and to examine the sub-division of government and public building between the two.

Within the mixed economy of Britain, and of the European

Economic Community should we become a member, private development will continue and grow in proportion to the economic expansion which can be expected. This provides a further reason for assuming a long-term role for the private sector to play, so long as it retains the necessary skills. Industrial and commercial competition within this type of economy is acceptable and it will increase. However, the services of the independent private practitioner who can provide a professional check or alternative will continue to be in demand. The actual percentage of total building work certified by the private sector has increased as a proportion of total building activity in Britain from 30% in 1960 to 42% in 1969. This movement has been fairly unsteady though, 44% being recorded in 1967 (figures from RIBA statistics).

Concern for the physical and urban environment will grow, bringing new relevance to the role of those with the skills to identify and solve the related problems. Two recent events illustrate the strength of this argument: firstly, the rejection of the Supersonic Transport, or SST, by the United States Senate in March 1971 on environmental grounds; secondly, the British Government's decision on 26th April 1971 to locate the Third London Airport at Foulness, despite "severe economic penalties", having rejected the Roskill Commission's findings that only an inland site was economically justifiable. This is the first time that decision-making for the development of the economic infra-structure of Britain has been based upon environmental considerations, accepted as "of paramount importance" and out-weighing the additional cost of about £150 million.

(The phrases in parentheses were the words of Mr. John Davies, Secretary for Trade and Industry, when he announced the decision in Parliament in April 1971.)

The role of public opinion and awareness in this matter should not be disregarded. The issue first came into prominence in 1968, after the then Labour Government had announced its decision to locate the new airport at Stanstead. The reversal of such a decision and the rejection of the findings of a Royal Commission on environmental grounds are events which should not be lost on those members of the architectural profession who have misgivings about the relevance of their role in an advanced industrial society.

It remains to be seen whether political involvement in this field, such as the forming of the umbrella Department of the Environment, will be maintained, and whether this political activity will strengthen the architect's position by putting legislative pressure upon building investors to consider design and environmental factors more deeply.

Reasoning Behind Assumption (2)

The continual rise in expectations of living standards and quality of environment by society in general, and the profession's clients in particular, will place an unrelenting pressure upon architects to improve the quality of their service.

Increasing complexity of clients' needs and users' requirements and the evolution of new needs for buildings and environmental design problems will continue to demand new skills and innovatory capabilities in the profession if it is to fulfill its own broad objectives in serving people and the environment. These pressures are maintained by growth in population and industrialization, and the need to use limited resources with greater efficiency.

These problems will be reflected in the need for greater operational efficiency within practices so that the largest

possible percentage of the fee income and the alloted time is spent upon designing and problem solving for clients, and the smallest on the maintenance of the practice itself, whilst ensuring adequate profitability for future development.

The continuous rise in costs of operation through inflation will ensure that outgoings are rising ahead of income which, based on fixed percentage fees, cannot be adjusted to pass on all rises in operational costs, although inflation in building cost will increase the contract values upon which fees are based.

Reasoning Behind Assumption (3)

According to government statistics, the building industry as it exists is the largest employing industry in Britain and buildings represent the largest block of static investment which society collectively holds. Yet building is widely accepted as the most inefficient industry. Much of its production is still basically in the same form as that in which it has existed for thousands of years. It remains a vast area for potential innovation and industrialisation and presents a significant target for applications of advanced technology.

These factors will make it more difficult for the profession to demonstrate its unique contribution to society. A more subtle form of competition will come from the movement amongst commercial and industrial organizations to modify their image by offering service and product combinations and, as some writers such as Galbraith and Drucker suggest, even modifying their traditional basic objectives of maximising profits by substituting long-term profitability and 'satisficing' performance targets. These developments will soften the distinction between professional and non-professional organizations in the eyes of clients who are already aware of positive advantages in

terms of convenience available through alternatives to professional services.

section 2

THE ARCHITECTURAL PROFESSION

2.1 HISTORY OF THE DEVELOPMENT OF ARCHITECTURE AS A PROFESSION

The architectural profession has its roots in the craft-based development of the building industry and the earliest traceable forerunners of the professional architect were the master masons of the 16th century. As Summerson remarks in his biography of Inigo Jones, "nearly all the building work of James I's reign was designed by those who built it, and they were the masons, bricklayers or carpenters, working in with other trades, which might include carvers for exterior ornament and joiners and plasterers for interiors..... Rather, apart from these building craftsmen, however, was a class of men calling themselves 'surveyors'. The Latin equivalent is 'supervisors', which indicates a managing superiority to the artisan." These surveyors were the prototypes of the professional architect. It was in the work of these highly skilled craftsmen and surveyors that architectural design was evolved, but not as a distinct function allocated to one person or occupation.

An important office in the development of the profession was that of the 'Surveyor of the King's Works', which Summerson has described as the institution which has been of the most radical and lasting importance in English architecture.

It was as holder of this office that Inigo Jones (1573-1652) made a significant contribution to the development of architecture as a distinct professional occupation. Jones was probably the first holder of this post who was not a craft trained builder of any trade, although he may well have been apprenticed as a joiner, thus establishing a precedent in architectural design which was to be sealed with the divorcing of the profession from the building industry as a whole in 1834.

Inigo Jones was initially known as an artist, and his first important appointment in England came in 1603, when he designed costumes and scenery for the Queen's Masques. Prior to this he had travelled in Italy and had been much influenced there both by Venice and Florence, especially by the work of Palladio. Subsequently, he had been commissioned by Christian IV of Denmark to design new court buildings. Under the patronage of the Earl of Arundel, who was close to James I and Queen Anne, Jones made a second journey to Italy in 1613-14, lasting one year and seven months. In September 1615, Jones became Surveyor-General. The great wealth of building activity in the first half of the 17th century provided Jones with the opportunity to really engage in large scale design as a major function of his office, which had previously been a largely administrative post.

The next outstanding holder of the Surveyor's office was Wren (1632-1723), who dominated the movement of English architecture for the next half-century. Between 1670 and 1686, Wren designed over fifty churches in the City of London. "In 1718, a complaint of mismanagement was proferred against him by Colin Campbell and Benson, and Wren was dismissed from the post he had held for fifty years in favour of Benson's brother." [3]

At the time of Wren's death, there was a small but none the less recognisable body of designers who could be classed as architects, the most well known being Vanbrugh, Hawkesmore and Archer, and later, the brothers John and Robert Adam. The prestige of these few individuals lifted the profession to a level where the functions of the architect could begin to be established.

Formal training, however, followed the pattern of apprenticeship known in the craft trades. A subtle difference was introduced which turned apprenticeship into pupilage whereby

instead of paying for his training by his services, a premium was paid by the pupil to his master at the beginning of the period of training. So two main classes of entry into the profession were available. Historical studies of the profession, such as Kaye's 'Development of the Architectural Profession in Britain', have suggested that by 1850, 78% of architects were being trained in this way. Kaye lists four main types of apprenticeship undertaken by early members of the profession: building, architecture, other occupations and other architectural study, such as travel and private study.

There were no formal associations between architects generally until the last decade of the 18th century, when four architects formed a Club to meet monthly, electing eleven others as original members on 20th October 1791.

"The Club indeed was an exclusive body, for no-one was eligible as a member unless he were an Academician or Associate of the Royal Academy in London, or had received the Academy's gold medal for composition in architecture, or was a member of the Academies of Rome, Palma, Bolognia, Florence or Paris." [4]

The first significant development, professionally speaking, to occur within the Club was a discussion on the definition of the terms 'profession' and 'architect', and later of an embryo code of conduct, which Kaye has shown to be the forerunner of the ARCUK Code in its main characteristics, although it was to be almost another hundred years before such a code was formally considered, and yet a further forty years before it received a legal embodiment.

A number of other societies were founded during this period of the early 19th century. One of the most important was the Architectural Society, which was formed in 1835 with the specific objective of providing educational facilities for

students. (This was eventually merged with the Institute of British Architects in 1842.)

In 1834, a new society was formed which was determined to establish an effective association to protect the architect from the pressures of the amateur designer and the unscrupulous profiteer builder. This was the Society of British Architects. After a series of disputes between this body and another, the Society of Architects and Surveyors, a new organization was established called the Institute of British Architects, to which most members of the Society of British Architects became elected, and the latter was then disbanded.

There were originally three classes of membership to the Institute: Fellows, having at least seven years practice as principals; Associates, having practised or studied architecture for less than seven years and having attained the age of twenty-one; and Honorary Members.

The Institute quickly established its influence over the whole profession and became the model for other societies in the provinces. The seal of its public prestige was set by the granting of a Royal Charter of Incorporation in 1837.

Education as a Central Part of Professional Development

An important facet of the development of the architectural profession is that of education. From the early beginnings of the architectural societies which preceded the RIBA, the provision of educational facilities and the setting of standards for entry into the profession have been major concerns in the activities of architectural associations and subsequently of the RIBA.

In 1841, two Chairs in architecture were set up at Kings and University Colleges, London. At University College, London,

the Department of Civil Engineering and Architecture offered a three-year course leading to a Diploma.

Another early development in this field was the formation in 1847 of the Architectural Association, which within ten years was holding regular classes in design, and by 1863, had established a formal examination system. The RIBA itself did very little except discuss education at this time, and the pupilage system remained, generally speaking, the method of entry into the profession.

In 1882 the RIBA held its first examination for entry to the Associate class of membership, which in 1890 became obligatory. In 1889 the provincial organizations, such as the Birmingham Architectural Association, entered into a formal relationship with the RIBA which, with the establishment of the obligatory examinations for membership in 1890, finally settled the central administrative authority of the Institute within the profession as a whole.

From the standpoint of today's profession, the next most important event was the setting up in 1904 of the RIBA's Board of Architectural Education, to undertake the responsibility of the Institute in the whole field of architectural education. The Board produced its first report in 1906.

In 1920 and 1924, two important conferences took place on the subject of architectural education, the first in Paris and the second at the RIBA in London. This gave impetus to the movement towards full-time education, though not immediately in schools of architecture; in the meantime, the atelier system as existed in France was held to be a suitable compromise between the pupilage system and full-time day school courses, which were alleged to be too far removed from the practicalities of technical office life. However, this atelier movement was

never widely adopted, and under the influence of the economic situation which prevailed between the Wars, full-time, school-based education became the accepted norm towards which the Institute and the Board would work.

During this period, another major issue within the profession was brought to a conclusion, that of Professional Registration. Various Bills had been introduced to Parliament during the last decade of the 19th century and up to 1903, with the RIBA petitioning against them. However, it was increasingly being recognised that statutory registration was the most effective method of upholding standards in the profession.

"The Bill drafted in 1926 by the Registration Committee aimed at giving the RIBA complete control over the whole profession. A Register was to be maintained by the Institute, and after a year from the passing of the Act, only those whose names were on the Register were to be allowed to use the title 'Architect'. Qualification for appearing on the Register was to consist in the first place of satisfying the RIBA Council of bona fide practice, and subsequently, of passing examinations approved by the Council." [5] The Bill was introduced in 1927 and, after modification and various interruptions to its passage, finally received the Royal Assent on 31st July 1931.

With this Act came the setting up of an independent body, the Architects Registration Council of the United Kingdom. The Act of 1931, however, did not satisfy the RIBA, since the original Bill had been modified to introduce registration only on a voluntary basis, and so a further Bill was introduced in 1937. This was passed in 1938 and the use of the title 'Architect' was from then on restricted to those who registered. The closing of the profession effected by registration brought control of entry firmly within the powers of the RIBA, since it

could now greatly influence the standard of qualification and thereby the expected level of competence of members.

In 1939 the RIBA established a Special Committee on Architectural Education, which in 1945 submitted its report, recommending a five-year full-time training, four-and-a-half years of which were to be spent under direction in a school. This allowed for standardization of architectural education and finally fulfilled the second important guarantee of the professional association, that of competence. From then on, the RIBA was to have control over the education of architects, as well as of the examinations by which architects are admitted to the profession.

The Second World War held up further developments in architecture and the post war developments were slow to pick up. Most of the energy was put into the practical work load of the post war building boom and such events as the Festival of Britain, which provided a major focus for the more philosophic aspects of design and form in building, in which the public sector played an important role in such developments as the Hertfordshire schools programme, from which the C.L.A.S.P. building system evolved, and the Roehampton Estate, which set a pattern for much high-rise housing. It was not until ten years after the War that formal movements can be traced within the RIBA to establish a new basis for future developments.

Undoubtedly, the most important post-war event was the Oxford Conference which took place in April 1958, when an invited body of fifty people spent three days debating future educational strategy. The Council of the RIBA had called for the conference in 1956; it took place in 1958, and its main recommendations were finally put into effect in September 1961.

This policy was to raise the minimum entry qualifications for

architectural courses controlled by the RIBA to the level commonly adopted by the universities, being five G.C.E. subjects, two of which were to be at Advanced level. The first generation of students to enter under this new order graduated in 1966; thus the formation of the policy had taken a full decade to put into effect, and that is taking no account of the informal debate and evolution of the idea prior to the adoption of the policy by the RIBA Council in 1956.

The effect of this policy has been fairly controversial. Over the last decade there has been a continuing conflict between two groups within the RIBA: the 'practitioners' and the 'academics'. Such events in the RIBA calendar as a symposium entitled "Does education disqualify students from Practice?" are typical illustrations of this controversy. In 1970, two major events took place: the Annual Conference in July, and the Board of Education's two-part Cambridge Conference (April and October), which revealed that the rift between the two camps was still wide.

The RIBA is now significantly better equipped to make advances in policy-making, having reorganised and extended its resources and manpower, which should bring a more informed approach to the debates from now on. The most recent significant areas of focus and controversy are the fundamental questioning of the whole meaning of the term 'architect'. This is the aspect of professional development to which this study relates, and to which the profession must address itself.

2.2 DEVELOPMENT OF PROFESSIONS AND PROFESSIONALISM

The process of professionalization of occupations began in the 15th century with the establishment of the Inns of Court. Prior to the evolution of the legal profession, the major 'professional' occupations were dominated by the clergy. Between the Reformation and the Industrial Revolution, the growth of secular organizations and activities was dominated by lawyers and the medical professions, which grew up in the 16th to 18th centuries.

The period of real growth in professional activity was the 19th century. The 16th and 17th centuries have been described by historians as 'The Age of Enlightenment', and the foundations both of modern scientific discovery and new directions in philosophic thought, which were later to encourage the pursuit and exploitation of knowledge, were most certainly laid at that time. The impact of this movement was not to be widely felt until the middle decades of the 19th century.

"By the end of the nineteenth century, all the major professional occupations had effective associations, and professionalism, as it is understood today, was an accepted principle." [6]

It has been suggested by those who have studied professionalization from the sociological viewpoint, that the growth of such organizations during the 19th century was a direct reaction to the dominant political and economic movement at that time: the laissez-faire economy with its implied doctrine of 'caveat emptor' - let the buyer beware.

"Hence the function of the professional association is intended to provide an acceptable substitute for the market relationship..." [7]

A survey of literature on the subject of professionalization

will reveal an almost universal acceptance of the non-existence of an absolute definition of the term 'profession'.

A more recent study by Hickson and Thomas suggests that the question 'what is a profession?' is unanswerable; "rather the question should be 'How professionalized in identifiable respects is a particular occupation?'" [8]

Their study, in attempting to answer the question, analyses the elements included in various definitions of 'profession', listing fourteen elements and showing which combinations of elements have been adopted by twenty different authors on the subject. The most common elements used in describing profession are:

skill based on theoretical knowledge
required education and training
competence tested
organised
adheres to a code of conduct

Or, as Kaye puts it, "One characteristic of a profession on which all authorities agree, is the possession of a skilled intellectual technique ..... The professional is an expert, and his relationship with his client is dominated by that fact. The layman is unable to judge the quality of his services, except in the long run, and is therefore obliged to take them on trust. This situation existing, as it did during the nineteenth century, in a society in which economic relations were orientated towards the consumer's choice, led to the complicated structure of professionalism." [9]

The function of a profession is to regulate the activities of individuals to ensure that the particular market is not exploited by those offering services to those who have to accept them on trust.

The interdependence of the members of a profession is based upon the fact that should inefficient or incompetent services be offered by any member, then the reputation of the association suffers, and unless collective action is taken to uphold the standards, competence and integrity of the association, there will be a falling off in the general demand for its services.

Although the service offered by a professional to his client is personal and individual, the associations to which most professional occupations are related provide constraints which demand that the group interests of the associations are pursued, and that the individual professional's interests should be subject to this principle.

"If.....the services of the profession.....are easily dispensible, as in the case of luxury services, then it is more important than ever that the temptation for the individual to undercut his fellows be removed."[10]

Kaye also points out that because professional services are individual and usually related to specific problems, they cannot be standardized across the profession; therefore, the association cannot provide a guarantee of efficiency amongst its members. There are only two guarantees that a professional association can really offer (or be expected to offer). Firstly, competence of a level sufficient to underwrite the expectations of clients that its members should be able to solve the range of problems likely to be presented. Secondly, integrity, which is defined by the non-economic nature of the professional/client relationship. The essential difference between professional and commercial relationships is that in the latter case the buyer is assumed to know his requirements, but in the former, the client is assumed to be ignorant of his exact needs, and therefore is not certain of what he will receive. Further, the professional usually performs a dual role,

that of deciding the solution to his client's problems, and being the technician who provides it.

As Hickson and Thomas show in their attempts to establish a measure of professionalization, professional associations with the highest scores on their scale were concerned with two basic issues: education and training, and integrity and impartiality. Thus in many highly professionalized associations advertising is widely forbidden, the professional/client relationship is governed by a scale of charges or fees, there is an explicit ethic of confidentiality and, by disallowing competition between members, clients are assured of receiving the best impartial service.

Kaye also shows that the professional relationship within society has an important economic function. This is because of the establishment of fee scales and the knowledge that those who fail to abide by the standards and code of the association will be prohibited from membership. Thus members of a professional association expect at least a minimum level of remuneration and security.

2.3 THE BLURRING OF THE PROFESSIONAL CONCEPT

"The fact that the problems of the professional have arisen out of his contact with the principles of laissez-faire capitalism has led to an over simplified identification of professional with non-commercial, and non-professional with commercial, activities. In this way, professional and commercial behaviour have been presented as logical contradictories." [11]

It must be pointed out that there are many similarities between professional and commercial activity. The current unease amongst some of the older professions may have arisen because the similarities have, in the past few years, received more attention than the differences, the basis of which has in many cases faded from memory or become part of social history which is not always included in technical or professional education.

With the spread of professionalization and the evolution during the past fifty years of associations which cover all sectors of society and all types of occupation and activity, together with the rapid increase in formal education and training being made widely available, the first social function of the professional association, namely that of competence, has lost some of its impact as a distinguishing mark. The competence of many non-professional occupations is similarly guaranteed by certificates, examinations and training schemes, such as those of the Industrial Training Boards, Chambers of Commerce, or the Royal Society of Arts.

This has left the guarantee of integrity in the client's interest as the only real differentiation between professional and other associations and, as will be seen below, this too is becoming less clearly differentiated than in the past.

As Hickson and Thomas' study strongly suggests that "the age of

the qualified association is found to be related to the progression of professionalization", one can expect that developments which bring less clearly defined relationships in society will have a greater disturbing effect upon the older and more professionalized associations than upon the new.

A further factor to be taken into consideration is the difference between certain professions, arising out of their operational structure, and the effect of private practice contrasted with employment in non-professional organizations. "Are professions in which many members have private practices more developed in their professional characteristics than those whose members are usually employees? The hypothesis that there is a relationship with private practice is important for, if supported, it implies a brake on professional development in its forms hitherto as more professionals in more professions become organization employees." [12]

What effect will result from changes in the structure of professions traditionally having a large proportion of their members in private practice but now having a growing proportion who are employed by industrial or business organizations, or central or local authority departments? Here we may see competition between members of the same profession or association, albeit indirect. What meaning does the guarantee of impartiality and integrity have now, when the professional's skills are being employed to further commercial objectives? Is professional membership to become largely a recognition of higher occupational qualifications?

Kaye raises another important issue by suggesting that the effectiveness of both the sanction of expulsion and the code itself, depend upon the desirability of membership. "Only if it can offer to its members important privileges will an association be successful in attracting a large membership."[13]

In addition, there is the problem facing long established professional associations of retaining large memberships in changing circumstances where the associations might lose their relevance in terms of privileges or remuneration. To illustrate this point, we might cite the growing difficulty of the private sector to match the salary levels of the public sector in the architectural profession, particularly amongst the lower levels where younger members of the profession are concerned, but also at higher levels. Architectural appointments in the public sector are currently being held at salaries of up to £10,000 and the career prospects are now considered to be sufficient to attract the best of the graduates. Equally, 'client' organisations, as well as industrial firms, are expanding employment opportunities for professionally qualified people who might otherwise seek out private practice appointments.

To compound the problems of professionals employed in private practice, who are beginning to see their colleagues in other sectors overtake them both in remuneration and security, the growth of white collar unions may weaken the position of the professional association as an effective bargaining agent acting on behalf of its members. This problem may become particularly acute should the anti-professional movement displayed by such agencies as the Prices and Incomes Board and the Monopolies Commission gain any ascendancy.

The Monopolies Commission Report on professional services (1970) stated that "the introduction of price competition in the supply of a professional service where it is not at present permitted is likely to be the most effective single stimulant to greater efficiency and to innovation and variety of service and price that could be applied to that profession..... It would have to be established that price competition among the qualified would seriously endanger the maintenance of their professional standards, and that this would put the public interest seriously at risk."

Recent observations of the economic and business field suggest that, contrary to traditional and still widely held views that the aim of business is to maximise profit, as business organizations mature this objective is superceded by that of growth.

Galbraith is probably the best known proponent of this concept: "The paradox of modern economic motivation is that profit maximisation as a goal requires that the individual member of the techno-structure subordinates his personal pecuniary interest to that of the remote and unknown stock-holder. By contrast, growth, as a goal, is wholly consistent with the personal and pecuniary interest of those who participate in decisions and direct the enterprise. The reader will sense once more how important profit maximisation must be for the defence of traditional economic theory and specifically the rule of the market. Its use survives in competition with goals which reflect the self-interest of those immediately involved..... Price, sales, cost and other policies to maximise growth will differ within any given time horizon from those to maximise profits." [14]

The inclusion of this argument is made to draw attention to another possible area where the clear distinction between professional and non-professional activities may break down. This will be reinforced by the increase in employment of professionals by non-professional organizations.

The growing role of the law in regulating business activity, particularly in the protection of the consumer (for example, the Trades Descriptions Act 1968), may also encourage business firms to offer their customers more of a service than a straightforward sale. An illustration of this is provided by a recent case study undertaken by the Directorate General of Research and Development of the Ministry of Public Building and Works of the building programme of Marks & Spencer Limited.

This study revealed that Bovis, a major British contracting organization, performs all its services for clients such as Marks & Spencer on a fixed percentage management fee basis. This type of development may make it more difficult for a potential professional client to distinguish between professional and non-professional activities.

The traditional position of the professional as typified by the private practitioner is being modified in two major directions simultaneously, by the growth of public sector activity, and by the increasing employment of professional people by non-professional organizations, especially industrial or commercial enterprises.

This movement creates a dilemma for the professional institutes, in that they must serve all of their members but the different sectional interests of members employed in different sectors may make it difficult for the institutes to act effectively for any sub-group of the membership without alienating the others. Since the existence of the institutes as effective professional bodies is reliant upon the largest possible subscription-paying membership, their long-term continuity is dependent upon their ability to serve all their members equally.

This dilemma is made worse if the organization and focus of the institutes are slanted towards the interests of one particular group; for example, the private sector. In many professions this is in fact the case, since a large number of professional associations became established when the majority, if not the totality, of the membership was engaged in private practice.

This is certainly true in the case of the architectural profession, where many institutional services, such as the Clients Bureau and the Nomination Service, are of use only to the private sector, though financed directly or indirectly through

the combined subscription of all members.

Apart from the question of institutional services, professional codes, whilst theoretically applicable to all sectors of the profession, may be largely operative on only one sector, and partly non-effective in the context of other sectors. Again, the private sector comes most centrally within the Code and the context of the other sectors may render the Code, in part, inapplicable to large numbers of members.

The problem of the relationships between the different sectors of the profession splits basically into two from the point of view of the private sector. Firstly, there is the public-private sector relationship, which in many ways presents less difficulties to resolve and less conflict than the second relationship, that of private practice and the commercial sector of the 'organization' professionals, those professional employees of non-professional business companies.

The public-private relationship has long been recognised as a compatible partnership or division of responsibility. The public office has played a significant role in the architectural profession during the past few decades and all sectors of the profession recognise the indispensible contribution that has been made, up to the present day, by public agencies, and upon which the private sector has been dependent. The private-commercial relationship is more difficult to reconcile, for unlike the public-private situation, there is no commonly accepted division of responsibility; both compete directly in the same market. Moreover, it is because of the influence that contemporary commercial practice had on the evolution of the architectural profession in the 19th century, that those who practise in the private sector have always been distrustful of commercial practices and standards.

If there is a distinct difference between private practice professional service and the services offered by professionals working as employees of commercial organizations, then the professional institute will have to examine the conditions and constraints of practice in each sector and attempt to equate them or withdraw from certain activities, such as fee-fixing, and become a professional 'trade union' on behalf of its members. The question arises over whether the professional employee is not able to exercise his professional responsibility, either to his client or to society, to the same extent as the private practitioner, or whether his position makes him any less professional. If so, when the proportions of members reach significant numbers the professional institute will have to make this distinction public and will face a dilemma..... whose case do they support?

If there is no difference between the 'professionality' of private practitioners and professional employees, then there are obvious questions one might ask regarding the restrictions on private practice activity and what professional integrity is really worth if it can only be upheld behind the barriers of the Code.

Compulsory registration might solve this dilemma if only architects were permitted to design or submit plans for planning and building regulations approval. Thus the authority of the employed architect and his professional integrity would be strengthened, and the private practitioner would enjoy better security providing his services were of a sufficiently high standard.

These 'sectarian' issues are important in relation to the subject of specialization, for if they were allowed to develop, the encouragement of more variety in architectural skills and occupations which specialization will bring might be held by

some to be divisive rather than strengthening for the profession.

2.4 BACKGROUND TO ATTITUDES IN THE ARCHITECTURAL PROFESSION

The purpose of this section is to provide a background to attitudes within the profession towards influences of change, whether external or internal to the profession. This will give an insight into the possible reactions to specialization, since this might change the role and status of the architect within the design team.

Throughout the history and development of the architectural profession it is possible to trace two opposing points of view which have been part of the professional scene up to the present day. These opposing viewpoints have been identified in a series of controversial issues throughout the life of the profession and in each, the same or similar attitudes can be detected.

The common factor in each of these contentions is the polarised viewpoints which we can attribute to two 'ideal' types within the profession: the 'artist-architect' and the 'professional-architect'. In more recent years the whole emphasis has shifted away from the original interpretation of 'artist' because of changes in the context of the profession. However, these 'ideal types' have been fairly constantly representative of the two extremes in any professional debate, around the issues listed below:

'the dilemma of artistic autonomy'
the 'profession or art' controversy, combined with the registration controversy
the architectural education controversy
the architectural role controversy

Some of these movements overlapped and were inter-related. However, each can be described as being, at least in part, a separate issue.

Again we must turn to Kaye, who coined the phrase 'the dilemma of artistic autonomy' in describing the artistic pretentions of the architect in respect of his relationship with the client.

In the 18th century, when the architect worked independently for a patron who frequently had well formulated ideas regarding the style and layout of his building, the architect, especially if his pretentions to be an artist were at all strong, was placed in an extremely weak position should the ideas of his client/patron have differed significantly from his own; hence the dilemma. This arose in fact because of the social convention which dictated that a gentleman's education should provide him with a thorough, though not too detailed, knowledge of architecture, coupled with the fashion of undertaking the Grand Tour to study at first-hand both the antiquities of the Greek and Roman Empires, and the Renaissance and post-Renaissance activity in Europe. In addition, because of the inherent skills of the craftsman-builder, who was quite capable of working from a rough sketch and filling in the details himself, the architect was very conscious of his dispensibility in the whole process of building.

This dilemma was one of the contributing factors in the evolution of the professional association, along with the pressures of competition and sharp practices from the unscrupulous. In so far as there is always the possibility that designer/artist and client/patron may strongly disagree over any type of commission, then this dilemma is universal and continuously present.

However, in the 18th century, any formal attempts to pressurize the commissioning patrons into submitting their own artistic appreciation to that of the architect would have failed. Nevertheless, there were opposing views before the evolution of the architectural societies amongst those who practised as

architects. On the one hand there were those who believed that as artists, architects should not be subject to artistic criticism from clients; on the other, those who believed that professional service meant serving the clients' wishes, albeit within certain limits. (There were several writings before the establishment of the formal professional codes which set out principles of behaviour and service for those aspiring to be architects. The earliest of these was John Shute's 'The First and Chief Groundes of Architecture', which was published in 1563.)

In the late 19th century, the move to enforce the registration of the architectural profession by Act of Parliament brought the artist-architect, professional-architect attitudes into sharp relief. At that time there was considerable concern at the lack of status of the professional architect, and within the ranks of members of the institute, the Associates, who did not have the right to vote at meetings, wished to enhance their position. In 1884 the Society of Architects was formed by the Associates in order to campaign for a new charter, but their main concern soon became the statutory registration of all architects; thus the first Bill was introduced in 1889.

Now the profession fell into three groups: the artist-architects, who were known as the Memorialists, contending that artistic qualification could not be tested by examination and that any paper qualification would be meaningless; the professional-architects who were, in the main, the Associates of the RIBA wishing for an improved guarantee of status by safeguarding competence through registration (and implicitly by examination). Between these two the RIBA itself, not wishing to alienate large numbers of its most eminent members, attempted to steer its way along a middle course. This merely led to a postponement of the adoption by the RIBA of registration as a formal policy, which occurred, however, when the artistic autonomy

issue had subsided naturally with the early precursors of the Modern Movement, and the economic pressures of the early 20th century began to draw the profession together.

Towards the end of the 19th century, the developments in architectural education which were taking place outside the RIBA began to receive more support from the Institute itself. This was a natural development, as the examination system for entry to the RIBA was already well established. In 1904 the Board of Education was set up.

The controversy in education was over the form that any formal education and training scheme should follow. Throughout the 19th century the pupilage system had been the predominant method of training, with formal education being undertaken by the entrants at whatever courses they could afford to pursue.

The profession or art controversy of the last few years of the century brought the subject of education into prominence. The division came simply over whether education should be school or office based. Generally speaking, the artist-architects believed in pupilage, and the professional-architects in formal courses. The logic of the situation was with the latter group, since competence could only be guaranteed if education became standardized and systematic, and controlled by the profession along with the qualifying examinations to which it was related.

In the post-war period, and especially since Oxford in 1958, the place of the 'professional-architects' in educational debates has been replaced by the academic lobby, while the 'artist-architect' role has been taken over by the practitioners. The same concerns and attitudes are still apparent, and can be seen in the practitioners' efforts to ensure that the academic system does not become too independent or self-determining.

The architectural role controversy has arisen in more recent years, but still illustrates the same attitudes as the previous issues. Throughout the 20th century and up to the present day the functions and working context of architects has been diversifying, but largely in a very gradual, almost imperceptible way. However, in the past few years, when the pressures on architects have been particularly great, the changes that have been effected and which are likely to occur in the foreseeable future have suddenly been appreciated, and many members of the profession have been thrown on the defensive for fear that their traditionally accepted role be completely eroded.

This most recent and continuing controversy is likely to provide the conflict of views on the subject of specialization. Those who in earlier times would have fallen into the 'artist-architect' camp will resist specialization and argue that the architect must retain a wide span of responsibility and skills and must remain 'the leader of the team'. Others who will support the idea of diversification and specialization in practice will accept that many different types of architect will be required to fill a variety of roles, and that not all will lead, but some will provide highly skilled support.

2.5 PRESENT STRENGTHS AND WEAKNESSES IN THE PROFESSION

One of the major concerns of the architectural profession, which should not be overshadowed by the educational developments which led to, and sprang from, the Oxford Conference in 1958, has been that of the architect's operational organization and efficiency.

"In January 1956, the York Institute of Architectural Study ran a conference on the subject of 'Architectural Office Management'. This was inspired by certain ideas put forward at the RIBA Annual Conference in 1955, held at Harrogate. The York conference was an explanatory one and much useful work was done." [15] As a result of its conference, the York Institute held a course in January 1957 on the subject of 'Architectural Project Management'.

In 1959 the Royal Commission on Doctors' and Dentists' Remuneration revealed that architects were the worst paid of all the professions, which led to a further flurry of activity within the RIBA. The outcome of this was a most fundamental and searching study which was part-financed by a grant of £14,000 from the Leverhulme Trust, into the whole practice of architecture in the private sector. The enquiry was conducted by a team of five, consisting of two architects, a management consultant, an economist and a statistician, between the years 1960 and 1962.

"The survey was basically a search for quality in the service given by architects; and a study of the factors that contribute to quality in staffing, architectural education, management and technical efficiency, and their effect on the earnings of principals and their assistants." [16]

The report of the survey team was published by the RIBA in

April 1962, under the title of 'The Architect and his Office', and became the basis of very wide-ranging discussions within the profession. A perusal of RIBA Journals following publication of the report shows considerable controversy existed about the frankness of the exposure of professional weaknesses to the world at large.

Isolation, Lack of Collective Strength

In examining the broad picture of architectural practice, the survey team observed various features which seemed to influence the performance of architects detrimentally. Two of these observations are cogent to the present theme. Firstly, the relative working isolation of individual practices, with "little interchange of information and experience on common or similar problems..... This isolation could be found even among working groups within the same office. The attitude that each problem, whether of office organization, or of design, must be tackled de novo, is one which must be highly uneconomic for the profession and the building industry." [17] The second related observation was that there were certain offices tending to specialization by building or client type, and that "specialization by type of client had created an artificial barrier between certain types of practice which seemed to us quite unjustifiable". [18]

These attitudes seem to suggest that the slow development of specialists within the profession may be more closely connected with psychological resistances and philosophical outlooks than with real and effective barriers which have been found to be insurmountable in practice.

Technical Skill

An area of the 1962 report which has, at least in part, been taken up and supported by the RIBA, though not by all practices,

deals with the aspects of the personnel working within practices and performing certain functions, especially of a 'technical' nature. In the view of at least one of the survey team architects have contracted out of the technical skills. This was the conclusion to the part of the survey which was designed to establish "whether there was a need for high-level advice on technical subjects within the office, and, if so, whether this should be at or below professional level".[19]

The findings on this question were that "most of the offices visited considered that there was a need for greater specialist knowledge at a high level within the architect's office, for three main reasons:-

1) inadequacy of most architects in certain specialized technical fields

2) shortage or inadequacy of outside consultants

3) desirability of handling smaller jobs within the office.

It was suggested that to have a specialist in these technical fields in the office would be invaluable in dealing with suppliers, and in liaison with consultants on large jobs." [20]

A majority of the offices supporting this view also thought that the specialists should be professionals, either architect-specialists or technologists "trained alongside the architect so that they had a full understanding of the design process." [21]

Management Skill

It was in the examination of the standards of management, technical and design competence that the main weaknesses were located. On a broad assessment of performance, the survey found that only 11% of the total offices visited could show an all-round excellence in these three aspects. When management performance was ignored it was possible to grant a high grading to 25% of the offices on the other aspects.

The main conclusions of this part of the report were centred on the management aspects of architectural practice, and it was this which became the immediate focus of attention when the report was published, and in the subsequent implementation of its recommendations. However, the interpretation of management was kept severely within the bounds of organization and office efficiency. There was no examination of business strategy aspects of management, and this is reflected in the subsequent efforts of the RIBA to implement the recommendations of the report.

A general conclusion to this section of the report suggested that there was insufficient information and recorded experience within the profession relating to user requirements for different building types and client organizations, and that efforts should be made to improve the professional capability in this direction. Reference was made to work study techniques, to which one might add the complete range of management, analytical and problem solving techniques, as having an important bearing on the making of advances in these spheres of professional competence and skill. Again, the inference can be drawn that either architects themselves become specialists in these skills or that others are trained to bring them into the design team. Many of these areas would provide a double benefit, firstly in strengthening architects' competence in the services they offer; secondly, by assisting in the improvement of their own practice organization and internal management.

The weaknesses of architectural practice having been very thoroughly exposed by the survey, led to the drafting of a series of publications to assist the profession in its attempts to improve itself. The first of these was the Handbook of Practice and Management, which was produced in stages, being completed in July 1965. Five thousand and three hundred copies of the first edition were sold in the next eighteen months, and

a revised edition was published in 1967 and reprinted in 1968. In 1969 a further handbook was published on 'Management Accounting for the Architect', and subsequently 'The Architect's Job Book' based on the 'Plan of Work', providing a compendium of check-lists, standard forms and documentary information for the individual project. Combined with the publication of the Handbooks, the development of management courses for practitioners was undertaken at the RIBA and in provincial centres.

Since the 1960-62 Office Survey the importance of adequate information on all aspects of the profession has been increasingly recognised, and in 1970 the RIBA established its Intelligence Unit to centralize all the statistical and research activity required to ensure informed policy-making by Council and the various Boards and Committees.

Not all of the activity has been internal to the RIBA however; public activity by the RIBA to promote the interests of the profession as a whole has been an important feature of recent developments (although it must be recognised that the private sector has more of a vested interest in this than any other sector). Not unnaturally, several of the profession's immediate concerns in recent years have been thrust upon it by external events; in particular the economic climate and fluctuations in the building industry's work-load.

This has led to promotional activities by the RIBA in an attempt to bring architects a larger proportion of total building work and to promote them as indispensible contributors to building programmes.

There have been increasing attempts by the Institute to participate in or influence public decision-making at Government, Local Authority or public agency level. Two major enquiries in particular have given the Institute, and also the profession

generally, opportunities to gain experience in this field. Firstly, the Roskill Commission enquiry into the Third London Airport, and secondly, the Greater London Development Plan enquiry which is currently still in progress. Other representations have been made, for example on the implementation of the Redcliffe-Maud Report on Local Government Reform.

It is important that this collective activity be directly related to the individual members and practices, their working context and experience, although it will certainly be essential to use specialists and consultants at a central level and to strengthen the skills available within the Institute's own 'civil service'. Unless the public representations of the profession, offering skilled experience and advice on problems of the environment, relate directly to the resources and abilities of the individuals and practices in the private sector, then such promotional activity will fail in the long-term to bring the private sector into a stronger and more stable relationship with the building industry and development generally. This emphasises the importance of developing specialists within the private sector.

On a more immediate and practical level, the President's Nomination Service has been absorbed into the Clients Bureau as part of a permanent public relations and promotional service for the private sector, following a report entitled 'The Architect and his Client' by John Carter.

In April 1971 the Presidents' Committee for the Urban Environment was established to further the concept of inter-professional consultation on education, training and other subjects concerning the urban environment. The Committee consists of the Presidents or Past-Presidents of the seven main Institutes concerned with the urban environment: Civil Engineering, Heating and Ventilating, Building, Surveying, Architecture and Town Planning.

This may be seen as the first stage in real inter-professional co-operation, and many would like to see a move to establish a complete 'umbrella' institute for the building and environment professions. This latter idea featured in several discussions at the RIBA 1970 Conference on Education, including the paper by Hugh Morris.

Within the RIBA there has been in the past few years further suggestion that the 'licentiate' class of membership, entry to which was ended in 1955, should now be replaced by a new 'affiliate' class of membership. As Hugh Morris puts it in his conference paper, "if architecture is something that is often achieved by the joint effort of many skills, do we not need to restructure our own Institute to widen, loosen and enlarge its membership, opening it to anyone whose qualifications are high enough and relevant to the aims of its charter?".

section 3

CHANGE: THE CONTEMPORARY CONTEXT OF THE ARCHITECTURAL PROFESSION

3.1 INTRODUCTION TO CHANGE

To support the hypothesis that specialization is an essential requirement for the future of the architectural profession, it is necessary to show some influences of change affecting architects, the results of which can be fulfilled by specialization.

Change is a characteristic of the whole natural system, human and non-human. It is not something unique to the latter third of the 20th century; the movement began when man first started to dominate his surroundings. The contemporary characteristic of this process, for which many are unprepared or do not fully appreciate, is the rate of change which has been accelerating rapidly during the past two centuries.

There are four main classifications of change as it affects the architectural profession:

1) social, political and economic changes in the context of building

2) changes in the nature of building problems, diversification and specialization of user activities, direct impact of technological and social change on building

3) changes in technology and organization of demand for buildings, economic and production pressures, variations in the organization of the design team and its relationships in the building process

4) changes in the organization of architects' operational activity

3.2 SOCIAL, POLITICAL AND ECONOMIC CHANGES

Scientific and philosphic experimentation in the late 17th century gave an innovative impetus to the economic support systems of society. What we now call the Industrial Revolution brought in its wake social and political changes which transformed the outlook of society and set in motion a search for progressive economic development which is made increasingly imperative because of its inherent consequences. The Industrial Revolution brought rapid growth in urbanisation and population, both raising the demand and capacity for higher output from the economic system, and raising the expectations of each successive generation.

The implication of the social conviction that faster economic progress is a desirable objective, is that changes within major social, political and economic institutions are geared to the material efficiency of our natural and human resources. For a professional institution, such as the architectural profession, which holds a collective concern for the society it serves, there is no choice but to accept the same broad objectives.

The consequences which these objectives bring are those of over-utilisation. Each successive generation of development is always subject to faster obsolescence because growth in demand, by numbers or expectations of performance, will eventually surpass the limits of the existing system.

The professional mission to society is to remove or contain the adverse effects of such pressures, and to provide the environmental requirements for society's objectives to be fulfilled.

Changes in social structure and government of the country, as typified by the implementation of Local Government reform based on the Redcliffe-Maud Report of 1968, and the expanding role of

public agencies, such as the nationalised industries and development corporations, will have a considerable influence upon the relationship between the public and private sectors in building. The scale of public building programmes will grow, resulting in greater centralized control and increasing problems of remoteness between client, designer and user. Political control of environmental planning and building development will extend, demanding collective action by the profession to enable it to make an effective contribution to decision-making at ministerial level.

The scale of the task will indicate that a collective strategy is necessary to monitor social and political changes and to interpret the influence of economic developments upon the building industry and the profession. The role of the RIBA will be prominent and non-architect specialists will be involved in this type of predictive activity. Within the ranks of the private sector there will need to be architects sufficiently specialized to allow a thorough exchange of information between activity at the collective institutional and individual practice level, since there may be new spheres of activity for architects to penetrate, new services to develop.

3.3 CHANGES IN THE NATURE OF BUILDING PROBLEMS

Building requirements will change as society's needs and activities change. New problems for designers to solve will be continually generated. These developments will bring demands for new building types with 'custom built' requirements of a highly specific nature. Also, rapidly changing requirements will demand greater flexibility in buildings, capable of adaptation under the control of the users. User requirements will become increasingly complex, giving rise to the need for designers to use information from yet more specialists.

Development teams, or team work design, will become more common in order to cope with these factors, especially in the increasing scale of certain building programmes. Design methods may well have to modify to allow for the wider range of contributions to problem-solving by a larger design team, including a more active participation by the client and/or user.

As the advance of technology begins to have more influence upon the building industry, a wider range of manufacturing and constructional techniques will be available to designers. Environmental control systems will become more pervasive, which may simplify some design problems of providing special purpose spaces whilst increasing the problems of services integration.

The growth of information to be applied at every stage in the design process will demand specialization among architects to enable its assimilation and application. The problems of co-ordination of specialists will require the development of architect-specialists in order to inter-face architecture with other disciplines and professions, which will themselves become more specialized.

3.4 CHANGES IN TECHNOLOGY AND ORGANIZATION OF DEMAND FOR BUILDINGS

The rapid growth of science and technology, which is integral with channels of change described in the previous section, will have an increasing influence on building and upon the functional role of the architect.

An indication of the rate of change in this field can be taken from studies described in an article in the Journal of the American Academy of Arts and Science entitled "The Next Thirty Years". The authors describe research in prediction carried out at the Hudson Institute, which attempted to identify long term trends likely to continue and major events likely to occur before the end of the century.

We shall abstract the following, which are of interest to this discussion:

1) long-term trends:

accumulation of scientific and technical knowledge

world-wide industrialization and modernization

increasing affluence and leisure

population growth

urbanisation and growth of "megalopolises"

growth in literacy and education

increasing tempo of change

increasing universality of these trends

2) technological innovations occurring before 2,000 A.D. (selected from a list of 100 examples)

multiple applications of lasers and masers for sensing, measuring, communication, heating, cutting, welding, power transmission, illumination, etc.

extremely high strength structural materials

new techniques for preserving and improving the environment

inexpensive 'one-off' designs and procurement through the use of computerised analysis and automated production

more sophisticated architectural engineering - geodesic domes, thin shells, pressurised skins

general use of automation and cybernation in management and production

design and extensive use of responsive and super controlled environments for private and public use

applications of aero-space technology to earth installations

greater use of underground buildings

new and improved materials and equipment for buildings and interiors

major improvements in construction equipment

widespread use of computers for professional assistance in computation, design, analysis, general intellectual collaboration, etc.

low cost buildings for domestic and business use

These illustrations are meant to be typical rather than exact predictions of technology's influence upon what is still a labour-intensive industry.

As a labour-intensive industry, buildings generally will be under increasing pressure to provide better value for money. The industrialization of the building industry may demand greater standardization, and client organizations, as well as manufacturing and construction companies, are increasing in size, which may make this possible. Heavy investment to take advantage of mass production techniques may reduce costs dramatically, but will demand long production runs and stable markets, and rigorous standardization of components or units.

The effect of these changes upon the design professions will be great. More professionals will be employed within client, manufacturing and contracting organizations, and perhaps fewer will function in independent practices, unless their own

organizations change to provide the new forms of service required. This will increase the pressure for diversification and specialization of skills within the profession, increasing the difficulties of communication and co-ordination within the (enlarged) design teams. The structure and organization of practices may change radically to deal with these problems.

The traditional procedure for building acquisition is known as the 'one-off' approach, whereby buildings are designed and built in a sequence initiated by the client. One description of this sequence can be found in the RIBA Handbook of Architectural Practice and Management, Part 3.220, known as "the plan of work". This sequence no longer holds true for all building programmes and further variations can be expected. An ample description of changes in this area has been made by Professor D. A. Turin of University College, London, who has identified four different sequences:

1) the 'one-off' method - this is the traditional sequence as described in the Plan of Work

2) the 'component' method, in which the advantages of industrialized techniques are applied to a range of components capable of being combined into a wide variety of building types

3) the 'model' method, in which standard ranges of whole buildings are marketed like any other manufactured product, e.g. cars

4) the 'process' method, in which an integrated service covering design, production and erection of buildings to the requirements of each separate client is offered.

Whereas in the traditional 'one-off' approach to building, the professional architect and the other contributors are commissioned directly by the client, in the other approaches described these relationships are modified.

The initiative and responsibility for the various stages of the building sequence change in each example. The 'one-off' approach is initiated by the client, who holds responsibility for establishing the user requirements and the brief for the design and subsequent stages. Under the component and model approaches, the initiation control has passed to the manufacturing organization, who has joint responsibility with the client for the user requirements.

The effect of changes will bring new relationships for architects within the building industry, with modifications in the functional role of the architect emphasising specialized performance in a variety of areas of building sequences, i.e. a sub-division of architectural functions. The architect may not always be providing services direct to the purchasor or user of the building to which he is contributing.

3.5 CHANGES IN THE ORGANIZATION AND METHODS OF OPERATION AVAILABLE TO ARCHITECTS

As part of the whole business environment, architectural practices will be influenced by all developments in administrative procedures, information systems, financial control, and the impact that such development will have on the performance of organizations which avail themselves of new techniques. The pressures upon practices will come not only from competitors, but also from client organizations which are operating these techniques and which may demand that their professional advisors adopt the same methods.

The most obvious changes under this heading are related to the computer, which as well as automating some of the more tedious aspects of administration and paper work in offices, may also fundamentally influence the design work of an architect, placing demands on him regarding the nature and form of the information which he manipulates and the techniques he will require to utilize within the more complex systems of operation. The use of the computer may lead to the development of many types of specialist-architect, working in teams in order to establish systems, provide the necessary data and use the processed information.

The development of management science will bring more information on organization and methods generally, which architects will need to assist them in the more intensive operational requirements of practice.

The need for specialist-architects will grow from the demands of practice organization and office procedures. These specialists will have to provide technical support for architects more directly concerned with design.

section 4

THE PRIVATE SECTOR OF THE PROFESSION AND THE MEANING OF SPECIALIZATION

4.1 THE PRIVATE SECTOR OF THE PROFESSION AND THE MEANING OF SPECIALIZATION

The first part of this section provides the basic facts on the structure of the private sector and its economic situation. Following the discussion of changes which will soon engulf the profession, it is thought that the following tables underline the relative frailty of the private sector, and will emphasize the importance of such proposals as specialization, which are intended to strengthen the competitive position and increase the demand for the services of private practices.

Structure of the Private Sector of the Architectural Profession

The RIBA undertakes a biennial census of the private sector of the profession and it is from the 1968 census, published in June 1969, that the following statistics have been taken.

ANALYSIS OF PRIVATE PRACTICES BY SIZE 1958-68

size by no. arch. staff	1958	1960	1962	1964	1966	1968
1 - 5	74.3%	69.0%	63.4%	61.7%	61.8%	67.9%
6 - 10	16.2%	18.0%	22.1%	22.8%	22.6%	18.5%
11 +	9.5%	13.0%	14.5%	15.5%	15.6%	13.6%
average size no. arch. staff	4.9	6.3	6.5	7.0	6.8	6.1
total no. private practices	2986	2700	3071	3364	3574	3650
total no. arch. staff	14554	17000	20007	23561	24365	22435

ANALYSIS OF SIZE DISTRIBUTION OF FULL-TIME, MAINLY ARCHITECTURAL PRACTICES, BY SIZE OF OFFICE IN 1968

size	1-2	3-5	6-10	11-30	31-50	51+	TOTAL
no. of practices	1064	1076	668	423	49	26	3306
total arch.staff	1597	4182	4977	7167	1949	2129	22001

From the statistics given above, it will be seen that during the ten years, 1958-68, the average size of practices, having increased until 1964, fell during the period 1964-68. It is felt that the main factor here is the vulnerability of the profession to the economic climate which was unstable during that period. The trend is, nevertheless, towards slightly larger practices when viewing over the ten year period, although the overall picture of the private sector still remains one of predominantly small practices.

In 1968 there were 26 firms with an architectural staff of 51 or over; 49 with a staff of 30 - 50; 668 practices employed staffs of 6 - 10; 1076 practices employed 3 - 5; and 1064 employed 1 - 2 architects. It has been estimated that the largest 75 practices took just under a third of the total fee income of £86.5 million, leaving some £68 million for division between the rest.

ANALYSIS OF STAFF IN PRIVATE ARCHITECTURAL PRACTICES 1968

type of staff	full-time architect'l practices	part-time architect'l practices	non architect'l practices
PRINCIPALS: architects	5974	151	78
PRINCIPALS: MSAAT's & unqualified architectural	219	3	1
PRINCIPALS: other technical	451	-	42
PRINCIPALS: administrative & non-technical	110	3	3
EMPLOYEES: architects	4776	8	33
EMPLOYEES: technicians (MSAAT's)	2542	1	7
EMPLOYEES: unqualified architectural	8490	23	39
EMPLOYEES: other technical qualified	1086	-	212
EMPLOYEES: other technical unqualified	1730	3	188
EMPLOYEES: administrative & non technical	7369	43	157
number of practices	3306	263	81

STAFF RATIOS	1968	1960
RATIO Principals : Assistants (architect'l)	1 : 2.55	1 : 3.2
RATIO Principals : All Staff (technical)	1 : 2.80	1 : 3.5
RATIO Qualified : Unqualified Assistants (architectural)	1 : 2.31	1 : 1.7
RATIO Administrative : Technical	1 : 3.88	1 : 3.3

A recent report on office costs by the Professional Services Department of the RIBA, which was based on a survey of offices carried out in 1969 - 70, has shown that costs have been rising faster than turnover as measured by fee income, and that principals' average income has been falling. The report shows that "between 1964 and 1968 average private practices' costs per head of technical staff rose by 37% whereas turnover (fee income) rose by 25% per head. The Robson Morrow Survey, carried out in 1966, showed rises between 1956 and 1964 of 93% and 75% respectively, so that the disparity has become greater". As was shown in the table of staff ratios, between 1960 and 1968 the ratio of principals to staff has increased, which will have transferred some of the costs in the form of salaries to staff over to principals' incomes; yet this seems to have had little effect in reducing costs. Further, in 1966 the new scale of fees was introduced which is more favourable to practices, and should have given an increase in turnover.

The report points out that the actual rise in costs is likely to be an under-estimate "because the estimated rise is based on returns of expenditure. But expenditure comes out of profits, and when these are low, it is likely that expenditure will be held down." A corroboration of this is the recorded drop in the value of average net assets per principal, indicating that in the period covered by the report less profit has been available for ploughing back into practices.

An editorial in the RIBAJ of January 1971, in which the report was published, pointed out that if the real income of principals declines and the rewards of practice become disproportionate to the effort and responsibility involved, then the private sector may be in danger of decline. "Sacking staff is a drastic step. Human considerations apart, for a practice to disperse its design team is to eat its seed corn, since the skill and experience of its architects, and the efficiency which comes

from working together are the capital of a firm. Loss of that human capital could be the beginning of the end for some practices, and it is because firms are keeping their teams together, even at the cost of overmanning, that the productivity of the profession has risen much more slowly in recent years and, if the 1966 fee scale is taken into account, may even have fallen." [22]

TABLE 1. TURNOVER & OFFICE COSTS : KEY INDICATORS 1956-68

	1956	1961	1964	1965	1966	1967	1968
key ratios (per member of staff)	£	£	£	£	£	£	£
turnover	1673	2359	2749	2931	3152	3332	3426
technical salaries	459	673	873	915	1078	1182	1276
other office costs	507	728	844	944	933	1003	1077
total office costs	966	1401	1717	1859	2011	2185	2353
principal's gross income	712	957	1037	1077	1140	1148	1072
INDICES 1964 = 100							
office turnover	61	86	100	107	115	121	125
office costs	56	82	100	108	117	127	137
PRINCIPAL'S GROSS INCOME							
(as % of turnover)	42%	41	38	37	36	34	31

TABLE 2. TURNOVER & PRINCIPALS' EARNINGS 1964-68

	1964	1965	1966	1967	1968
	£m	£m	£m	£m	£m
Estimated turnover of private practice	67.0	73.7	81.7	85.3	86.6
*Building work certified by private pcts.	777	811	928	1049	1068
Estimated gross income of principals	25.3	27.1	29.6	29.4	27.1
**Technical staff in private practice	24390	(25160)	25930	(25599)	25268
Number of principals	-	-	5847	(6300)	6754
Average gross income per principal	£ -	£ -	£5062	£4667	£4012
Average net assets per principal	£ -	£ -	£5792	£5612	£5240

* RIBA Quarterly Enquiry
** RIBA Census, 1964,66,68

Source of Tables: Report on Office Costs, RIBAJ - January 1971

4.2 A WORKING DEFINITION OF SPECIALIZATION

Defining the terms 'specialization' and 'specialist' is an exercise in relativity. There are no absolute or finite definitions which can be applied in the context of architectural practice; these terms can only be defined within the notion of the specific aspects of an activity in relation to the whole. Thus the starting point of this attempt to provide a working definition must be a description of what constitutes architectural practice.

A study outlined in a paper entitled "Roles and Profiles", provided for the RIBA Education Conference at Cambridge in April 1970, sets out a wide framework of variables for defining the role of an architect. This paper, by W. Hillier, forms an initial investigation to be pursued in depth by the recently formed RIBA Intelligence Unit.

A pilot survey of architects carried out as part of this study was based on eight variables:

1) the type of organization where the architect is employed
2) the level of responsibility held
3) the nature of the activity performed
4) the scale at which the activity is applied
5) the building types with which the activity is related
6) the types of concern of the architect
7) the parts of the building fabric with which the activity is concerned
8) the type of work to which the activity is related

Each of these variables was defined by listing a range of possible elements, and the respondents to the survey were asked to indicate either a special or a general concern with those variables which compose their activities and work experience. This was intended to provide a basis for describing the entire

range of occupations and functions performed by architects.

Since the main concern of this present study is with the private sector of the profession, a narrower framework will suffice as a foundation for defining specialization. This framework consists of the Plan of Work from the RIBA Handbook of Practice and Management, the environmental problem scale, and the major categories of activity to which design relates.

The basis commonly accepted by architects for conceptualizing roles and relationships in the building industry is the 'Plan of Work', Part 3.220 of the Handbook of Practice and Management, which defines the building process as a team effort and divides the total effort into seven separate functions:

1) client function
2) architect management function
3) architect design function
4) quantity surveyor function
5) engineer (civil/structural) function
6) engineer (mechanical/electrical) function
7) contractor function

These functions which comprise the building team, perform tasks throughout the building process which the 'Plan of Work' breaks down into twelve stages:

A inception
B feasibility
C outline proposals
D scheme design
E detail design
F production information
G bills of quantities
H tender action
J project planning
K operations on site

L completion

M feed-back

The Plan of Work lists beside each stage the tasks to be performed and the functions directly involved. The role of the architect or architectural practice is thus defined as the responsibility for the performance of all the tasks of the management and design functions throughout the twelve stages.

To complete the broad picture of the architectural role we must add one more factor: that of the problems which the design team is called upon to solve. These form an environmental problem scale ranging from individual spaces to regional areas, although the traditionally accepted concern of architecture is that of individual buildings. The problem scale itself adds a further dimension to the operational territory within which the architectural role may be defined. This is the activities to which the problem scale is related, and includes all purposes for which the physical environment has to be modified or buildings created. These activities can be grouped into a number of major categories:

transportation
industry
commerce
administration
health and welfare
education
religion
recreation
habitation

The meanings of specialization and specialist within this broad definition of architectural practice are thus related to the sub-division of either the total task of the management and design functions throughout the building process, the concentration of the performance of those tasks over a specific part

of the problem scale, or a concern for specific activities related to it.

The Plan of Work was set out as a model of the individual building project and describes the relationships and responsibilities as they would occur if the building team were brought together for the purpose of one isolated project and then disbanded. A great volume of building work is still undertaken on this basis, although, as was described in section 3, this is no longer universally applicable.

General Architectural Practice

The performance of the management and design functions throughout the twelve stages of the building process for isolated projects provides a description of general architectural practice which is fundamental to most concepts of the role of the architect. A form of specialization can occur even within general architectural practice, when the concern of individuals or practices centres on one particular type of building problem, or with one type of client. This can be quite distinct from the nature of the practice's work organization, or type of staff.

Specialization of 'Indirect' Architectural Activity

Beyond the scale of the simpler projects which can easily be appreciated as a one-man work-load, various forms of subdividing the total work-load lead to different types of role and to specializations. (The industrial concept of 'direct' and 'indirect' labour may provide an illustration of this form of task division, where indirect personnel provide supporting services for those working on the main production tasks.) The breakdown may be such that the individual architect may not be concerned with the complete building process, but only with particular aspects of it. Alternatively, he might perform

activities to assist those who are concerned with the project throughout the whole process without being responsible for any part of the direct work-load.

Many of these tasks can be performed by non-architectural staff, though many will be suited to those with a professional background, since a full appreciation of the direct architectural tasks and objectives will be required where supporting services are complex and highly technical. As projects become larger, direct staff will have to relinquish to indirect staff more of the activities and tasks which on smaller projects are accepted as being part of general architectural activity, and control of the work done by indirect staff will fall outside the scope of many direct staff. This will bring a requirement for indirect staff to have a common perspective with direct staff, to ensure that both ranges of function will integrate and not develop independently of each other. Thus, within the indirect functions there will develop architectural, as well as non-architectural, specializations.

Specialization of 'Direct' Architectural Activity

As an extension of the above argument, we may consider the reorganization of direct activities themselves so that individuals are concerned with a part of the whole range of activities for many projects, but not with the complete work-load of any one project in particular. Such a division of work may arise for reasons of efficiency, and will lead to the development of a wide range of possible specialist concerns.

Those having responsibility for the completion of individual projects will bear the main task of co-ordinating the indirect and direct specialist functions.

Implications and Value of Specialization in Practice

One point frequently raised by practising architects when discussing specialization is that the profession already has a considerable bank of specialist experience and knowledge, and that those practices known as specialists are frequently supplying quite sophisticated specialist service. The most widely used and accepted meaning of specialization in the profession is that based upon building types; an architect or practice is specialist if there is particular concern for a limited range of building types, or if the work experience of that individual or practice has fallen within a limited range of building types rather than being a heterogeneous experience of widely variable projects. However, it must also be recognised that this form of specialization can arise in an 'ad hoc' fashion, one might almost say by chance.

The concern of the profession in considering specialization must be to ensure that the collective resources of skill and experience which it possesses are used to their full potential. It is important, too, that these skills be promoted to those outside the profession; this is a marketing problem upon which collective effort must be concentrated.

An argument offered against specialization by some architects is that there is value in having a non-specialist with a wider viewpoint undertaking projects with specialist requirements, because a fresh approach might be advantageous. This points to the need for an embracing perspective when looking at this subject; one cannot assume that specialization will bring myopia.

It is in relation to the increasingly complex projects that the non-specialist approach may no longer be the most economic within the architectural practice, or the most attractive to

prospective clients. The use here of the term 'economic' is broad, relating both to the real cost of searching out and absorbing information relevant to each different problem, and to the use of available time to evaluate the optimum solution.

The importance of the economic relationship in design is considerable, because of the nature of the design process itself. "The difficulty of reaching optimum solutions directly necessitates the generation of a wide variety of solutions (to be sure of including a good one), and requires the ability to recognise and select that good one. However, the limitations of the conventional design medium make the generation of a number of solutions tedious. Hence few solutions are produced; and the designer may be prepared to relax constraints rather than redesign an unsatisfactory solution. The production of a number of exploratory plans is also necessitated by the fact that design is a learning process for the designer." [23]

The value of the introduction of more specialization must be derived from improvements in the generation and choice of design solutions, which can best be achieved by concentrating the range of the learning process for each individual, or for groups within a practice.

The method of attracting work in the profession is, as is the case with many of the older, longer established professions, strictly controlled by a professional code. Neither practices nor individual architects can attempt to establish themselves by advertising of any form. Most practices rely on the personal and social contacts of their partners and associates, but particularly on the recommendation of former clients to others who wish to build.

Clearly the character of a practice will be very much influenced by the chance combination of its collective clientele. Further,

the experience of individuals within a practice will be similarly influenced by the work-load of the practice. An important implication of specialization is that it should not be an affair of chance - general practice in a limited field. It must be carefully planned and structured.

Much depends too, on whether any particular client becomes a big investor in new building work, especially if the practice is young, fairly small, and without a developed and balanced range of special interests.

There is an apparent dilemma when considering specialization by private practices, between the supposed risks of becoming too narrowly based in an industry which is affected by any instability in the economy of the country, and the need to become more competitive by offering superior skills to prospective clients. Associated with the fear of becoming too narrowly based is that of becoming 'type-cast', which may restrict a practice's own plan for growth and development. These factors suggest two things: firstly, in a competitive situation the specialist should be at an advantage and may, in certain respects, be at less risk in economically unstable periods; secondly, that both the range of specialist activities and the range of commissions must be carefully considered. It has been known for practices to rely too much on commissions from one large source, for example a large industrial organization, which may supply a substantial work-load for a practice for many years. However, it is impossible to predict when the commissions from one particular source will cease to flow, whether for reasons relating to the economic climate of the country, or the internal policy of the firm.

Broadly speaking, architects are still being educated and trained to think that, as well as performing the complex co-ordinating role in the building process as traditional

'leader of the building team', they contribute to it the most central and important parts; a task which itself is becoming rapidly more complex and theoretically based, with an increasingly technical character.

In recent years universities and schools of architecture have contributed considerably to the development of scientific and theoretical approaches to many aspects of the built environment and architectural design. Much of the newly emerging specialization which relates to this activity is still retained in academic centres rather than in practice; and although this is bound to be so for a time, as with any academically based field, the RIBA, which has authority and control over professional education, has done little to encourage the outward spread of this new knowledge.

ARCUK and RIBA Constraints to Specialization

The continuing existence of the blanket requirement for all graduates entering the profession to do so as general architectural practitioners is belying the real situation, where many graduates are no longer gaining their initial experience in conditions of general private practice.

The influence of the continuing form of professional qualification required by ARCUK and RIBA, coupled with the length of qualifying period in architecture (a minimum of seven years) for a general qualification, might well be a deterrent to many graduates who would venture to pursue some specialist course.

Despite its frequent usage, the phrase 'continuing education' still represents a fairly unexplored concept; although, as part of the general awareness of certain professional weaknesses during the past decade, some mid-career courses are becoming established. As Elizabeth Layton pointed out in her paper for

the 1970 RIBA Conference, "while about 120 mid-career courses are run a year, they are mostly very short. If the 13,600 architects in the UK under fifty decided to attend courses, the existing provision would allow each of them to go to one two-day course every six years". The major questions of timing and finance or obligation to attend such courses have yet to be answered, and the majority of courses are concerned with aspects of practice organization and management, as a direct continuation of the implementation of 'The Architect and His Office'.

The ARCUK and RIBA maintenance of the 'GP' approach to professional life is founded, presumably, on the assumption that all members of the profession may eventually practice independently, and that each should have the all-round ability and confidence to do so. This concern is valid, but should relate only to the form which specialization, training and professional qualification might take. The important factor here is the need to ensure that all members of the profession have a common perspective, especially those who may practise as specialists in multi-disciplinary teams. This point is linked to another aspect of education for professional qualifications in related fields: the need for a basis of good communications and a broader perspective of the professional environment as a complementary facet of all technical skills, however specialised. The difficulties of communication between different professions and disciplines are already a major concern within the building industry; the development of more specialist functions must assist in bridging the gaps, and not be allowed to compound the problems.

The concern of the RIBA and ARCUK in this matter should be the setting of the level and extent of general education and qualification as an adequate baseline around which the development of specialist skills can best take place.

Questions arising from the uniform application of a standard professional qualification should be raised and examined by the professional bodies, to provide a more creative basis for professional development. The relationship between professional membership and the responsibilities of partnership or independent professional practice should be examined. How many architects can be said to practise independently, and how many wish to, or have the means to establish independence? The question of competence in professional practice should rather be concerned with the competence of practices and other organizations employing architects to conduct their affairs in a professional and business-like manner; the abilities and competence of individual architects should be considered in their own right.

Under a revised system, the individual architects could become professionals in the first instance, having completed a recognised course of academic study, which would be one of a wide variety of combinations or options but including an agreed minimum content of broad architectural design, design management and building technology, and having initially completed their practical training period successfully. The present professional practice examination would be replaced by a professional admittance examination, giving full membership of the profession to people with a wider variety of skills, qualifications, experience and motivation than at present.

Architects wishing to become principals in private practices, or wishing to establish their own independent practice, could apply for a GP professional practice qualification and undergo a suitable examination. Naturally, those who wish to continue as at present to qualify directly as a GP would be able to do so, but one would expect a higher standard in such subjects of a GP course as office management and project co-ordination than is currently the case.

The most important attribute of a professional qualification

to an individual is that of employment prospects. For the majority of architects the relationship to the client is usually indirect through his employing organization, be it public authority, private practice, or industrial or commercial organization. It is estimated that only 25% at most of the profession can be considered in any way as independent or having direct contractual relationships with clients. There were 5,974 architect principals in private practice, according to the 1968 RIBA Census, out of a total of approximately 22,000 architects.

It is reasonable to state that few clients will be deterred from employing architects because some of their employees might not hold a professional practice qualification. In any case, many practices employ a large proportion of semi-qualified architectural staff, some of whom (the technicians) will never qualify professionally. On the contrary, recent investigations, such as 'The Architect and His Client', suggest that many clients would welcome a move towards variety in architectural qualifications and skills, especially if this meant a larger number of specialist architects having a more intimate knowledge of their requirements. Again, it is reasonable to assume that such clients would simultaneously accept a change in the overall professional qualification which may occur for certain specialists.

There is no reason to believe that those architects entering the profession as specialists should not qualify later as GPs. This would most certainly be true of the interim period between the present situation and any future time when many specialisms may be too highly developed for the average person to master both ranges of professional function. If that position should arise, the professional status of the specialist would be secured.

section 5

THE DEMANDS FOR AND THE EXTENT OF SPECIALIZATION IN PRIVATE PRACTICE

5.1 THE EXTENT OF PROFESSIONAL AWARENESS OF THE NEED FOR SPECIALIZATION

The architectural profession as a collective body has few direct and continuous contacts with its clients, or potential clients. Information about clients' requirements in terms of services, as well as in design terms, is collected on an individual basis, normally in relation to isolated projects. Technical information relating to design solutions and production information, on the other hand, is slowly becoming rationalised and standardised, both within individual practices and across the profession, assisted by professional, technical and trade journals, and such bodies as the National Building Agency and the Building Research Station. Working groups meet regularly to discuss 'dimensional co-ordination' or pre-cast concrete techniques, and similar aspects of a tactical nature, but concerns with client and user activities have been few and unrelated.

The RIBA itself has only one office specifically intended for the strategic function of advancing professional client relationships. The Clients' Bureau formed in 1970 has only a short history, being a development of the Nomination Service established in 1965 as the result of a report by a sub-committee of the Policy and Finance Committee in 1964. The Patronage Sub-Committee has remained in operation throughout this time and was instrumental in proposing the formation of the Clients' Bureau, partly as the result of a report entitled 'The Architect and His Client' by John Carter, a member of the sub-committee, which was published in April 1970.

The record of the operation of the Nomination Service which Carter's report represents is one of the few serious attempts to establish a basis for professional-client understanding.

The Working of the Nomination Service

The Nomination Service is based on an Index of Practices composed of standard forms completed by practices on their work experience, and supplemented by photographs of finished work, again supplied by practices. The majority of forms were filled in during 1966/7 and many have yet to be revised, which may be done on an annual basis. The other source of practice information is the RIBA Directory of Practices in which, for a fee, practices may be included with a brief description of their work experience. The current Directory covers only 80% of private practices.

Each enquirer is usually provided with a list of five or six practices that the client can approach as being suitable to tackle the project he is considering. An analysis of the use that clients make of these nominees showed (paragraph 2.9 of Carter's report) that only 19% of enquirers approached all the nominees, 35% approached only some of the practices, 23% only one practice, and 23% approached none at all. Out of each hundred enquiries to the Nomination Service office, 20 do not proceed further, 39 contact RIBA nominees and 41 go to other architects or other organizations (paragraph 2.19.3).

The working of the Nomination Service is severely limited by the amount and type of information available; and the low income that it generates can provide insufficient staff to develop the activities and the follow-up necessary to fully monitor the enquiries and their outcome. Whilst the Nomination Service has been trying to build up a picture of private practice services and skills, however incomplete, it has been unable to achieve anything in the way of compiling systematic knowledge of clients' requirements or other information which could be useful to architects in the developments of their services.

Conclusions of 'The Architect and His Client'

Carter's report is based on the results of analysis of enquiries to the Nomination Service, and a questionnaire survey and interviews of a sample of those who had used it. The overwhelming conclusion that he has drawn from his findings is that a majority of those clients who approached the RIBA did so, not because they knew of no other way of finding an architect, but because they were seeking specialist advice of some kind.

"The most important and frequent finding of my inquiry into why people use the RIBA Nomination Service, is this: the majority of building clients seek architects who have specialised experience of the particular problem in hand, and there is no doubt that a significant proportion of them come away disappointed. This came out in the questionnaire survey, and, no less, in the interviews..... In talking to factory owners, printers, launderers, university professors, office and entertainment building promoters, and others over a wide span of activities, it becomes clear that clients as a whole find the lack of specialization in our profession puzzling and rather unsatisfactory." (paragraph 2.13)

In particular, it is clients from the industrial and commercial sector who seek this kind of information, and the largest percentages of enquiries numerically fall into those categories. Analysis of enquiries by the type of client showed that 51% were in the private sector, with the next largest group being Local Authorities - 19%. (paragraph 2.5)

A considerable amount of the information and experience built up during the six years formal operation of the Nomination Service must lie with the person who has been responsible for its operation during this time, and who, it is understood, is soon to leave the RIBA for personal reasons. This should make it explicit that more systematic information must be held on

record in the office of the Nomination Service so that the successful operation of it is less dependent upon the intimate knowledge of one or two people. This is essential if the extent of the information is to become more detailed and specific, and is to be fully taken account of in the selection process.

Carter goes on to define what the clients he surveyed mean when they refer to specialized experience, and suggests that it means experience and skills to deal not only with the planning and construction of a client's building, but also the administrative, legislative, costing and other attendant specializations with which the client's activity is related. (paragraph 2.14) He also draws attention to the collective knowledge of the profession regarding the workings of public sector building, but points out that a corresponding knowledge of the private sector, for example the economic and financial forces at work in manufacturing and other industries, is collectively lacking. Although some private practices might have limited and local knowledge of these factors, gained from their experience in an ad hoc fashion, if recognised patterns of specialization are to develop in architecture, then a more formal, organised basis for this knowledge must be developed.

5.2 A SURVEY OF CLIENT ORGANIZATIONS

In order to provide at least a limited insight into clients' requirements in relation to the demand for specialization, a small survey of client organizations was carried out during the period of study.

Questions and Purpose of the Survey

The purpose of interviewing client organizations was to find out the experience of a number of organizations who had been engaged in building development work, and to assess their experience of professional architects if they had employed them. It was decided to keep all visits to clients in one major category, and the industrial sector was chosen to provide a check on the evidence given in 'The Architect and His Client'.

Six industrial companies in the Midlands were approached. They varied in size from a small, young company, to divisional companies of nationally known industrial groups with several thousand employees. All of these companies had recently been engaged in building, or were in the process of doing so.

The questions attempted to establish an outline of each organization, its background and development, and, according to the age of the company, its relevant investment experience was investigated.

To attempt to assess the companies' own attitudes and decision-making processes which might influence their own judgement of professional consultants, further questions dealt with aspects of company policy and approach to decision-making relative to building programmes. Finally, direct questions on the expectations and experience of professional architects and other consultants were asked, including companies' own ideas on the

type of services they would like to see from professional consultants.

Survey Findings

It was found that despite variations in size, all of the companies had a very similar approach to organization structure and even the smaller companies had developed the full range of management functions. Also, all of them employed external consultants in a similar way. Accountants, and auditors for legal requirements, were brought in on a day-to-day basis, and were by far the most frequently used. These financial consultants were the most integrated with the client organizations in terms of work and systems of operation. Legal consultants were normally permanently 'on call'. Architects, surveyors, estate agents were, except in the smallest company, employed on a continuous, but intermittent basis; that is, the same consultants were used whenever needed, but no retaining fee was paid and each problem was dealt with in relative isolation. Only one of the biggest companies visited had a regular building review programme as part of its five and ten year corporate planning exercises; thus it did try to bring in all consultants at the earliest advantageous point.

Of the firms that had employed management consultants to assist in the planning and organization of production, or other aspects of a company's operational systems, the general response was that the services offered were of no higher a standard relative to those of architects. One of the largest companies had recently employed management consultants five times for specific projects, and the Chairman and Managing Director said that only one of the five projects could in any sense be described as having been completed successfully. It seemed that management consultants were sometimes used because it was easier to put across a new idea if it came from an apparently external and objective source.

The company that had had most building experience, a well known plastics manufacturer, the subsidiary of a large group, felt that their architects were not as bold as they might have been. Working for a plastics company, the managing director felt, would have been a challenge to any professional architect to produce something that might reflect the technology employed and the materials being made by such an organization.

The concern of architects with 'fringe' items, as these clients saw them, such as furnishings in offices, combined with their lack of knowledge in depth on such factors as the technical equipment of the main production buildings, produced the main criticism of architects. It was in this area that the clients interviewed felt that architects should develop specialist knowledge. There was, by comparison, no real criticism of the management capabilities of architects in the programming and control of the contracts experienced by these firms. But, a more intimate knowledge of the constraints on clients' investment, and of the real relationship of the factory as part of the productive system and its role as a working environment, seemed from the clients' responses to be lacking in architects' perception of their function in this particular sector.

Conclusions

The architect's concern for people and in this particular area of industry, for the working environment, is, it is felt, an illustration of the typical benefit that might accrue from architects becoming more intimately concerned and knowledgeable as specialists. To achieve the balance necessary to safeguard the investment involved in a factory, and to furnish an architecturally satisfying solution requires an expertise that can provide full justification of all participants: the client, the user and the community.

There is little real value in providing comfortable working conditions for employees in a factory if the nature of their work remains at a sub-human level. If architects are to argue their concern for humanity in this kind of situation, they must also demonstrate the ability to question and improve the fundamental organization of the functions for which they are designing buildings. Most clients' concepts of architecture were heavily coloured by the aesthetic concern which the profession demonstrates, though this was not criticised per se; there was simply a feeling that it required much more technical reinforcement.

5.3 A SURVEY OF PRIVATE ARCHITECTURAL PRACTICES

In contrast to the approach described above, which is based on enquiries into clients' opinions on the matter, a further survey was undertaken of a number of private architectural practices. The survey was conducted on the basis of a prepared questionnaire with specific functions in mind. This was intended to establish the extent to which private practices specialise either in the nature of the work, by type of client, or in the organization and development of their practices.

Selection of Practices Interviewed

To achieve a representative sample of interviews, the practices visited fell into the categories used for most surveys of private practice, in particular the categories adopted by the RIBA Census. Thus an attempt was made to ensure that practices fell into the groups having an architectural staff of: 1 - 2, 3 - 5, 6 - 10, 11 - 30, 31 - 50, 50+; and interviews were conducted in at least two practices within each group. The practices visited included both those of which the interviewer had some prior knowledge, as well as a proportion which were selected 'at random' from the RIBA Directory, mainly from the Birmingham and Central London areas.

PRACTICE IMAGE

Purpose of Questions

Practices were asked for the descriptive titles which they employed, not simply on their door plates and letter heads, but in presenting themselves to prospective clients, in informative documents as permitted by the Code of Conduct, and when assigning their names to completed work.

The purpose of this enquiry was to receive some indication of the extent to which practices might attempt to emphasise the

range of services they offer, or any specialist characteristics or experience they possessed.

Findings

The majority of respondents kept to the title 'Chartered Architects' or, more simply, 'Architects'. A few attached a sub-title in certain contexts, usually 'and Planning Consultants'. Among the larger practices one or two 'Surveyors' and 'Engineers', and one 'Industrial Designers' were found. One small practice styled itself 'Architects and Graphic Designers'. Only the largest firms who used the title 'Planning Consultants' or 'Town Planners' had full-time town planning staff undertaking town planning work as distinct from architectural projects. The smaller and medium sized firms who used this description felt justified in doing to because their building design experience had included large scale projects, for example, comprehensive redevelopment schemes.

Conclusions

The overall impression gained from answers to questions on the subject of practice image was that practices saw themselves largely in the traditional light of general building designers for a wide variety of projects. The largest practices, which were offering integrated multi-disciplinary services, also offered independent mono-professional services from each major discipline in the practice, almost as practices within a practice; yet they still tended to view the overall practice as having a general architectural nature. The reason for this might be the dominance of the architectural partners, in numbers as well as in relation to the foundation and growth of the practice.

COMPOSITION OF PRACTICES AND STAFF QUALIFICATIONS

Purpose of Questions

Questions concerning the numbers and qualifications of staff at all levels in the practices were intended to show the extent to which architectural practices might be attempting in formal ways to widen the skills and qualifications on which their services are based, and the extent to which they might bring in specialist qualifications. Also included were the general level of qualification among technical (direct) staff, and the extent to which non-technical (indirect) staff are employed. The latter aspect would give some indication of work sub-division and specialization by task, as an aspect of practice organization.

Findings - Principals

Only the largest practices visited had principals and/or associates who were not architects. There was only one where the partnership was really multi-professional, and where architects did not form more than 50% of the partners. The non-architect partners or associates found were, in descending order of frequency: civil/structural engineers, surveyors, mechanical, heating and ventilating engineers, industrial designers, an accountant and an economist. All those who had town planning or civic design qualifications were also qualified architects.

Findings - Technical Staff

As one would expect from the qualifications of principals, only the very large practices had non-architect qualified technical staff, especially civil and structural engineers. The most noticeable characteristic of practices with regard to staffing regardless of size was the extent to which they employed non-professional architectural technical staff. Generally speaking, principals fell into two groups: those who were strongly

against the use of 'technicians' by architects, and felt that the RIBA was misguided in helping to establish the Society of Architectural and Allied Technicians; and those who employed them in varying ratios with qualified or qualifying professional staff and held no outstanding convictions on the matter, but simply looked upon it as a sensible and economic division of labour.

It was felt that the objections to the use of technicians were based on philosophic and idealistic grounds rather than on practical experience that a practice's professional services become weakened. Those practices which did not use technicians were in the minority; of those which did, more than one, it seemed, did so purely for economic reasons of lower salary overheads.

Only one practice, a medium sized firm, had an overwhelming majority of fully qualified architectural staff and employed no technicians. Most practices had a larger proportion of their architectural staff below principal level still in the process of qualifying. (The RIBA Census showed that 49% of the total architectural staff, including principals, were qualified and pointed out that the proportion of assistants who were qualified has risen since 1960, as one would expect from the gradual closing of entry to the profession that has taken place since that date.)

Findings - Non-Technical Staff

Apart from the very large practices, there was only one, a medium sized practice, which had really attempted to sub-divide the work-load by employing specialist administrative staff. This practice employed two full-time administrators for a total of 13 technical staff and 4 secretarial/clerical staff. These two administrators were responsible for a wide range of duties, extending from all external office communications, programming

and progressing of projects, all the project information records, the library and technical information services to the design staff, to the organization of many office procedures, staff records, salaries and payments. The administrators worked very closely with the architectural staff, but did not control any aspect of decision-making with regard to projects, which was still firmly in the hands of the partners and job architects. However, the arrangement meant a great deal of sub-division of work, and a form of specialization unusual in the practices visited, with the architectural staff spending a much larger proportion of their time on the drawing board or in other direct design activities, rather than dealing with more and more administrative paper work as they became more senior.

The largest practices were similarly organised, and could not have grown without sub-division of this kind. In the other medium and small practices many principals complained about the increasing burden of administrative chores, yet all these employed only typist/secretaries who did not take responsibility for work organization, correspondence or office planning. Most of these firms stated that they followed the RIBA Handbook of Practice and Management in organizing their work.

Conclusions

The largest practices visited stand out very much from the others, not only because of their very much greater size, but also because of their multi-disciplinary nature. The majority of the other principals interviewed seemed reluctant to release the architectural staff from any of the indirect work, expressing beliefs in the great 'horizontal span of interests' which the architect must keep fully within his grasp to remain a true architect.

Whilst one can appreciate the views of those who do not wish to divide architectural tasks between designers and technicians,

the direct and indirect sub-division of work seems to be inevitable as soon as a practice has generated the work-load for sufficient people to warrant the employment of full-time staff to deal with it. This will of course vary from practice to practice, but even a small practice of 2 - 5 people will have at least one full-time secretary, who, if employed at a sufficiently high level, could be trained as an administrator.

WORKLOAD CHARACTERISTICS

Purpose of Questions

The questions under this heading were to show the extent to which practices specialize by building and client type. Some of the questions dealt specifically with a selected area of building and client type and others asked practices about their experience of industrial architecture.

According to Carter in 'The Architect and His Client', industrial clients have an expanding field of building work, and are those who most of all seem to demand specialist services. It was thought that an investigation of this particular area might show whether there was a general disinterest in industrial architecture among practices, or whether this merely indicated a general approach to all types of work that had been emphasised by the analysis of Nomination Service enquiries.

Findings

The most specialized practice visited in terms of work-load was a very small practice consisting of two partners plus one secretary. This practice had shrunk from a medium sized establishment owing, it seemed, to the aging of the partners who had not wished to hand on to successors. However, the work load had remained consistently as a high proportion of industrial building (80%) over a considerable period of time, although the size of the work-load had diminished. Within the

80% industrial architecture, the building types executed were of a wide variety, but all of the clients had been in the engineering industry and the brass and copper founding industries, within a closely defined area of the Black Country. The extent of the specialist knowledge of a particular type of process was considerable, and the practice had been engaged in development work with clients on process organization, undertaking study tours abroad on clients' behalf, e.g. the investigation of copper foundries in Switzerland and Germany.

One other practice of medium size had in the past specialised both by type of work and by client to the extent that over 50% of the work-load had been that of one client, a large industrial organization. More recently, a wider spread of work had been sought, both by building and client type.

One medium sized practice which did specialize did so in a very balanced way. The work-load was carefully structured between a number of areas so that no one sector had more than 30% or so of the total work-load. Within this strategy, some extremely specialized work was done, employing people with particular qualifications and experience in those areas. One major area was industry, in particular materials handling and warehousing techniques; the other was educational buildings, where an educationist consultant was employed to co-operate with the architectural staff on research and development work, and in school planning.

Of the other practices, it appeared that where specialization as such occurred, it was a characteristic of the project, rather than the office. A commission for a hospital or a university was invariably a long-term involvement and entailed a considerable amount of 'investment' on the part of a practice in terms of personnel, background investigation and information collection, so much so that all practices visited which had

undertaken this type of work had done more than one project of the same type. A very large office had done many similar project types, several of the university developments, for example. This usually meant, in reality, a specialized group within a practice, although the group membership might change slowly with time below the key positions which had to provide the job continuity. Because of the amount of working information to be absorbed by those employed on these projects, the group structure tended to be more static.

Most of the practices engaged in large scale projects, especially the public sector buildings such as hospitals, were all apparently concerned at being type-cast even in the largest offices, which, as has been shown by Gardner in the RIBAJ, one would have thought, could not have existed without such projects. One very large practice did express a desire to become comprehensively involved in all types of specialist projects, not only in large sector public building. This practice is developing as a multi-professional practice, and is already performing a wide variety of work, from town planning to civil and structural engineering and furniture design (for furniture manufacturers), as well as a variety of research and development projects for various organizations including government departments, e.g. investigations into new transportation systems. For several of these projects, however, specialists from outside the practice were heavily involved.

Conclusions

Although the very large practices said they did not specialize, it was felt that in fact they specialized in a number of diverse areas. When a large office has had groups working on, for example ten universities over a period of more than ten years, it can hardly deny having a specialist expertise in that particular area, unless there has been a deliberate attempt to move staff about from project to project so that

none has had the opportunity to become specialized. This is patently against the professional objectives of the practices which state clearly the responsibility to provide continuity of service to clients; and would negate the advantages of continuous relationships between staff, clients and consultants, and, not least, be less than economic good sense.

Thus it is felt that more specialization by project type is undertaken by individuals in large practices than is sometimes acknowledged by the spokesman for these firms.

In the smaller practices with diverse work-loads there is less opportunity, naturally, for this type of specialization to develop, since there will be fewer projects of each type, and perhaps less continuity between different projects of the same type. Economically, under the present structure of the profession, with practices working in isolation, the smaller the firm the greater the need for flexibility, both in the rotation of staff between types of job and in the capability of a practice to accept virtually any job which is offered, unless by the nature of their expertise they can attract a continuous work-load despite the trend of fluctuations in the economy.

CLIENT RELATIONSHIPS

Purpose of Questions

The purpose here was to establish the extent to which practices become involved with clients in establishing the brief for a commission, as this was thought to indicate the ability of the architects to understand the client's activity and requirements, and to show the client that prior to establishing the brief a considerable amount of preparation and decision-making is undertaken. An ability to contribute here might indicate a different aspect of specialization.

Findings

Below the largest practices only the medium sized, technically specialized practice indicated that it performed this type of pre-commission activity, and this undoubtedly was due to the specialist skills held. One other partner said that on very isolated occasions he had rejected a brief as being inadequate and had persuaded the clients to allow him to investigate their organizations before establishing a new brief.

In another practice, not having any particular specialist experience, the partner had recently completed a project where he had been invited to survey an industrial company which had foreseen that it would soon undertake its first major expansion and so was able with the client to progress to the brief-writing stage by being involved in the production and financial planning well in advance of the related building problems. This, he confessed, had proved to be the most educational experience of his career. The initiative rested with the client, however, and this kind of activity was beyond the other experience of the practice.

The largest practices were frequently engaged in the pre-design activity of projects, quite often because they had been engaged in planning exercises, as well as for the design of buildings as a second stage of the work. They had also been able to undertake investigations of client organizations prior to the brief-writing stage, bringing in management consultants themselves, and working for a separate fee.

In the normal course of work, no practice expressed difficulty in developing close contacts with their clients' organizations; and most work seemed to be continuously supervised at a level of overall control on both sides (partners, managing directors or chief officers). On long projects, or when more than one project had been undertaken for the same client, a considerable

amount of informal contact and communication took place. The extent to which this brought in lower levels of architectural staff seemed to depend on the principals' concept of professional relationships. Some insisted on being present at all meetings with the client, even though job architects might be the real contributors; others allowed varying degrees of delegation, after the practice-client relationship was well established.

By contrast, when dealing with other professionals, engineers or quantity surveyors, much more delegation took place.

Conclusions

The overall impression gained was that whilst most client-architect relationships were conducted, after an initial period, on a fairly intimate and informal basis, below the level of the very large practices and the one medium sized practice which had become an acknowledged specialist in certain fields, the practices visited did not indicate that they had a very strong influence upon clients' decision-making processes. The strengthening of the architects' skills by specialization in relevant forms might provide the answer to this. (This view is reinforced by the findings in a sociological study of architects by Graeme Salaman - AJ, 21.01.70 - who described the frustrations of architects in the face of their inability to sufficiently influence clients in decision-making relating to the work being performed.)

There seemed to be something incompatible between the expressed opinions that a practice should be able to undertake any work competently, and the inability to really become involved with the client's organization, or to challenge a brief that might be less than satisfactory in the architect's view.

STAFF EMPLOYMENT, TRAINING AND DEVELOPMENT

Purpose of Questions

The staff of a professional practice, from the partners down, determines the nature and character of its services; they form its main 'capital' resources. Questions in this area were intended to reveal practices' policy and outlook on staffing, and the importance they attached to staff training and development beyond the experience gained from project work. It was thought that this would indicate the extent to which practices might be attempting to develop specialist skills within their staff.

Findings

Most practices stated that they employed their staff as much as possible as good 'all-rounders' rather than selecting people with particular skills or specialist interests and experience. If the individual had both qualities, this was welcome, but there was little indication of a policy other than the employment of the best staff one could find. Further, practices with mainly unqualified technical staff seemed in one or two cases to be employing the least qualified staff they could to get the work done. Usually, this meant that all design decisions were taken by the partners, and the staff were simply seen as a drawing office in which the necessary production information would be drafted out. It was these offices which considered that training and development of staff would be an unjustifiable expenditure of fee income. One such partner even stated that he thought his staff would treat attendance at a training course as 'extra holiday or a paid booze-up'! This outlook was strictly a minority one, and most practices, even those who confessed at being insufficiently profitable to justify what they would ideally wish to be included under training, said they attempted to get staff out of the office for at least one day each year to attend a formal course. In

the medium and larger sized practices one week per year per member of staff seems to be the target allowance. Many practices said they attempted to keep staff aware of courses, meetings and events of relevance to professional, education or design developments. A few practices allowed their staff to attend day-release courses to obtain qualifications on a part-time basis, although, as a result of RIBA policy, this is rapidly becoming a less common method for people intending to enter the profession.

A medium sized practice which was anxious to develop its town planning skills had encouraged one of its young architects to pursue a full-time course in town planning on the understanding that he rejoined the practice. Obviously this was intended as a mutually beneficial arrangement and it was clear that the partner thought that the man in question had considerable potential for the future of the practice.

The largest practices, which were all to some extent multi-disciplinary, would normally buy-in a specialist if needed rather than train an existing member of staff. Training in the large practices tended to be linked to developing the all-round competence of staff rather than developing specialists within each discipline. Rotation through different work groups was said to be what staff asked for; and flexibility of staffing seemed to be a general objective of practices which took advantage of this. There was no way of testing whether this was because staff were against becoming specialists themselves, or because practices had not investigated the possibilities of specialization in practical ways.

It was thought that the concept of mid-career education, whilst beginning to be seen as a valuable and necessary development, would be very slow in becoming a formal and universally practiced part of professional life. The financing and

programming of lengthy courses of study would prove to be a great problem, especially for the smaller firm. Much of the initial developments would have to be based on architects' own private time by the use of evening courses, for example. Some practices felt that they might be able to provide a small incentive in this respect.

Some principals, particularly those who qualified externally from a school of architecture, may find it difficult to assess the value of formal education for practising architectural staff, and the development of adequate, well-balanced programmes to meet specific objectives, and will probably require specialist knowledge from a staff development officer which only the few largest practices would be able to afford to employ.

It is thought that the RIBA should devise some form of do-it-yourself education and training manuals for practising architects to use in conjunction with their normal work-load. Much of the initial education of architects is project based, and it is felt that individual architects or small groups of architects in practices could run their own training programmes within a formalised, well set out framework, by learning from, and applying new knowledge to, their work experience.

INFORMATION AND WORK SYSTEMS AND PROCEDURES

Purpose of Questions

The questions under this heading were intended to show to what extent practices specialized in terms of the organization of the work-load and the approach to it. Also, the extent to which practices attempted to develop staff skills by channelling information to particular individuals, or by assessing individuals' particular needs in terms of technical or other information. This is related in part with the section on staff training and development.

Findings

The approach to work organization varied considerably between practices but was not particularly related to size. One small practice had highly formalised programming of work, whereby each member of staff received a 'requisition note' with the task to be performed and a programmed time limit written out. Each task, it was claimed, could be programmed and controlled to the nearest quarter of an hour. On the other hand, one of the very largest practices claimed that its programming was kept to the simplest form of bar chart and working groups and individuals were given only the broadest framework of task and time scale to be achieved, and responsibility was delegated to the project group to organize itself.

Another very large practice was most systematic about its whole approach to design, practice organization, information and work flow. Each member of staff had a manual setting out a systematic approach to all work procedures. This had been carefully structured with the aid of management consultants and systems analysts. This firm has become quite widely known in the profession for its systematic approach to many aspects of corporate life, including the pre-selection of technical information, standardization of design detail and constructional solutions. This has led to a certain specialization of work, with technical staff specializing in the monitoring of materials and products, developing improved standard procedures and solutions, and design groups tackling the project work within the framework of the supporting systems. This is meant to achieve the highest quality solutions to design problems by allowing the designers to spend more time optimising the design for a building within a pre-selected 'vocabulary' of component part-solutions.

This particular practice is one which has developed specialist capabilities which allow it to go beyond the normal building brief and to help its clients' organizations to look at their

building problems in the widest possible context. This capability has developed both as competence in internal management as well as part of the practice's marketable services.

Other practices varied from the completely random or ad hoc approach to work organization, to varying degrees of systematic sequences using various aids and guides such as the RIBA Job Book. Some small practices tended to the opinion that they could not afford to use systematic methods because they would cost too much in time or money to introduce. On the contrary, another small practice claimed that without close control of all the resources in the day-to-day operation of the work, it would not survive.

Conclusions

The majority of practices, it seemed, wished to remain as least systematic as possible, as they felt this dehumanised the work to a certain extent; only the very large practice described above was really enthusiastic about this form of specialization as a way of life.

Perhaps many people shy away from a systematic approach to practice organization as many have done from the design methodologies which were given so much currency during the 1960s, because there is a lack of fundamental understanding or investigation into the purpose and function of such techniques. A similar misunderstanding still confuses the mind of many people regarding the use of the computer.

PRACTICE DEVELOPMENT AND FUTURE STRATEGY

Purpose of Questions

Questions here were to show the extent to which practices were formally attempting to plan out their future development, the type of work they would attempt to become known for, and the

way in which these policies, if held, would be implemented. It was thought that this would show the extent to which practices might be examining certain forms of specialization in order to improve their services and to be more competitive.

Findings

It was only the medium and large practices that had any formal approach to this at all, and not all of those were engaged in formal activity of a strategic planning nature. A few practices had specific future objectives, such as the large practice which intended to offer a comprehensive design service for almost anything that needed designing, be it a building, an industrial product or a less tangible object such as an organizational design for a client's company. Other practices had less well formulated ideas; some simply suggested a vague notion that links with other types of professional practice might be explored in the future.

One medium sized practice said it had decided to invest in a year's research into housing design, and that staff had been selected to undertake this, to develop the necessary skills and establish the information services necessary should the practice manage to achieve a commission for housing design. This seems to be an area where future opportunities lie and would balance both the other public sector building and the private industrial and commercial work, some of which was for developers who might become engaged in private housing developments. This particular practice, whilst denying that it had any formal policy for developing specialists, had already admitted the fact that certain projects such as hospitals had led to a group formation where people tended to stay for long periods, and because of the complexity of the project requirements and design procedures, were, in effect, specializing by project type. The research into housing would undoubtedly produce practice's housing specialists because the staff

involved in the exercise would embody most of the knowledge and be most familiar with the relevant information. Should a housing commission be received by the practice, these staff members would almost automatically be selected to undertake it. Thus another specialist group would have formed. So specialization was playing a slowly developing role in the life of the practice, though not, it seemed, as a conscious policy.

Many practices, even most of the small ones, stated that the responsibility for information library and information services should be the special function of a particular member of staff. The larger practices all had full-time staff engaged in the library work, providing for the needs of individuals in the practice as well as for broad information requirements of project groups. Some practices pay outside information companies, such as the Barbour Index, to sort and integrate the practice's own information along with the trade and technical literature which they supply. This was especially helpful to the smaller practices who could not afford a full-time librarian.

The largest practices, which were being commissioned by such agencies as the Ministry of the Environment for feasibility studies and research and development work, were developing various skills out of the commissions they received which would assist them in the future practice development strategy, say, to provide comprehensive design services. They were being paid to develop these skills, and to employ certain specialists. Smaller practices would have to gain such knowledge on a more theoretical basis and pay for it out of their own resources.

Conclusions

Except for the largest practices, and the one or two others who had achieved recognition as specialists in various ways described above, most practices expressed certain feelings of

uncertainty, almost impotency, with regard to the future. Many were unsure about how they would seek out future opportunities or react to changes in the professional environment. Only a minority seemed to be giving actual thought to formulating policies to deal with these aspects of practice.

It is recognised that the economic climate and its attendant effects on the building industry have had their effect upon the feelings of uncertainty held by people in the private sector. However, this does not yet seem to have been a very effective spur to formalising thought about the future, or a more detailed examination of methods of preparing effectively for the strengthening of practices by looking at aspects of competition, by researching the needs of clients or developing services which may increase demand and improve prospects of survival and growth.

section 6

IMPLICATIONS OF SPECIALIZATION FOR THE INDIVIDUAL PRIVATE PRACTICE

6.1 IMPLICATIONS OF SPECIALIZATION AND THE NEED FOR STRATEGY

One of the most important implications of specialization, or a decision or proposal to specialize, is the necessity for enlarging or improving the managerial capability of the organization.

The implications of specialization are those when any activity is performed at a higher level than previously existed in the particular context, whether of technical sophistication, improved methodology, increased efficiency and productivity, of innovation for breaking into new markets, or to increase the share of the market. In practice, the reasons are likely to be a combination of several of these factors, although one may be of over-riding importance in a particular 'environment'. The implications also include the increase in complexity of the co-ordination of any process or activity which involves the work of more than one person. Specialization will sometimes multiply this complexity and increase the importance of the co-ordination itself.

Need for Strategy

Specialization also heightens the need for a strategic planning capability within the firm. The analysis involved in proper strategic planning may include aspects far outside the normally accepted field of operation of architects. A certain decision to specialize in industrial architecture for example, may demand a capability for analysis of change in certain industrial environments, calling for skills in the fields of market research, economics, political science, sociology, production engineering or any number of highly sophisticated technological or scientific areas.

Private Practices and Cost of Strategic Planning

The implication of strategy for a particular firm in a particular environment may be considerable, both in the technical sense as well as the cost of the operation. Only the largest and most profitable firms may be able to afford to undertake full scale analysis in certain environments and maintain the activity as part of the continuous management process. Architectural practices tend to be in a weak position relative to this kind of activity because of their low capitalization, and the tax situation which is negative towards the partnership type of organization. However, those who might react to this problem by suggesting that specialization is impossible to finance properly or really establish in a full-blooded way, should remember that the purpose of introducing specialization is to increase efficiency, raise standards and value of services and thereby their own profitability. The skills of the specialist, whilst perhaps forming a more expensive cost for the practice in terms of salary demanded for example, are paid for by the product of their use.

Need for a Search Procedure and Management Information System

The point of the discussion for architects should be that they possess at least the ability to identify a need for such analysis; and an ability to interpret any 'bought-in' analysis, whether specially commissioned from within the practice or from outside consultants, or 'off-the-shelf' information, such as government or RIBA statistics. One may suppose that there is almost always a considerable amount of information available in diverse sources whenever strategic analysis is being undertaken. One may further suppose that there are many firms who fail to search out and use such information, or who are unable to analyse it correctly, and formulate a viable plan of action using the knowledge gained from such analysis.

The implication of the adoption of management principles is a systematic approach; and architects whose stock in trade is information must adopt a 'systems approach' to information flow, both for their own internal organization as well as part of their marketable services. The complex analysis and decision-making process which is involved in strategic planning and necessitated by specialization creates an imperative requirement for the systematic organization of information of all kinds, its sortation and classification, its storage and retrieval. Likewise, the search for sources of useful data and information must be systematic and unprejudiced. This implies the application of imagination by those involved in the search process.

It is worth noting Ansoff's perceptive observation of management vis-a-vis strategy formulation: "Generally speaking, firms can be divided into three categories:

1) 'reactors' which wait for problems to occur before attempting to solve them,
2) 'planners' which anticipate problems,
3) 'entrepreneurs' which anticipate problems and opportunities." 24

Firms in the third group do not wait for a specific 'trigger' but conduct a continual search for strategic opportunities. The post-war business trends have accentuated the need for, and advantages of, anticipation of strategic change.

Passivity of Architectural Profession in Relation to Strategy

The architectural profession as a whole tends to place itself in the position of category (1) since, if firms of architects adopt the passive position strictly demanded by the Code of Conduct in relation to obtaining commissions, attracting work, advertising, and so forth, then they are implicitly resigning themselves to group rather than individual determination in the face of external change in the environment of the building

industry, and in client requirements in the process of acquisition and financing of building.

On the other hand, whilst restricting the individual architect's or practice's scope for strategic activity, the RIBA and ARCUK have not fully compensated by operating a professional intelligence service with adequate and usable data, freely available to the individuals who require it if they are to remain competitive, if only in the sense of the relevance of their 'capability profile' to the demands of clients.

Architects have been restricted in responding to changes in their environment in order to protect professional objectives which may no longer relate to prevailing conditions.

6.2 SPECIALIZATION, CO-ORDINATION AND EDUCATION

To refer again to the quotation from Galbraith included in Section 1, that "the inevitable counterpart of specialization is organization. This is what brings the work of specialists to a coherent result. If there are many specialists this co-ordination will be a major task. So complex, indeed, will be the job of organizing specialists that there will be specialists on organization.", it is clear that we must balance the discussion of specialization with a similar examination and expansion of the term co-ordination.

Co-ordination is not a new concept or fact of life for the architect. Whatever the current phase of change in his environment may bring, the problems of co-ordination are not directly related in his mind and approach to his work with other aspects of modern professional practice. From the time before the architect became a separated professional in 1834, the architect's role has always been one composed in a major part of the co-ordinating of sequences in a complex process. The traditional contractual relationship in the building process typified by the 'Plan of Work' simplifies the co-ordination by its linear sequential form. This, however, as Turin has shown, is no longer relevant to all building programmes and architects' relationships within building teams. Education has yet to catch up with this; all building team members are still educated and trained independently of each other.

It is the reduction of effort in co-ordinating which has been the factor of major concern for architects during the past decade, when problems of this aspect of co-ordination have become more pronounced, and the scale of co-ordination has in many cases left behind the scale of operation of the average practice in the private sector.

Effects of Unco-ordinated Educational System

Some of these problems may very well have arisen because the average architect in average practice conditions has not specialized sufficiently, either in his approach to work organization, and by implication his co-ordinating role, or to his choice of operational field, which would reduce the variety of co-ordinational postures which he has to adopt, and which tend to be different for each combination of client and building type.

That the average architect has had to build his profile on the chance combination of his work experience (which may be extremely wide, with one unrelated building problem following another) has not helped him to formalize his approach to practice organization and design management, or to develop more advanced techniques of co-ordination and business administration.

The present educational system by its breadth and shallowness, its false and arbitrary separation or related fields of study, its unco-ordinated approach to the provision of education for people who must later work together, has done little actively to remove the source of the co-ordinational problem.

The still widely held view that the general practitioner has a valuable contribution to make in an increasingly specialized world has not led to especial objectivity in architectural management, which is probably the profession's greatest collective weakness.

Lack of 'Institutional' Corporate Strategy
and its Effects

It may be that the fears expressed within the private sector of the profession, of being by-passed as contributors in the building process, stem from its failure to plan strategically

as a collective body, as well as individual practices, to develop its potential in all directions and in all possible spheres, bringing a business approach to the use of its assets, ensuring a larger income, part of which could be reinvested in the research and development needed to ensure future improvements in services and standards.

The definition of architects held by Peter Shepheard (RIBA President 1969-71) that they are 'specialists in generalisation' (Architects' Journal 15.04.70), also deserves closer attention, as this seems to represent many architects' own view of themselves. That architects are 'GPs', to take a medical analogy, is not to be disputed; that they should retain certain characteristics of a GP nature is also a concept to be defended, but whether they have in general yet reached a state of being 'specialists' in their GP occupations surely needs qualification.

Architects are, for all intents and purposes, now entirely drawn from graduates of polytechnics and universities; they all receive specific education and training in aspects of problem analysis and solution synthesis, using a wide range of knowledge, both theoretical and technical; project work is used as a vehicle both for their introduction to analytical techniques and manipulation of technical data, and also to introduce them to areas of their future functional context, namely areas of social, political, economic, scientific, business or cultural concern. A complete introduction is, of course, impossible because of time. Further, student and staff concerns are influenced to a considerable extent by immediate problem areas, and so course work will almost certainly take account of the current problems which are relevant to practice, and usually those with the most strident social content. During any one student's educational period, however, these particular concerns are not likely to take him into very many spheres of building design or client areas. Courses, therefore, can only

give a general level of competence and confidence to the graduate, which will allow him to pursue his own special concerns as he may, in whatever sphere of practice he chooses. After graduation, opportunity and intention may prove a haphazard experience as the young architect matures. It is important to stress the value of co-ordinating education and training, professional experience, and mid-career education through institutional strategy.

As he takes more responsibility in his work, the architect will become more fully aware of the pressures of practice, especially those of continuity of work. He will know that almost no job will ever be turned down. He will soon realise that in economic climates like those of 1968 and 1970 it is essential to the average practice that it be able to accept and execute this random assortment of commissions if the practice's income and that of its principals and staff is to be assured. Thus the character of the private sector of the profession is regenerated as a generalised service.

In more stable economic periods it is normal for practices to try to have a continuous flow of jobs of a certain speciality. This is probably the limit of the strategic planning. Mr. Shepheard's description suggests or implies that there is intention or policy in this, whereas in reality the generalist nature of the profession is the reflection of its context and its passive relationship to it. As for 'specialists' in this general level of activity, it is sometimes difficult to see where the use of the word is justified.

Specialization Does Not Necessarily Mean Limited Application

If we look at other professions, the most flexible breed of general practitioner is the professional manager/accountant/administrator, the graduate of the fashionable business school,

broadly grounded in the appreciation and techniques of analysing, synthesising and controlling business systems. These people are capable of working in any business or industry, and some do move through a succession of jobs of remarkable variety. One could call them 'specialists in general management' although many have specialist skills of a more technical nature.

Such people are in increasing demand in the current business environment of change and uncertainty, when almost every industrial, commercial and professional organization must be prepared to change direction at short notice.

The one important area where architects have been and still are severely lacking is in that of management skill, and it is this which essentially is stopping them being the 'specialists in generalisation' that they might be. The general shortage of knowledge of building economics and the financial aspects of building, which are factors applicable to all areas of building and to all the clients, is just one example of an area in which architects have few specialist services available for general application.

Many of the known techniques of organization and co-ordination have only recently entered the realm of architectural education and training, and there is much confusion and misconception about what these will achieve.

Until recently very little basic investigation had been carried out by architects or the RIBA to ensure that the conceptualising of their role was founded on fact rather than fancy. Hillier's paper "Roles and Profiles", prepared for the RIBA Board of Education's Cambridge Conference in April 1970, represents probably the first meaningful attempt in this area. The present state of knowledge about the relationship of architects to the other participants in the building process is still fairly

tradition based. The almost congenital inability of architects to break away from the sequential concept of the building process has held back the evolution within the profession of people with combinations of skill, outlook and ideas which may have more relevance to certain spheres of building today and tomorrow.

The co-ordinating process in the traditional form of design team operation is not so much a planned integration of component parts into a unified whole, but rather an adaptation through interaction of certain conflicting requirements; a cyclical sortation and refinement strictly limited by time as well as technique and the non-related background of the various participants.

It is only in a recent development that any attempt has been made to achieve a common language amongst the professions related in the building industry. The CI/SfB coding system introduced in 1969 is an example of one such attempt. However, it is by no means universally accepted and adopted in practice, and much determination is required to ensure that the whole design team will use it, so that duplication of effort is avoided.

6.3 SPECIALIZATION AND BUILDING PROCESS DECISION-MAKING FOR THE ARCHITECT

Relationship of Profession to its Environment

One important aspect of consultancy work, especially in specialist areas, is the co-ordination and integration of the consultant and the client, in both planning and implementing future action plans. This must come from a thorough dialogue, and it must be clearly understood by both parties that they are both fully implicated at all stages in the whole process, from earliest inception to the full operation and use of the completed project.

Co-ordination of Client and Consultant

Further, the client should be aware of the cost implications of all stages of this process, whether as an internal cost, or as an external one; and he should be able to accurately assess the comparative cost and value of bringing in the external consultant as continuously as possible throughout the whole process, not just at stages which may be thought to be his province.

Responsibility of Consultant in this Co-ordination

Similarly, consultants should begin to gain an 'intelligence' capability to show clients possible savings in internal costs by including them in the whole process, and should be able to supplement their fee scale with such information. This will also bring home more clearly to consultants the cost implication of their services to clients, and lead to greater efficiency and economy on their part.

Clients will spend money, whether this is recognised by them or not, on three major activities in relation to (a) the planning for, (b) the planning of, and (c) the acquisition of

a new building. These costs can be described as the cost of investigation or initiation, the cost of evolution, and the cost of implementation. The first cost in building, that of initiating the process, often falls largely within the client's organization as an internal cost. Clients who are reluctant to bring in professional consultants in the pre-design stages should recognise that an effective analysis of requirements will be a cost just as a consultant's fees will be. The temptation to save on these costs may detract from the long-term value of the ensuing programme. The second cost, that of the evolution of exact parameters for performance of all the aspects of the buildings to be acquired, also implies an internal cost to the client as well as the external cost of employing professional expertise. It should be noted that a feed-back to the initiation decision-making is essential, if this was conducted internally, and the evolution stage includes external consultants. This may well cause delay and extra costs.

The third cost is that of implementation and installation of the building and the activities it is to house. These are readily recognised by clients as the costs they expect to pay when investing in buildings, whereas the previous costs may be looked upon as unnecessary overheads of indirect value to the end product. These costs may be broken down and listed as follows:

cost of:
- detailed design and production information
- tendering
- materials, construction, supervision and management
- raising money to pay for the implementation
- establishing the use of the finished building

The conclusion to be drawn here is that architects must develop skills which will allow them to participate fully in the initiation, evolution and implementation stages of building which complete the whole development cycle. This will require a 'two-way-stretch' that will only be achieved by specialization, with specialists concentrating on developing skills needed throughout the whole decision-making sequence, as well as within the design stages as traditionally accepted.

section 7

SPECIALIZATION AND DIVERSIFICATION

7.1 SPECIALIZATION AND DIVERSIFICATION AS A PART OF STRATEGY

This part of the discussion is perhaps the most important, as it is here that we shall examine an approach to specialization in terms of a broad framework for decision-making. This framework will provide for the practical issues of individual concern and individual circumstance. The preferences of individuals or groups of individuals in the balancing of the organization and objectives of professional practice are an essential part of the framework.

Specialization for the average private practice in the architectural profession can perhaps best be approached as diversification into specific 'market areas', a policy which is intended to provide the practice with an increased turnover of a higher quality than before, and to provide it with greater flexibility in its business environment.

How should diversification be attempted? What are the implications in terms of skill requirement for the practice, and in business outlook, objectives and goals? Are these compatible with the overall architectural and professional objectives which individuals and practices are likely to hold?

This really involves a lengthy examination of basic business decisions; and it must be accepted that whatever else architects might be in their professional capacity, those in private practice are most fundamentally in business, and are in direct competition with other types of business organization in a limited market. The implications for architectural education here are: the strengthening of practice and management courses of study within schools of architecture, and a more developed appreciation of the relationship of the profession to society at large. Both of these aspects would be simpler to establish

were there a greater institutional awareness of the strategic needs of the profession.

Although it can be said that architects have extremely strong concerns of a social and philosophical nature, and that many get their highest forms of motivation from the creation of solutions to social problems, it must be made clear that these concerns are not defensible as the dominant or sole components in the system of objectives which practices must have if they are to survive. Economic objectives are important not only to the architect for his own survival in the harsh climate of the business world, but in all his contractual relationships. It is his moral and professional duty to stay in business until such time as he has completed the terms of the contracts, or can otherwise terminate them without causing loss to the other parties, be they client, builders or employees.

Professional Practices Are Part of the Total Business Environment

The traditional measure of success in the business firm is profit, being the difference between total expenditure and total receipts. It is this yard-stick which distinguishes the business firm from other forms of social organization, such as charitable organizations, certain government institutions, or religious organizations. Professional organizations have presumably tried to differentiate themselves from other business organizations by working for a fixed fee for specific classes of work. There is no reason why this should not continue to be their mode of operation, or that they should be any less professional in the future than they have been in the past. What we are arguing, however, is that they should see themselves as being part of the business environment, as de facto business organizations, and should adopt good business practices and principles.

Further, it must be realised that firms can only achieve their wider objectives through the medium of profit, or more specifically by converting their resources into goods or services and selling these to customers or clients, thereby receiving the return. Profit is merely a measure of the efficiency of the conversion process.

Theory and practice have refined this idea now, and 'profitability' is replacing simple profit as the prime yard-stick for business success. Profitability is profit measured over the long-term of the firm's horizon.

Capital and Convertible Resources

Capital is divisible into three classes: physical, monetary and human. All of these are expended in the business process; machinery becomes old and worn, money is paid out for various needs, and the personnel become old and retire. If the firm is to survive beyond the life of the existing capital, it must make a profit and allow for its resources to be replaced at least to the original level.

Profit making, for those members of the profession who are strongly motivated by other aspects of architectural practice, may seem by comparison a somewhat base objective, only to be pursued when the 'higher' objectives of the firm have been met. The lack of a balanced system of objectives provides an explanation for the shortage of business interest and management skill in the architectural profession, for without clear objectives there is always the danger of incomplete appreciation of task and function in any activity.

The very low level of capital per head of technical staff in private practices is also a result of the non-pursuit of profit. This is compounded by current economic conditions which are leading to a larger percentage of profits being paid

out than before in order to maintain living standards and keep technical staff teams intact as much as possible. The personal tax situation on partnerships does not make it easy to retain profits, but there are organization forms which allow for an improvement of this situation without infringing the Code of Conduct or losing independence.

7.2 OBJECTIVES AND DECISION-MAKING

The overall problem of business firms is "to configure and direct the resource-conversion process in such a way as to optimise the attainment of the objectives". [25] In order to clarify the relative importance of each objective, it must be viewed in relation to the type of decision which it governs, and for this purpose the total decision-making process in business can be divided into three categories: strategic, administrative, and operational.

Considerable effort has been made in the architectural profession during the past decade or more to improve the decision-making in professional practice. Much of this has concentrated, by necessity, upon the operational decision-making to bring office procedures up to date and to help architects make some sort of surplus out of their fee income.

Importance of Strategy in Decision-Making

Whilst the operational and administrative decision-making and related techniques must continue to be refined and advanced, it is the concern of this study that the strategic problems of the profession be brought more sharply into focus, and some attempt be made to establish a basis for advancing professional strategy and related decision-making.

Strategic Decisions

'Strategic' means pertaining to the relationship between the firm or practice and its environment. In common usage strategic means 'important'; here we make no distinction between types of decision in terms of importance. Strategic decision-making is concerned with the problem of deciding what business the firm is in, and what kinds of business it will seek to enter.

The Strategic Problem

There are three facets to the strategic problem:

1) what are the firm's objectives and goals?
2) should the firm seek to diversify, into what areas and how much?
3) how should the firm develop and exploit its present position?

The strategic problem accentuates an important feature of the business decision process, namely that of allocating limited resources to achieve a set of objectives.

Administrative Decisions

The decisions under this heading are concerned with structuring the firm's resources in a way which creates maximum performance potential. Part of this administrative problem is organization: the structure of authority and responsibility, work flow, information flow, and location of facilities. The other part is concerned with resources, their acquisition and development. This applies to all capital resources, finance, personnel and equipment.

Operational Decisions

In any profession or business, operating decisions usually absorb the bulk of the firm's energy and attention, with the objectives of maximising the firm's resource conversion process. Major decisions of the operational group are resource allocation or budgeting, scheduling and programming of operations, supervision of performance, and the applying of controls.

These three decision classes are distinct yet interdependent and complementary. The strategic decisions assure that the firm's services and markets are well chosen, that adequate demand exists, and that the firm is capable of actually

capturing a share of the demand. The term market refers to the client area in which the professional firm will seek to operate.

Strategy imposes operational requirements which the administrative structure must enable to be fulfilled. The nature of the services a practice intends to offer will determine the skills and other facilities needed and the way these are employed, which, in turn, will influence the organizational structure, patterns of communication and work procedures within the firm.

A major requirement of the organizational structure which is necessitated by strategy is that which will organize the firm's management in such a way that a proper balance of attention between the operational and strategic decision-making exists. This managerial balance is difficult for many firms to achieve when people tend to be concerned with one particular aspect above all others, and generally with the day-to-day operational problems of the business. In this connection we may note architects' concern and motivation in 'designing' activities and being involved in the detailed provision of solutions to design problems.

The Importance of Delegation

The major concern for top management is to prevent themselves from being overloaded by establishing decision priorities, and by delegating as much as possible to lower level managers. One does not become involved in strategic decision-making except by deliberate intention, whereas operational decisions or problems will soon reach crisis level if one does not attend to them.

Managements are often very slow to react to the signals which indicate the need to reorder priorities in their activity and attend to strategy instead of being totally occupied with operational problems. When there is an intensified need for

such a change it is unlikely that operational pressures will ease, and management must be perceptive to the fact that more intensive operational activity will not solve a strategic problem.

Being less obvious in the overall business system, strategic problems require special allowance of management time and activity to ensure that no opportunity is missed and no effort wasted in pursuing improved efficiency in operational modifications when more fundamental considerations remain untouched.

7.3 BASIC ASSUMPTIONS ABOUT 'THE FIRM' WHEN CONSIDERING STRATEGY

Specialization and diversification bring with them an essential requirement for architectural practices; that they examine their objectives and define them clearly. This may involve the first formal statement of objectives that the practice has ever undertaken; it may have relied on some traditionally accepted preconception of what its objectives must be, just because it practises in the field of architecture. This may be related to an equally traditional preconception of the role of the architect.

Establishing a System of Objectives

Now, however, in order to make effective decisions for specialization and diversification, which will both secure the future economic viability of the practice, as well as enable it to develop and achieve its goals in a changing environment, a method for establishing a practical and balanced system of objectives must be adopted.

Of course, each practice's approach will be different, as the individuals composing the practices are different, and each has its own organizational structure and authority.

Cyert and March in 'A Behavioural Theory of the Firm' argue that "organizations do not have objectives, only people have objectives", and suggest that the objectives of a firm are in reality a concensus of the collective objectives of the individuals within it. However, these objectives may be quite distinct because of the firm's own individual entity, legally and in relation to the environment in which it exists. Also the functions the firm performs, its history and the traditions which may be perpetuated will modify those of the individual managers and personnel.

What function does an objective have? Basically it is a measure of the firm's resource-conversion process. That is to say, a firm has an objective or set of objectives and commits its capital resources to produce a return; to continue to hold its capital in that form of activity the firm must be convinced that its objectives are being attained (unless it does not mind the risk of losing its capital).

These objectives will vary enormously according to the type of organization. For example, an imaginary firm with an endless supply of capital to pour into its operations may not need to include profit or profitability among its objectives.

Most firms of similar type will be expected to have similar objectives; what will differ most will be the value which is put upon each of the component parts of each established objective.

There are three components to an objective: its characteristic, which defines it as a particular type of objective, whether economic, social, philosophic or philanthropic; its scale, which is the means by which the attainment of the objective is measured against the activity performance to which it is related; its goal, which is the actual level of attainment in the activity performance to which the objective is related, and which it seeks to induce. The combination of the three elements will clarify an objective as an economic, social or type of objective, and will assist in establishing priorities where there is a system of several objectives existing for the firm.

Business organizations all have primary economic objectives which naturally take priority over all others; that is, to optimise the long-term rate of return on the capital employed by the firm. Most have secondary objectives which determine

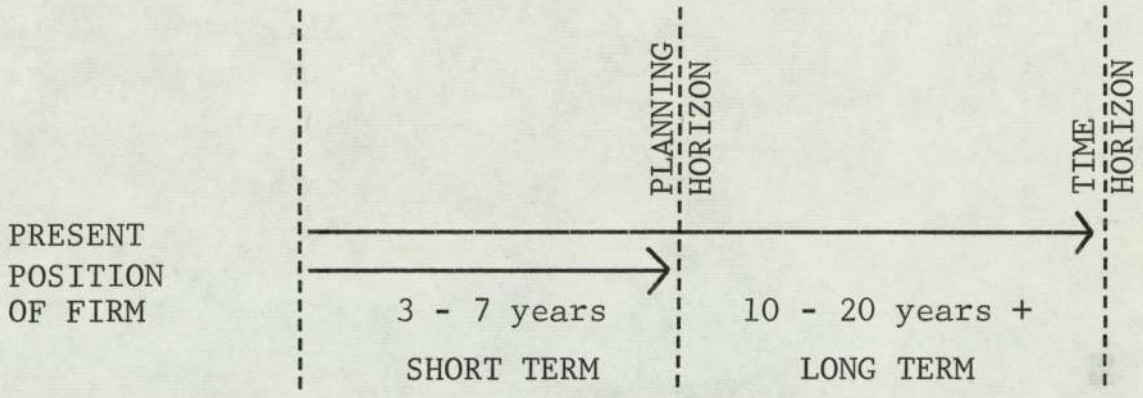
the way in which this is done, but in situations of economic instability they must always give way to the profitability objective in order to safeguard the continued existence of the firm.

This is important for architectural practices to remember. Many are concerned with increased competition and falling workload in building design, but how many take the necessary action to provide for the healthy continuation of their skilled teams by having regard for growth or long-term profitability? How many see profit and the creation of wealth as an aspect of their work, which can be as creative as their design work?

A System of Objectives

In discussing objectives, there must be no confusion with responsibilities. The firm, especially the professional firm, has responsibilities to all the various participants in its activity, and beyond. The objectives of the firm must be so balanced that all of these responsibilities are met. Thus it can be stated that a firm has both economic objectives and social, or non-economic, objectives, but that the economic objectives place the greatest influence on the firm's policy making and control of its activities. The social, or non-economic, objectives will tend to modify or constrain management.

Objectives can be defined as decision rules which allow management to guide, measure and control the firm's activity. Responsibilities are obligations which the firm undertakes to fulfill, but they do not form part of its internal systems. Constraints are decision rules which foreclose certain alternative courses of action to the firm.



PLANNING HORIZON - limits within which firm may predict or forecast with acceptable accuracy, say + or - 20%

TIME HORIZON - long term forecasting period for firm's objectives up to limit of practical value

Short-Term, Long-Term
and Flexibility Objectives

The period up to the planning horizon is the short-term, and it is for this period that certain objectives will be established. The period up to the time horizon is obviously the long-term and a more complex inter-relationship of objectives will be planned into the overall system of objectives.

During both short and long-term periods events may occur which will be completely or partially unforeseen at the planning stage, and to offset any adverse effects of this, and to be ready to take up any new opportunities which may appear, a further group of objectives will be established. This part of the system will be called the flexibility objective, since flexibility is what it is meant to give to the firm.

The short-term objectives must be based on a measure of acceptability which will provide a base for the whole strategy. There must be a means of deciding whether a certain course of action is viable or acceptable; and since we have already discussed the effective supremacy of the economic objectives, this base will

be an economic one. In business activity generally, profitability is measured as return on investment, and it is by this method that capital investment programmes are evaluated. Thus a level of profitability must be established for all possible courses of action, below which the firm will not go. This will be called the investment threshold. Above this minimum level there will be an ideal level which the firm will attempt to achieve. This will be the investment goal; so the complete measure for the economic evaluation of possible courses of action is the investment threshold-goal range of values.

The actual values which are adopted in the investment threshold-goal range will depend on a number of factors based on the specific situation:

1) characteristics of the area of activity in which the firm is interested, based on past and current information and future predictions
2) estimates of opportunities likely to arise in the immediate (budget period) future
3) the intensity of need for strategic action by the firm, ie short-term or long-term profitability, will influence the level of the threshold and the goal
4) resources available for re-investment during the budget period.

Thus an architectural practice might, as a basis for decision-making in this area, set a goal for profit levels of 25% of the fee income from all commissions generally. This would set the economic goal for the practice's objectives which would be subject to modifications reducing this level of profit down to a threshold level below which the activity would not be acceptable. The threshold level might well be break-even point, where all fee income is expended in the overheads and costs of providing the service. If the practice were anxious to achieve a break-through into a new service-client area, it

might budget for a loss in order to provide the best possible service whilst building up relevant information and experience, counting on receiving further similar commissions where the costs may be recouped through familiarity and improved efficiency. Naturally, if the practice's work-load were at a very low ebb, low profitability will probably be accepted in order to maintain the practical resources, and in particular to retain the staff. Over a period of time, however, the threshold will have to be above the break-even level in order to replace the capital resources of the firm. The greater the amount of strategic activity which the practice wishes to undertake, the greater the need for an adequate margin of profitability to allow for reserves and for 'reinvestment' in such activities as research and development; thus the higher will become the threshold level.

Long-Term Objectives

If the short-term objectives are being successfully pursued, why, one might ask, must one get involved in long-term objectives? This is necessary because short-term objectives and the resources they expend will run down and will need replacing with new resources and many of these need careful development and preparation over long periods. This means that some of the objectives must be specifically committed to long-term needs, of which research and development, management development and new technical aids and equipment are the most obvious examples. It is the long-term objectives which will assist the firm to maintain its short-term profitability into the future.

The reason why many firms fail to set long-term objectives is because some people believe that accurate forecasts cannot be made for the long-term period. However, instead of seeking alternatives to attempting direct measurements of long-term activity, they decide not to engage in long-term considerations

at all. If one cannot make worthwhile measured forecasts of future performance until one reaches the time when the problem has become a short-term concern, what effective action can be taken?

The alternative is to examine the characteristics of the firm which will assist in maintaining long-term profitability and high level of performance. Two main groups of factors can be considered here: firstly those factors which help the firm to maintain and improve its competitive position vis-a-vis the external environment; secondly, those which influence its internal efficiency. So the firm can concern itself with establishing monitoring indicators for these two sets of factors.

Growth and Stability

For the first group, the external competitive position, these indicators will include comparisons between the firm's performance with that of the profession and the industry at large, in such areas as growth of fee turnover, share of available work, growth in earnings, new services and service areas, and growth of clients by number and type. In the second group, internal efficiency, measurement of fee turnover, costs and productivity will feature prominently, together with depth of skills whether technical, managerial or research and development. Also the age of the firm's assets and personnel will give an indication of replacement needs, including time scale indicators, which will form a basis for further future activity.

Flexibility Objectives

The essence of these objectives is that no matter how good one's attempts at establishing a balanced set of short and long-term objectives, the unpredictable will probably occur if it is not considered at the planning stage and some contingency arrangements built into the system. Thus the purpose of these

objectives is to give the firm the ability to change direction with the minimum of interruptions to its economic stability, should its main short and long-term objectives be thwarted. These unforeseen events may not all be disastrous, of course; both positive and negative events may occur.

Flexibility can be assured in two ways: firstly, by not 'putting all one's eggs in one basket', which can be achieved by ensuring that the firm is sufficiently diversified to minimise the effect of any catastrophe, or conversely, multiply its chances of achieving or taking advantage of a break-through, such as an unexpected commission in an area of possible future expansion. This type of flexibility is the relationship of the firm to the business environment generally, or external to itself. The actions a firm can take here again fall into two groups and respectively relate to insuring the firm against the effects of contingencies and increasing its capability to achieve or take part in innovations. The former will include dividing its work-load between a number of independent clients, especially different clients from different economic spheres; for example, local authority building and commercial developments. Very large firms may have to consider dividing work-load between the domestic and several overseas markets. Alternatively, flexibility may be achieved by a form of diversification which will give the firm a stable foundation within independent fields. The latter group involves monitoring areas of technological, scientific or social innovation, and will need the assistance of highly specialized advice in this activity. Related to this, is the extent of the firm's research and development effort and its direction, so that the effort in this area is used to the greatest advantage, either to achieve a direct innovation or be able to participate or exploit new knowledge derived elsewhere.

The second form of flexibility, internal flexibility, is really concerned with liquidity, and many firms are continually

concerned with this simply as a harsh factor of day-to-day business life. This can be measured by the usual accountancy methods. Thus the short, long-term and flexibility objectives form the hierarchy of the central economic objectives which in the architectural context are modified by other influences and frequently replace them as the focus.

Non-Economic Objectives, Responsibilities and Constraints

As in the case of the economic objectives, these can be grouped as external and internal factors. A further classification of these factors will differentiate between objectives which are goals the firm will attempt to reach, whilst responsibilities and constraints define the limits within which the firm must operate; for example, Code of Conduct or legal restraints. These latter factors can place severe restrictions on a firm's strategic activities.

Of the internal objectives and constraints it can be said that some will be identifiable as those of individuals within the firm, and that others will belong to the institutional existence of the firm, which will probably be the compounded personal objectives of past and present individual participants in the firm, as Cyert and March show. The balance and characteristics of these objectives and constraints will be influenced by the nature of the firm and its state of maturity, as well as by the characteristics of individuals within it.

Professor J. K. Galbraith, in his book "The New Industrial State", has shown that the classical behaviour theory of the firm pursuing straight-line economic objectives has now been superceded by the modifying objectives of the 'technostructure', the skilled body of managers and technicians who effectively control the firm. Since not all firms have reached the mature state that Galbraith writes about, it is still valid to include

both institutionalised and personal objectives, although it will be recognised that private architectural practices may very much reflect the personal objectives of their partners of principals.

The objectives of individuals arise from the many and varied influences which make up their particular experience of life and may include eccentricities as well as rational business and professional behaviour. At present there is insufficient knowledge to enable all of these to be included in the discussion, which will be limited to certain average rational objectives that individuals commonly hold. These objectives will include the pecuniary one of individual earnings, job security, fringe benefits, and capital gains if this is applicable to the individual; for example, a shareholding partner in a practice. Other objectives of a non-economic nature will also feature in the influence of the individual within the firm. These will include his sense of social responsibility, desire for status, reputation, personal ethics and philanthropy. In this connection, we may note Peter Stringer's article in the RIBAJ, January 1970, which described his survey of responsibility attitudes among architects and architectural students and showed that these people had very strong motivation toward social concerns.

7.4 ADVANTAGES TO BE GAINED FROM CERTAIN ALTERNATIVE APPROACHES TO STRATEGY

Certain courses of action that a firm may undertake as a result of its strategic planning will provide a greater return than might be expected from a simple addition of the component parts of the strategic plan. This concept is frequently referred to as the 'two-plus-two equals five effect', and in business management is termed 'synergy'.

The effect of synergy may become apparent in a number of ways. For example, promotional synergy may arise when a number of practices associate to form a consortium to attract certain commissions. Operational synergy, resulting from sharing common facilities, centralized administration, technical information and other overheads, would accrue to a group practice. Management synergy, resulting from past experience or a combination of competent top management which is scarce, might result from a merger of practices, or the expansion of a practice to include partners from other professions. In a different sense, synergistic advantages might accrue to a strategy which made use of, say, architects' design skill in some sphere of design other than buildings. It is possible that combined effects result in negative synergy, by attempting to combine incompatible components; for example, a merger between two practices with different approaches to work organization and design, resulting in less advantage than theoretically might be expected.

The effect of synergy can be measured by the economic or cost advantage to a firm from a combined operation, or by estimating the possible increase in net revenue for a given level of investment.

Initiation Costs and Synergy

If the strategy requires that the firm enters a new service-client area, then the two cost considerations have to be taken into account:

1) the initiation costs
2) the operating costs.

These costs include physical costs such as office space and equipment, materials and information libraries, together with the highly intangible costs of learning a new kind of activity, setting up a new organization and administration, or employing new staff. Many of these costs do not necessarily incur new capital expenditure, but affect operating profitability in the initial period, which may make the practice's position worse. There are also extra risks of making bad decisions in the unfamiliar new environment.

If, however, the practice already possesses many of the capabilities required in the new service-client area, then these costs will not be incurred. This is why the concept of synergy is important in strategic planning.

Over and above the cost considerations of entering a new field of activity is the aspect of time and its influence on costs and costing. The firm which is able to take advantage of synergy between its existing capabilities and its new area of activity from a cost viewpoint will probably also be able to achieve a quick transfer of skills and resources, thereby avoiding delay in which the contribution required by the strategic plan begins to make its effect.

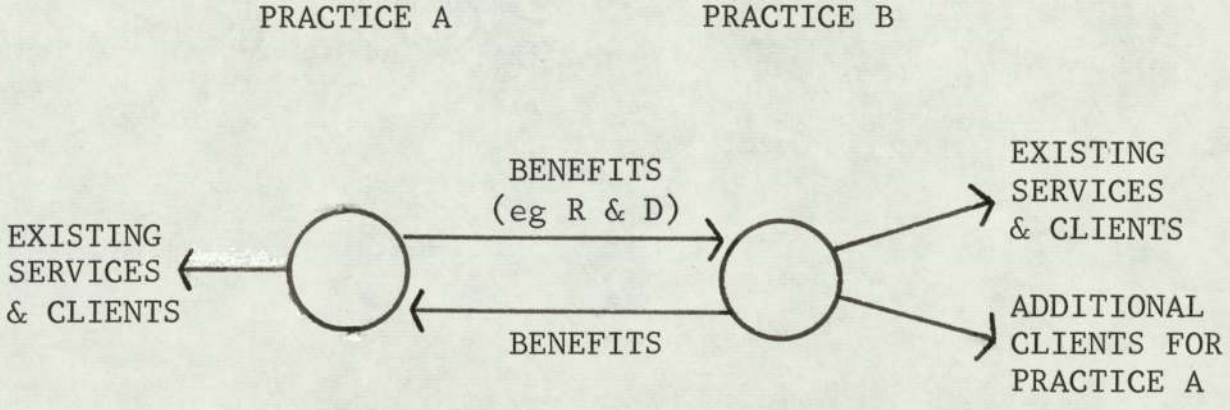
Operating Costs and Synergy

Positive synergy comes into effect here if there is an advantage of scale (economic concept of large scale production to achieve lower unit costs), improved efficiency of systems

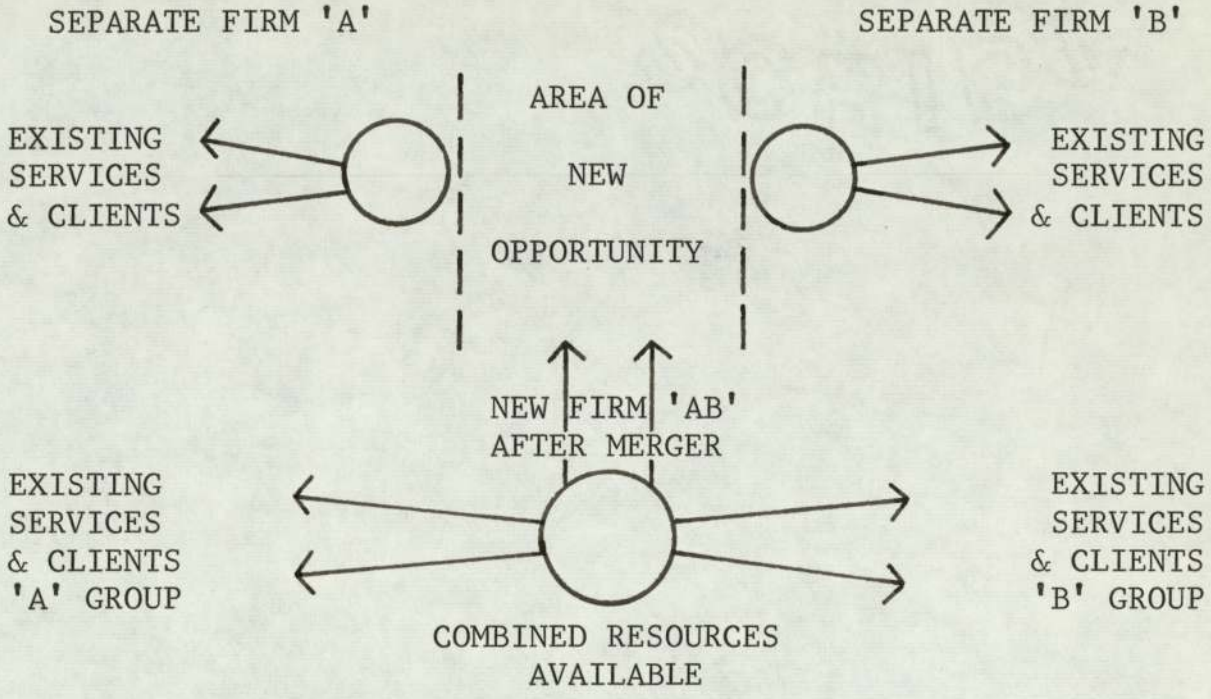
and procedures, spreading of existing overhead cost over the increased range of activities, and larger turnover.

Full use of management skill, if underutilised in the existing situation, is possible if its skills and experience are relevant or applicable in the proposed new area of activity. This is very difficult to estimate or measure. Strategy may, of course, require an injection of new management skill which will be an additional cost to consider; for example the creation of a new partner.

It is not always the economic advantages which are sought when looking for synergistic effects, but rather advantages which will not require any additional investment, except for minor necessities, yet will facilitate growth. This type of advantage can accrue to firms which merge, as new opportunities are opened to their combined operation which were closed to each individual firm.



JOINT EFFECTS OF SYNERGY



LITTLE OR NO EXTRA INVESTMENT NEEDED
SAVINGS ON: OVERHEADS, INFORMATION SYSTEMS, ETC.
FULL USE OF MANAGEMENT RESOURCES & TECHNCIAL SKILLS

Capability Profiles

At the same time, or shortly after the firm has established its objectives, it must check its own resources and capabilities. This may entail a thorough analysis and evaluation in its physical, financial, managerial and other aspects. How many firms really know themselves as they actually are at any moment in time? How many continue to operate under an illusion of their real capabilities?

This analysis is important especially for those firms who have been triggered into strategic thinking by poor performance and falling or low work-load or profitability, as they may find

deficiencies which could be corrected and performance improved without specialization or diversification. Further, all firms will find attributes or capabilities which they might exploit through specialization or diversification. Having evaluated its strengths, the firm can then seek particular types of opportunity which will enable it to take advantage of synergy.

The analysis of the practice's capabilities can be assisted by establishing a systematic check-list and by recording the data in a chart form as outlined below. The sub-division of the major categories of functional areas and skills and resources can be as detailed as required, but will be within the broad classification shown.

FUNCTIONAL AREAS

1) General Management and Finance
2) Research and Development
3) Operations
4) Marketing

SKILLS & RESOURCES

A) Facilities/Equipment
B) Personnel Skills
C) Organizational Capabilities
D) Management Capabilities

CAPABILITY CHART

	FACILITIES & EQUIPMENT	PERSONNEL SKILLS	ORGANIZATIONAL CAPABILITIES	MANAGERIAL CAPABILITIES
General Management & Finance				
Research & Development				
Operations				
Marketing				

7.5 WHAT IS STRATEGY? WHY IS IT NECESSARY?

There are various approaches to strategy. Some people view it as something quite specific, others take the broad, overall approach. Quite often, strategy is used synonomously with the term 'policy', which in itself is used in several different ways. Policy can mean a specific response to a specific type of situation, especially when this is a repetitive occurrence, whether regular or random. A company or practice manual on procedure or organization is a typical example. This meaning of policy is quite distinct from that which is attached to strategy in this discussion. Policy is composed of decisions ready made for contingencies, and is implemented through delegation; strategy is an approach to decision-making and must always remain the responsibility of controlling management.

If we related policy and strategy within the overall matrix of business decisions, it would be seen that they relate to the conditions pertaining to the decision-making activity. These conditions vary between the absolutely certain to the absolutely unknown, but can be grouped as follows:

CONDITIONS OF DECISION-MAKING	TYPE OF DECISION	
1) partial ignorance	strategic	alternatives unknown or unpredictable
2) risk or uncertainty	policy	alternatives known and consequences predictable
3) certainty/partial risk	programme	occurrence certain outcome certain/ uncertain
4) certainty-repetitive	standard operational procedure	occurrence certain and repetitive

		CLASSES OF PROBLEM		
CONDITIONS OF DECISION MAKING	TYPE OF DECISION	STRATEGIC PROBLEMS	ADMINISTRATIVE PROBLEMS	OPERATING PROBLEMS
Partial Ignorance	Strategic	////	/	/
Risk or Uncertainty	Policy	///	///	//
Certainty or Partial Risk	Programme	//	////	///
Certainty Repetitive	Standard Operational Procedure	/	///	////
PROBABILITY ASSIGNMENTS FOR DECISION-MAKING				

Why is strategy necessary? The need for strategy is not recognised by everyone; some people may in fact prefer a non-strategic approach to business activity, arguing that in not engaging in it they will save resources and costs of planning activity, that opportunities will be sought, but not in a planned or restricted fashion and any attractive opportunity will be assessed, and that they will incur no risk of disadvantageous committment in partial ignorance when later knowledge and information might reveal better alternative opportunity.

In contrast, the need for strategy can be strongly argued on the basis that without a formal strategy, the firm will have no system to assist it in its search for new opportunities, whether internal or external. Without strategy the firm will passively wait for opportunities to 'drop into its lap' or it will take a random 'grape-shot' approach to expansion, growth, profitability or any other aspect of planning. Strategy, on the other hand, attempts to channel the firm's activities and planning by a 'rifle shot' approach, i.e. picking a specific

target and taking a direct and accurately calculated aim at it, in the knowledge that the result will be a direct hit or near miss. The passive firm will have no method of deciding when to become active when opportunities present themselves, and may lose valuable time in starting up.

Without strategy, decisions can be taken in ignorance of the fullest depth of knowledge, and there will be no real focus for management or staff activities. Reaction to opportunities or contingencies will be less controlled, even extreme, with risks of management being either overcautious or rash. There will be no formal method of evaluation of opportunities and, in consequence, resources will be put at unnecessary risk, whether through being over-committed or underutilised. There will be no check on service-client area decline or obsolescence, or on the efficiency of total resource allocation without the periodic appraisal which is inherent in strategy.

Further, there will be a lack of anticipation in the firm's activities and lack of co-ordination in the on-going functions. Different types of organization or firm have different intensities of strategy needs according to the objectives, corporate and personal, of the people involved in them.

What is Strategy Composed of?

Strategy is composed of objectives to be achieved through activities in certain service-client areas, reinforced by a positive growth attitude, whether this is for developing a wider range of services, increasing the size of the practice, improving efficiency and profitability or diversifying into a number of specialist activities. The search for a competitive advantage in a practice's environment will be an aspect of strategy, combined with synergy,which will seek to maximise the utilization of all a practice's resources and possible courses of action.

How does strategy relate with a professional firm's activities? Firstly, it provides a broad concept of firms' business to which all its functional activities contribute. Secondly, it provides a framework within which the firm can search out and integrate opportunities for each separate skill with those for the whole firm. Thirdly, it provides a framework to ensure that the best set of alternatives is followed.

Possible Forms of Strategy

It should be stressed that strategy is not a 'take it or leave it' option for business firms, or professional practices. Managements that choose to ignore strategy do so at their own peril. The essential question is not <u>whether</u> to include strategy among managements' priorities, but rather <u>to what extent</u>.

The form of strategy and the method of approach will vary according to the nature and characteristics of the firm and its own particular constraints. Certain critical factors can be isolated as being common to most firms:

1) resources: this will limit the extent to which the firm can engage in strategic analysis and related activities, or the mode of approach to strategy.
2) nature of firm's service-client environment, e.g. rate of change of dominant technology, dynamic nature of the industry generally, market structure and stability, etc.
3) nature of problems facing firm, if these are identifiable and whether they represent temporary or permanent shift of firm's service-client alignment. For example, John Carter has pointed out that small provincial practices relying in the past on brewery work, which has now become more centralized and large scale with the rationalization of the brewery industry, have found their traditional source of work removed.

If it is concluded that the strategic problem will require intense activity, then considerable organizational restructuring may ensue. The main emphasis of such a restructuring will be to ensure that top management attention is given more to planning than to operating the firm.

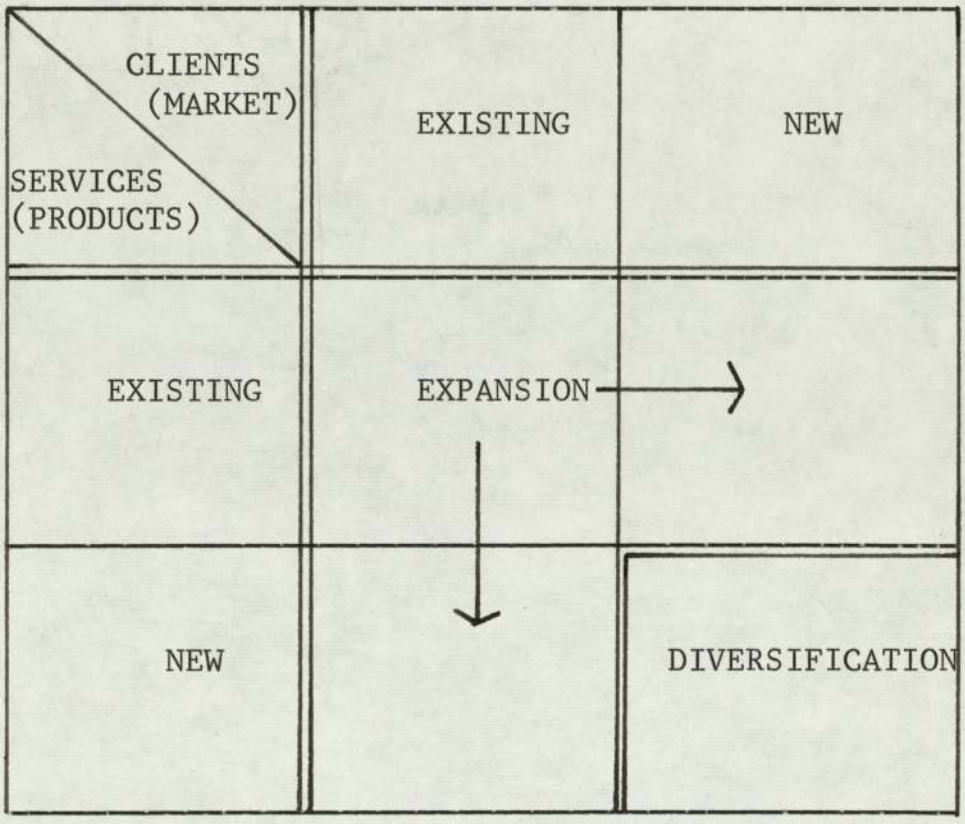
Implications for the Small Firm

Problems are more acute in small firms, since 'indirect' staff costs and expenditure are more difficult to justify against productivity of 'direct' personnel. The tendency is to attempt to reduce indirect costs to the absolute minimum in order to improve the measure of efficiency.

This, however, will not guarantee better growth and profitability or improved service to clients, especially if the firm is in a highly dynamic environment.

The strategic problem 3 above involves a change in the firm's relationship to its environment, or more specifically in its service-client position, which has led to falling turnover or lack of growth. It will be seen that the solution to the strategic problem need not necessarily be any one of the forms which are our main concern in this discussion. It is possible that all that is necessary is an expansion in the present service-client area, to be achieved by attention to the development of existing services and to 'marketing'

The relationship between expansion of services and markets and diversification can be summarised thus:



(Diagram after Ansoff: Corporate Strategy)

Most firms are involved in evolutionary strategic change, and most are also involved in routine changes and extensions, increasing turnover, improving services and procedures, reacting to perceived changes in client demand or influencing client demand through the introduction of new services such as combined architectural and quantity surveying services.

Essentially the alternatives to 'simple' expansion involve more risk, especially diversification, which involves moving into new client areas and new services at the same time.

Diversification Risks

Having recognised the risk involved in diversification, it is reasonable to post the question, 'why do firms accept this risk?'

Here we have to remind ourselves what it is firms are engaged in; namely to achieve a set of objectives which have been carefully constructed. Thus a major reason for the acceptance of new risk occurs when the current activity of the firm will no longer assist it in achieving the objectives. This can be because of market saturation, decline in demand, and competitive pressures. The alternative is to revise the objectives (downwards) if this is acceptable, and conservative management may well pursue this course.

Diversification can follow if the firm has investment funds surplus to its present activity and expansion needs. Conservative management may not diversify but choose to hold large liquid or semi-liquid resources which will give them a secure, though usually lower, return.

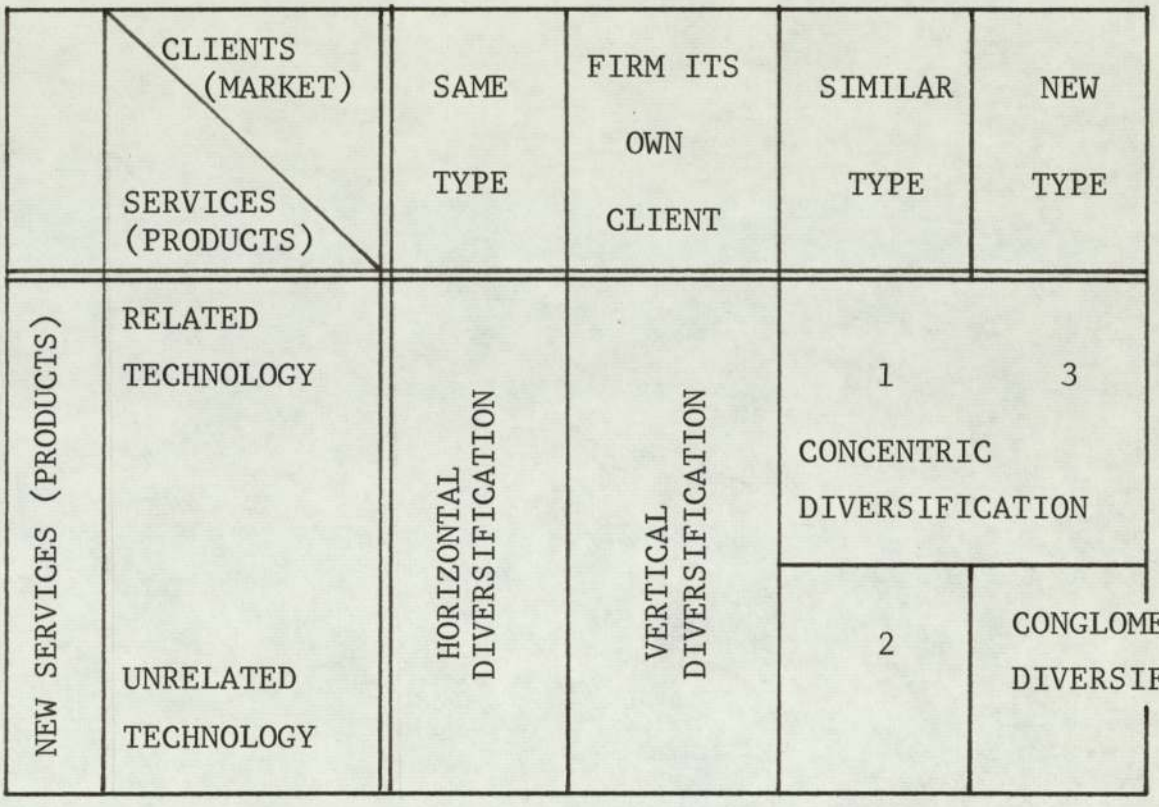
Diversification may follow if analysis of profitability and opportunities shows that re-investment would give greater profitability than expansion. This may result from the firm's own research and development effort for example.

Diversification may be considered in conditions of partial ignorance, in order to keep all available options open to the firm until it can make meaningful comparisons between different alternatives.

These are four main types of diversification:

horizontal diversification
vertical integration
concentric diversification
conglomerate diversification

Horizontal diversification into the same type of market will allow the firm to expand, lowering overhead cost and giving advantages in marketing synergy. (e.g. architectural practice



(Diagram after Ansoff: Corporate Strategy)

setting up a quantity surveying practice.)

Vertical integration has disadvantages in terms of flexibility although there are considerable cost (or profit) advantages in cutting out intermediate profit margins and overhead costs. However, if there is certainty over the long-term continuity of profitability and market expansion, this is an attractive alternative, especially where the service is composed of a number of component parts (e.g. an architectural practice becoming an 'integrated practice' with all the major building design professions 'in house').

There are also considerable dangers of dis-economies here if different technologies are involved and it may be disadvantageous to integrate them too closely within a centralised management structure.

Many car firms began to undertake vertical integration and then retracted because of the change in economic levels of production for certain components, which they would have had to sell to competitors in order to reach economic production, e.g. wheels, tyres, instruments. The large multi-professional practices described in section 5 had to offer mono-professional services to assist in the balancing of their staff, which illustrates a typical difficulty arising from professional integration.

These first two alternative forms of strategic action are limited in the extent to which they can contribute towards the objectives, particularly regarding the flexibility component of the overall system of objectives, as they rely heavily upon the continued growth of the present economic environment of the firm.

Concentric diversification allows for the advantages of synergy to be realised since many common threads may run through the firm's whole organization; for example technical skills and information systems. This is generally more profitable and carries less risk than conglomerate diversification because of the above fact.

Conglomerate diversification is a course of action likely to be followed by a firm whose technical skills and services are too specialized to be used elsewhere. There is the danger that an unplanned series of entries into a variety of service-client areas will be viewed as 'conglomerate diversification strategy'. However, the opportunity scope must have been fully analysed so that the best choice will be taken; that is, it must be deliberate, balanced action, not merely random selection.

Where there is little depth in the firm's competence all diversification activity will be conglomerate in effect, as

there will be little synergy of which to take advantage. This will apply to a low-key general practice and the initial part of the strategic plan for a small firm must be to improve the basic technical skills.

Advantages and Limitations of Conglomerate Diversification Strategy

The overall profitability and flexibility of the firm can be improved through acquisition in service-client areas which are economically stronger than its own. This can be achieved by the merger or takeover by one practice of another.

There is the possibility that the firm's current performance might be weakened when diversifying into growth areas which may not yield their full potential for a period, since a considerable outlay of time and staff effort may be required in addition to current work and before the new activity becomes 'self-supporting'.

The conglomerate firm will have no operating advantage (in terms of lower operating costs) over equivalent independents. The advantages will be in strategic, administrative, research and development, and similar corporate activities. On the contrary, better capital resources, in the widest sense, will be available to the larger conglomerate firm than would be available to its divisions if they were operating independently. This is a further advantage of a multi-professional practice. Economic potential is insufficient basis upon which to make conglomerate decisions. The most important ingredient in corporate activity is skilled management, which is often the limiting factor in firms' development. It is just as important to be sure of acquiring competent management as new technical skills or new potential clients when considering a merger or acquisition for strategic purposes. Management shortages will be more likely in conglomerate than in

concentric diversified firms, since there is less correlation of work between the various parts, and less co-operative working on the same or similar projects.

section 8

ANALYSIS AND EVALUATION OF STRATEGY FOR SPECIALIZATION

8.1 INTERNAL ANALYSIS

The strategic analysis will have thrown up a number of alternatives for the firm's strategic planning activity. Certain factors will have influenced the firm when embarking on the analysis, whether triggered by pressures of problems or crises, or by long sightedness of its top management who have long-term strength and profitability in mind. Thus it must be seen that the alternatives being sought are essentially creative opportunities with critical input-output characteristics.

It would be futile to change the practice's activity, organization or personnel in pursuit of an improved performance if on investigation certain adjustments with less expenditure and little new risk, applied to the present activity, could achieve the same result. Presumably the objectives held by architects would not allow such an easy switch to alternative activities to be made, and nor would the technical skills of the firm.

It should be obvious that the appraisal of strategic alternatives must start with the internal analysis of the firm as it exists, to underline its weaknesses and potential. i.e. can the problem be solved and the objectives met within the firm?

Stages of the Internal Appraisal

Stage 1 The tentative objectives are formally set out, or if formal objectives have previously been established, these are reviewed and revised. The considerations for establishing objectives have been described earlier in section 7.

Stage 2 A current forecast of future performance is made, starting with work in progress and work expected. This will be described as fully as possible in relation to all major aspects of practice

organization, staffing and client contacts.

Stage 3 A comparison is made between the objectives set out for the future and the forecast of performance; this will reveal whether there is any major difference between intention and likely achievement. This difference will again be fully described.

Stage 4 According to the information from Stage 3, the objectives will be re-examined and revised if necessary. This may be a positive or negative adjustment in the practice's intentions for future activity. (Conservative management will stop until the next review date if there is no gap existing at this point between objectives and expected performance.)

Stage 5 Practices with a positive attitude to growth will not be prepared to rest their future on what may be only a temporary phase of satisfactory performance, and will continuously seek improvements. This they will do by continuing the analysis and examining the strengths and weaknesses of the firm as has been described previously in section 7.4.

Stage 6 This stage is essentially a search for growth and expansion within the firm's present activity, and will concentrate on analysing the potential available within the service-client areas in which the practice is currently engaged. It will consist of an examination of present services and clients to analyse the prospects of competition and future growth of work in the sectors of the economy to which the activity is related. It will bear in mind all influences of change as outlined in section

2 earlier, upon the future of the present range of activity.

Stage 7 The results of Stages 5 and 6 are then combined, and a revised forecast of future performance can be made if both the potential of the practice's capability and the service-client area seem to indicate this.

Stage 8 The revised forecast of Stage 7 is then compared with the revised objectives of Stage 4. If there is a substantial difference between the objectives and intentions of the practice for future activity and the potential available within the present service-client area, then there will be an indication of a need to diversify future activity into new service-client areas.

Stage 9 A comparison of the results of Stage 8 with the earlier differences between objectives and forecast performance (Stage 3) will show the extent to which objectives can be fulfilled by expanding current activity before seeking new opportunities in other service-client sectors.

The expansion gap (Stage 9) represents that area where strategy will concern only internal activity, using the firm's present service-client profile and its existing assets, and making only internal changes within that framework.

It may be that the implementation of this type of strategy will be sufficient to satisfy the firm that further (external) activity is unnecessary, and they will decide against specialization or diversification.

However, internal expansion may not by itself satisfy the firm's objectives, either for long-term profitability or its other objectives, and the analysis and evaluation must be taken further. This will refer back to the revised forecast of future performance (Stage 7) which will be taken as a basis for estimating the resources available for growth and expansion in Stage 10.

Stage 10 The two main features will be the net cash flow available over and above operating needs and the amount of capital resources available for investment of acquisition. It is essential to identify at this stage any limiting factors to the strategic activity, whether by way of cash or capital resources or sufficient competent management or skilled personnel.

Stage 11 It will be recalled that expansion possibilities will be implemented before other action is taken, thus it will be necessary now to estimate the requirements for expansion, which are the costs to be incurred over and above the operating costs when expansion is undertaken.

Stage 12 The difference between these requirements and the total available resources will give an estimate of resources available for further activity in the form of additional specialization and/or diversification.

Stage 13 At this point, the objectives will be re-examined for any necessary revisions to be made and to enable the firm to decide whether further strategic activity is required.

Summary of Internal Analysis Stages

1) tentative objectives
2) current forecast of future performance
3) comparison of stages 1 and 2, measure the total gap (+ or -)
4) revised objectives (+ or -)
5) practice's strengths and weaknesses analysed
6) industry potential or client demand potential
7) combine results of stages 5 and 6 and construct revised forecast
8) revised forecast stage 7 compared with revised objectives stage 4. Determine diversification gap.
9) determine expansion gap by comparing stage 3 with stage 8
10) determine resources available from stage 7
11) determine requirements for expansion
12) determine difference between stages 10 and 11 for resources available for further activity (specialization and diversification)
13) review of objectives to decide whether further activity is required

8.2 EXTERNAL ANALYSIS

If the firm has decided, after completing the internal analysis, that further activity is necessary and feasible, it will have to analyse the opportunities available beyond its present scope, which is the purpose of the external analysis.

Stages of the External Analysis

Stage 1 In order to select opportunities to evaluate, a list of service-client areas must be drawn up, which will include all likely possibilities, but may also contain some 'outside chances'.

Stage 2 The opportunities are appraised against a set of criteria which will include general economic criteria, the costs of initiating the activity, and synergy relating the practice's existing strengths and capabilities to the requirements of any proposed new activity.

Stage 3 This list is then scrutinised more closely and any immediate impossibilities are removed by checking against criteria (Stage 2) and resources available (Stage 12 of internal appraisal).

Stage 4 The short-listed opportunities from Stage 3 are then investigated and the necessary data on each is collected under three headings:

a) economic potential of service-client areas,

b) competitive characteristics of services being offered by other practices and organizations operating in those areas

c) competitive profiles required of organizations entering these areas of activity

This stage involves a search of statistical sources,

e.g. government departmental reports and statistics, RIBA statistics, market research reports.

Stage 5 The criteria (Stage 1) are then applied to collected data for each short-listed possibility and comparison made between the whole list to provide a rated order of possibilities, from which certain possibilities may be removed if they appear to be unsatisfactory.

Stage 6 The remaining possibilities are carried forward to the next stage of the analysis which will be concerned with checking each against the firm's objectives, especially those objectives which take account of the internal and external constraints applicable to the firm's activities. This part of the analysis may remove certain possibilities because they do not satisfy these constraints, and the 'short' list has now become the 'acceptable' list of possible opportunities.

Stage 7 The acceptable possibilities are now evaluated to produce a weighted list which will help sort them into a rank order. This is achieved by a threefold assessment, measuring each by the criteria yardsticks, then against the practice's system objectives, and finally examining each for advantages of synergy.

Stage 8 The opportunities for expansion which were evaluated in the internal analysis can now be assessed with the opportunities evaluated by the external analysis.

Summary of External Analysis Stages

1) establish list of opportunities for evaluation
2) opportunities appraised against criteria
3) opportunities appraised against resources available (stage 12 of internal analysis)
4) analysis of the potential, competitive characteristics and competence required by each area of opportunity
5) comparative analysis of all opportunities
6) re-appraisal of short-listed opportunities
7) acceptable possibilities ranked
8) comparative assessment of internal analysis findings and ranked possibilities of external analysis

8.3 EVALUATION AND CHOICE OF ALTERNATIVES

The choice the firm must take is to either expand its present activity, specialize or diversify, or a combination of the three. If diversification is the course chosen, then a number of possible alternatives may ensue, with any combination of activities which meet the objectives, as was described in section 7. The decision to diversify, if taken, is intended to give the firm a good service-client posture and the achievement of this will be facilitated by considering combinations of diversification or specialization entries. It will be rare that a single new activity will have such potential as to satisfy all the objectives of the firm, and any such apparent qualities may soon disappear, by increased competition from other firms entering what appears to them as well as being an area of high potential.

The problem is how to construct the optimum combination of possible entries out of all the alternatives available. The lead to the solution must come from the objectives that are to be achieved. It will be fairly obvious that the flexibility objectives will be attained through a variety of diverse activities requiring a larger number of entries in the practice's service-client 'portfolio'.

The short and long-term objectives call for smaller portfolios, since each additional activity will incur additional cost to the detriment of profitability. Also widely variable activities will tend to increase operating costs through lack of synergy and increasing complexity of management's tasks. Further, there may actually be a certain minimum size necessary to achieve a successful entry into a new activity which may not be possible if resources are spread too thinly. For example, the capability for hospital design will require a team of several people well versed in highly specialized

design information and procedures, which for a certain practice may be incompatible with the requirements for entry into, say, nuclear power station design or computer installations.

The procedure for assembling and evaluating the service-client activities which will form the practice's future strategy, will be based on information from both the internal and external analyses. Each provisional entry in the practice's list of opportunities is given a minimum rating for the size of initial committments in those areas. The total requirements for all new activities can then be evaluated for their feasibility against the resources available, as known from the internal analysis.

If there are more alternatives than can be adopted together by the practice, then the best combination will be sought by grouping alternative opportunities into a number of different sections and assessing comparatively the range of possible combinations. Each selection of opportunities can be ranked in the same way as each individual opportunity was in the external analysis, stage 7; that is by assessing them in the satisfaction of short-term, long-term and feasibility objectives.

The final choice of this composite and conglomerate potential is one which must rely on management's experience and personal preference. Even if some final and impersonal weighting system is used to assist this choice, it is clear that having methodically reduced the scope of alternatives to the best possible choice range, each may appear to be optimal according to the characteristics of the final weighting system adopted.

Evaluation of Risk

A further area to which there is no complete methodological or mechanistic answer is that of risk calculation. This element

of decision-making arises out of imperfect information, which will always be characteristic of business planning or strategy.

A certain provision is made for the uncertainty of the future in the system of objectives and in the setting of limitations and minimum levels of acceptable performance. However, even the most certain parts of the strategy will contain risk elements as it is impossible to predict accurately what actually will happen either within the firm, in the environment generally, or within other firms.

The final choice again must lie with the responsible management, having considered all the evidence and data of the appraisals. Of course, other judgemental help and experience can be brought at this as at any other stage, and management which lacks entrepreneurial prowess may well employ consultants to assist.

Making the Decision

The most useful selection process in strategic decision-making will probably be one which allows the decision-maker to evaluate all the alternatives in several different ways, exposing each to a variety of assumptions and tracing the likely consequences of each alternative strategy under these test conditions. In this way, it will be possible to build a picture of the overall performance of each possible strategy under a variety of contingency conditions.

section 9

IMPLEMENTATION OF STRATEGY FOR SPECIALIZATION

9.1 THE IMPLEMENTATION PROCESS

The foregoing analysis is intended to assist the evaluation of all possible alternative courses of action, including the current activity, and on a comparative basis assemble the most relevant proposals for practice in the present environment, to achieve a well defined, balanced system of objectives.

The present section is intended to show how the course of action that has been chosen can be implemented so that the latent value of the plan can become a reality for the organization and those involved in it.

The system which is adopted for activating strategic planning decisions must have certain characteristics if it is to be efficient, and if the strategic plan is to yield its full potential. This is important for the individuals who have been engaged in the analysis in order to retain their continued motivation in work which, while it should have reached a significant juncture, is by no means complete. The strategic analysis will become a permanent feature of the management systems in the progressive organization.

Moreover, the exercise may have cost the practice a considerable amount of money, representing a capital investment which must show a return. Thus for a practice whose strategic planning has been a reaction to a crisis or other external trigger and whose economic stability and functional relevance may be in the balance, it will be crucial that the strategy be implemented successfully.

There are three main characteristics of the implementation sequence:

1) systematic organization of decisions
2) clearly defined programmes for implementing the decisions

3) control procedures for measuring performance against plan, with facility for corrective action and revision of plan.

Place of Strategy within Total Planning Process

The definition of the total planning process given by Peter F. Drucker reflects the three characteristics listed above and enables us to see the 'framework for specialization' as a sub-system within this overall process: "a continuous process of making present entrepreneurial decisions systematically and with the best possible knowledge of their futurity, organizing systematically the effort needed to carry out these decisions against expectations through organized systematic feedback."[26]

The implementation of the chosen strategy will, if the planning exercise has been carried out within well defined terms of reference, fit into an overall pattern of activity within the organization, with clear lines of authority, responsibility and co-ordination.

Our discussion of implementation will centre on general principles or requirements for organization structure and administration which provide the essentials for thorough, integrated activity. From these principles it is hoped to suggest possible forms of organization design for alternative strategies and objectives within professional spheres.

It should be reiterated that, since each practice will have a different system of objectives, there can be no universal method of implementing strategy; the important point to keep in mind is that of the concept of the firm as "an efficiency-seeking organization which meets its objectives through the mechanism of making and selling goods and services". [27]

The main principle for implementing strategy is to ensure that

the other factors are compatible and that all plans are allowed to integrate, not compete with each other. The other components are the administrative structure and control procedures, notably that of finance. If one were to set off on the premise that either of these two areas of the total planning process were of paramount importance, one would almost certainly find oneself in difficulty regarding changes in the environment. These other areas are almost entirely concerned with the internal function of the organization, although there are some elements of concern with external relationships.

The three main characteristics of the implementation sequence outlined above relate to the following:

1) identify and assess the major tasks necessary to achieve the strategic plan; the data for this should be available from the internal appraisal of the strategic analysis

2) the integration of tasks into a fully sequenced, time-scaled programme

3) checking of programme with the plan and objectives; initiation, monitoring and control of programmed activity.

Identify and Assess Major Tasks Necessary to Achieve the Strategic Plan

The tasks are preparatory activity to bring the organization's capability up to the required level. These tasks will fall into the following categories:

1) general management and finance
2) operations
3) marketing (client contacts)
4) research and development

Each of these tasks has four aspects against which they will be considered:

a) personnel skills
b) organizational capability

c) management capability

d) facilities and equipment

By assessing each of the main categories of task and their related aspects, the tasks will fall into two main categories of activity related to (i) people plus skills, sub-divided for convenience into technical skills and management skills, and (ii) facilities. The data necessary to assess these tasks should be available from the internal appraisal.

The practice's strategy may be a plan to increase in size in order to be able to attract commissions in a certain client area, which are becoming rather larger than can be at present handled by the firm; or to increase in size in an attempt to balance a growing work-load in one service-client area, by enlarging the whole practice and serving equal numbers of clients in alternative areas of the market and different sectors of the economy.

Thus the tasks for these examples are likely to fall into the following kind of pattern:

1) GENERAL MANAGEMENT AND FINANCE

a) Personnel Skills and c) Management Capability

Consider needs for management education and training, attendance at courses, or use of consultants; promotion of suitable candidates to management positions, such as associateship; possible expansion of partnership or other recruitment, say of management specialist to take control of organizational and administrative and financial programming.

b) Organizational Capability

Consider experience of practice in terms of controlled work procedures, pressure of working, direct to indirect staff ratios. Assess difference between the present working

atmosphere and desired level of practice awareness of management and finance factors. Consider restructuring and instructing practice organization.

d) Facilities and Equipment

Consider partnership structure, e.g. in relation to credit drawing facilities; use of management aids; office layout in relation to management organization, communications, etc.

2) OPERATIONS

a) Personnel Skills

Consider staff qualifications and capabilities, personnel strengths and weaknesses; check standards of performance, work capacity, salaries and overheads, and levels required. Consider necessary staff changes, e.g. possible dismissals or recruitment, necessary staff training and development.

b) Organizational Capability

Consider composition of working teams, delegation of decision-making, division of responsibilities, management and staff. Consider work organization, use of standard procedures, etc.

c) Management Capability

Consider work organization, programming and progressing, general control procedures. Consider institution of new procedures, more accurate estimating and measurement of work.

d) Facilities and Equipment

Consider office layout, adequate space for individuals and working groups, types of space needed, drawing space and equipment, e.g. use of drafting machines, discussion areas, work display areas. Consider efficiency of furniture, storage and filing systems, e.g. storage of drawings, ease of retrieval.

3) MARKETING (CLIENT CONTACTS)

a) Personnel Skills

Consider partnership structure, personal contacts, division of partnership responsibilities, best person to each. Possible strengthening of partnership to increase span of client contacts, e.g. merger with suitable practice. Consider staff capabilities, such as writing of technical papers, lecturing, broadcasting or journalism. Consider staff participation in private activities, membership of organizations and societies, check all office contacts with external environment and all work presentation.

b) Organizational Capability

Consider image of practice organization to prospective clients, e.g. Nomination Service enquiries. Consider client contacts, use of staff in negotiations, e.g. using office specialists to support partners.

c) Management Capability

Consider time allowed for management to devote to marketing. Consider information sources and knowledge of these.

d) Facilities and Equipment

Consider office location, use of branch offices, ease of communication and visiting. Consider office layout and interior.

4) RESEARCH AND DEVELOPMENT

a) Personnel Skills

Consider innovative capabilities of practice; are staff sufficiently well qualified; check ratios of qualified to unqualified staff. Consider possible staff changes, recruitment and level of qualifications sought, staff training and development. Consider variety of staff disciplines, balance

necessary to undertake research and development in particular fields.

b) Organizational Capability

Consider processing of work, time allowance for task performance, information systems development. Consider monitoring systems for feedback from all stages of projects, and channelling of experience into new work.

c) Management Capability

Consider management awareness of research and development opportunities and capabilities. Consider management skills in relation to possible areas of research and development activity, and delegation to staff who possess necessary skills. Consider budgeting for research and development as an integrated task of all work throughput. Planning for research and development in addition to project based activity.

d) Facilities and Equipment

Consider availability of space, equipment and materials for experimental work and testing of designs.

Integrated Sequence and
Time Scale of Tasks

Lengthy exercises may have to be implemented early in readiness to be integrated at the application stage; this may not be initially apparent. For example, it may be necessary first to earn and save sufficient cash from current operations in order to initiate particular tasks; or if training or education of staff is necessary, suitable courses may come out of phase with other activities, and the length of training may require an early decision in order that the skill may be acquired by the time it is needed.

Motivation of the personnel is important, since employees' own personal contribution may be considerable, especially where acquisition of skills is concerned, as extra study may have to be in their own time and it may not be possible to reward this directly or immediately.

Integration of personnel skill requirements is likely to be one of the most important and difficult aspects to handle, particularly in the smaller practices where several new or different skills may be required from existing staff and the likelihood of employing new staff strictly limited. Since much of this activity for most practices will take place in addition to existing work, care will have to be exercised when placing additional responsibilities onto staff job specifications. It may only be possible to add one new task at a time, allowing a suitable period of assimilation before extending the responsibilities further. These considerations will have to be programmed into the implementation plan of action.

In the development of facilities and equipment, long-term consideration of leases, expansion facilities, and so on, will have to be undertaken, especially with regard to location of offices if this indicates the opening of new branches or moving the whole practice location. Such a decision may have profound effects on all aspects of practice organization and staffing, as well as financial objectives and use of profits.

Distinguishing Between Decision-Making and Planning for Decision-Making

An important though simple procedure which should be adopted throughout the planning and implementation sequence, and after, is the plotting of decision target dates, the main decision implications, and finally what decision was actually taken. The critical point to remember is that while decisions should be adequately planned for, the actual decision-making

concerning a particular activity should not be undertaken until the last possible moment before the decision needs to be made. This does not mean ignoring the implications of decision-making until the last moment, but rather the consideration of all possible options and the latest information before committing decisions into actions.

Checking and Initiating the Programme

The final preparation before committing an organization to any course of action must be to thoroughly check the resources available in terms of finance, time, personnel, organizational skills and facilities. This can easily be completed if planning and preparation has been carefully documented.

Initiation of an activity will not necessarily be a formal procedure, though in the case of sanctioning expenditure, such as the purchase of equipment, the signing of a lease or an attempt by the practice to interest a client in a new service capability like a building use and maintenance service, there will be a management responsibility to formally institute the programmed activity. Much of the strategic plan will be instituted through the normal channels of work organization and giving of instructions to staff. As will be discussed below, for a professional practice many strategic activities are likely to be project based; thus implementation of strategy will figure prominently in project organization.

Monitoring and Controlling the Programme

The strategic plan is based on forecasts of the future regarding both actions external to the organization and its own. The monitoring and control phases of the implementation are continuous activity from the moment a strategic plan is initiated, and will become part of the continuous strategic activity which the organization will maintain into the future;

they provide the feedback loop of information in the whole process. Their function is basically to establish the errors in the forecasting estimates of future activity as the events take place, assessing their effect upon the state of the organization. The monitoring process is essentially one of measuring performance against plan, and estimating the effects upon the performance of any external events. A government programme announcement could be suggested as an example. This is really a continuation of the strategic analysis which was carried out in the initial stages of the planning process.

The control process is set in motion as a reaction to any differences which may occur between plan and performance, and when the differences are shown up by the monitoring process, the control process will react accordingly.

One purpose of the monitoring process is to pinpoint the nature and cause of any gap between plan and performance and to indicate which of three possible main variations are required in the overall strategy. Firstly, the target at which the plan was aiming may have to be revised; it may be out of reach or far too modest. Secondly, the forecast upon which the plan is based may have to be revised owing to new trends or events which were unforeseen at the initial planning stage. Thirdly, the actual strategic plan may have to be revised on the basis of the new information, especially if this indicates a negative effect upon the future development of the practice. Conservative management may not wish to pursue positive revisions, but may satisfy itself with the current progress.

9.2 ORGANIZATIONAL DESIGN AND STRATEGY IMPLEMENTATION

In professional practices, the implementation of a strategic plan is likely to be dependent upon the receiving of related commissions. This is so because of the nature of professional services and the restrictions upon certain forms of speculative activity. In addition, only a limited amount of activity which is unrelated to fee paying commissions can be pursued by professional practices. Research and development expenditure cannot normally be handed on to clients in the same way that product development costs can in industrial or consumer product markets, unless a specific agreement can be reached on the value of the professional practice's contribution over and above the value of the fixed fee related services on a commission.

This difficulty faced by professional practices should not deter them from strategic activities, or from constructing programmes of action for implementing strategy. It really implies that practices should be constantly prepared to implement strategic plans on a continuously revised basis, so that each suitable commission becomes automatically the means for achieving part of the strategy.

The size of a practice will have a considerable influence upon its structure and administrative procedures, lines of responsibility and authority, and the communication network. This may affect the whole approach to its work and the services it offers, and also the end product of its services, the buildings for which it is responsible.

Some of the objectives or the philosophy of the decision-makers in a practice may modify the theoretical plan which results from strategic planning analysis. It may only be at the point of implementation that real values and priorities, even

personal feelings, will show themselves in true balance. A further factor here is the authority and responsibility structure of the practice. Whereas during the planning and analysis stage all participants may have appeared equal, in the implementation stage the realities of seniority, age and personality will have their effect. An imaginative, thrusting plan may in the implementation stage be muted by a conservative senior partner, who in effect has the last word. It is for this type of reason that administrative structure and control procedure must be seen as integral with strategic planning.

Unless these factors are reviewed when establishing objectives, then plan and performance may bear little resemblance. Part of the plan may have to be a formal restructuring of the practice, such as the promotion of a member of staff to a position of higher authority to ensure that the plan is effective.

It is important for practices to realise that internal change must not be resisted if strategy really requires it. Strategic planning is a response to external change which the firm may ignore if it wishes, but having accepted strategy as necessary, to ignore or resist necessary internal change may be worse than ignoring strategy altogether, since not only might the analysis and planning have been a costly business, but to attempt to implement a plan which requires internal reorganization without doing so will place the value of the plan at risk.

Organization and Structure

Planned organization is necessary whenever there is more work than can be performed by one man and the total work-load has to be divided into an appropriate number of separate functions. This division of work subsequently requires co-ordination.

Organization is created by the formal expression of relationships between the various functions that perform the divided work-load, consisting of descriptions of responsibilities and channels of communication, which allow for the flow of information, instructions and decisions.

The structure of an organization is built up from the functional positions or jobs which relate to individuals, and the work centres which relate to groups of individuals. Each individual may have more than one function and may be associated with more than one work centre or group. Each group, which may be a sub-group of a larger work centre, should be in the control of one person.

The pattern of responsibilities, functions, groups and controls is infinitely variable, and for any particular circumstance there will be a number of alternatives for organization and structure. The actual pattern adopted will be determined by the interaction of many factors, including the nature of the work to be performed, the number and skills of staff, and the personalities and attitudes of employers and employees.

Principles of Organizational Design

Just as architectural problems are solved by systematic processing called design, so too can organizational problems be systematically designed. The application of design rules in neither case guarantees the best possible result, but will help to avoid omissions and failures.

Authority and Control

The basic principle here is that the responsibilities of individuals should be clearly set out as directly as possible, so that employees or subordinates are answerable to only one superior. This means that all formal communication to an

individual should be direct from one person. Thus an assistant architect will receive formal instructions from a principal only via his group leader. Likewise, his formal representations to a principal will be directed through the group leader.

The simplest way of establishing this pattern is to set out the lines of authority in the form of an organization chart. This should show the basic structural grouping of the organization, the relative levels of seniority and the division of the functional responsibilities.

There are a number of points to remember about the purpose and use of an organization chart and its limitations. Firstly, it is impossible to show the complete communications network which will exist in any organization on a two-dimensional diagram. Most organizations would rapidly grind to a halt if the pattern of communications of information, instructions and work flow had to adopt the formal pattern as deliniated in an organization chart. Thus it must be made clear that the formal structure does not show the complete picture. What it does do, however, is to reduce the area of ambiguity and establish a clear framework within which the informal patterns of operation can take place. The second significant factor is that a human organization is dynamic, and the organization chart is a static representation of it at one particular moment in time. Thus it is important to establish a procedure for the regular redrafting of any chart to take account of changes in the many variables which will affect the real structure of the organization. The redrafting of the chart will take account of developments, say in informal patterns of communication, since the last draft. An assessment of these may suggest the adoption of the informal into the formal pattern. Alternatively, it may be decided that action is necessary to avoid the by-passing of the formal channels, if this is leading to conflict or inefficiency. Thirdly, it is no good establishing an organization structure, drafting a

chart, and leaving it in the senior partner's filing cabinet. The purpose of the chart is to communicate part of the objectives of the organization to all those involved in it, and there is much to recommend its display in a prominent position, where even clients and others outside the organization can examine it and if necessary contribute to its discussion.

Only the largest of the practices visited in the survey described in chapter 4 used organization charts, and these found them an indispensable part of their management systems. Many medium and smaller practices might accept their use as necessary for the larger practices, but failed to see their relevance to the smaller organization. Even in the smallest practices the use of such charts is valid and valuable as an aide-memoire. More important, the small practice of today may be the medium or larger practice of tomorrow, and it is vital that all growth should take place as a planned and controlled process. Also the leaders of a small but growing practice are likely to be at the head of an enlarged practice, and their management capability and confidence must grow as the practice organization grows. Thus, the formalization of the management of a small practice is no less important than for the largest practices.

Span of Responsibility

Each individual in an organization will have a span of responsibility. In some cases this will only be expressible in the form of the work activities to be performed and the standard of performance to be achieved. Above the lowest level of authority, this span of responsibility will normally be divisible into two, a concern with people and a concern for activities.

There are varying opinions on organization structure with

regard to this. The most commonly accepted principle is that the number of people in the control of one individual should be strictly limited according to the constraints of the complexity of the work, the nature of the tasks being performed by the subordinates, as well as by the nature of the organization itself and the competence of the superior. Some people might counter this by saying that the ideal should be to provide the superior with a span of responsibility which will keep him at 'full stretch' and oblige him to delegate some of his tasks.

If this latter approach is adopted as a formal policy, it implies a high level of managerial awareness and ability on the part of the individual, and the organization, for the organization must take responsibility for fitting each individual into its structure, and should not use this 'overload' concept without ensuring the competence of the individuals, and building a 'fail-safe' control system to check the decision-making and work performed. Such an approach also implies high calibre personnel, and a high level of remuneration, since it manifests a management approach to organization based on a deliberate and applied pressure.

The importance of the organization chart can be referred to again under this heading, as it will provide a check on the balance of responsibilities in the organization, and assist in avoiding any imbalance at the same time as highlighting any tendency to 'empire building'.

Again, the number of different activities for which an individual should be responsible will have to take into account their complexity and the scale of their importance in the total function of the organization's work-load. The more critical an activity, the more undivided attention it should receive. There can be no hard and fast rule to deal with this, as

individual skill and capacity for work will vary greatly. The important factor to be aware of in designing a work organization is to avoid overloading individuals at every level, either by making them directly responsible for too many people or too many activities. The dangers of overloading are not always measurable simply in terms of time; it may be more critical to ensure that an individual's attention is not divided between too many separate concerns.

In relation to the implementation of strategy, it may be necessary to restructure responsibilities between a number of different people as the result of deciding that just one new activity is to be made the responsibility of a particular person. It may well be that the ideal person to take up a new activity is already fully occupied with activities for which he seems to be the obvious choice. This raises a dilemma, and a decision must be made whether to place the new activity with the second best choice or to restructure the existing activities. If the new activity is a vital part of the future strategy of the organization, then it will be as important to safeguard its development by ensuring the right amount of attention is given to it as placing it in the responsibility of the most ably suited person. Furthermore, the existing activities must not be allowed to suffer from the introduction of new responsibilities.

Delegation and Decision-Making

All work functions are established, performed and controlled by decision-making. A simple repetitive task will normally be programmed into a standardized procedure which, whether performed by a person or a machine, may disguise the presence of a decision-making process.

Since we have earlier defined a business or a firm as an efficiency seeking organization, a principle of organization

design will be to establish a structure that permits decisions to be made at a level which will assist in the efficient performance of the activities. This implies making the best possible use of the capabilities of the individuals employed by the organization. This is the purpose of delegation.

The principle of delegation is to attempt to ensure that decisions are made at a level as near as possible to the level at which the related task of work is to be performed. This must take account of the nature of the implications of the decision, and as a further principle, decisions should not be delegated to a level below that where direct responsibility for the outcome must rest. Thus, a decision with implications for the whole organization must remain at the top level, even though a later task may finally be performed at a low level of responsibility.

A further implication of delegation of decision-making is the delegation of the responsibility and the authority commensurate with the decision and accountability for the outcome. A superior should not delegate the responsibility for the outcome of a decision that he has made. He must either delegate the decision-making and the responsibility together, or neither. Further, the delegation of decision-making and the related responsibility does not release the superior from his own responsibility for the delegated task. This principle highlights the relationship between competence and delegation. The superior must ensure that the subordinate is competent to accept the responsibility and to make a correct decision and must be able to accept that it may not be the same decision at which he himself would have arrived.

When delegation is fully operative in an organization, each individual should be working as near as possible to the limits of his abilities, and as these develop, so should the amount

of decision-making that he undertakes. Thus an important aspect of organizational design is a system for staff development and promotion, providing a basic reason for the concept of growth as an organizational objective, which will relate to strategy. The implementation of the growth objective may not always be interpreted in terms of the size of the organization, but must include the growth and development of the individuals within it.

An important implication for the implementation of strategy may be the development of the competence of the organization's employees before the planned activity can be undertaken. If this involves specialist skills, then delegation is more critical since the superior may not possess the technical skills of the subordinate to whom he is delegating, and may not wish or be able to acquire these. Thus the individual to whom the specialist decision-making is being delegated must be fully informed of the responsibility he will carry for the outcome of his decision and be provided with an adequate framework within which to operate.

Not all decisions will be delegated vertically down through the various levels of responsibility in an organization. If there is too much decision-making for one man, which cannot be delegated in this fashion, then steps must be taken to split the decision-making horizontally. In certain circumstances, this will affect the complete structure of the organization, since it may be necessary to create a new level of responsibility or to widen the organization structure at a particular level.

Co-ordination

In the context of this study, the main problem of co-ordination is that of specialists within a practice. A strategic plan involving specialization has important implications for the

organizational design of a practice. Whilst it may be important to structure the practice so that various functional units are clearly defined, it is equally vital to maintain the unity of the organization. If specialist individuals or groups are to develop within the practice, the dangers of rigid compartmentalization must be foreseen. Specialization, as we have already noted, does not necessarily bring myopia; but to shut off the specialists from the practice as a whole, or from each other, may help to induce this condition.

The solution of this problem may involve the physical planning of the office layout for the practice, as well as the composition of working groups and the methods adopted in the work performed. A particular danger can arise in the problem of balancing staff, when various specialists and different professional disciplines may be responsible for a separate work-load of their own, unrelated to the general work-load of the practice as a whole. It is possible that the multi-disciplinary advantages might be lost if these units become too independent of each other; thus each individual specialist should have a formal link to the practice as a whole as a member of a broadly structured working group, as well as contributing to any mono-disciplinary group. This may require that particular individuals have more than one work base to assist them in their dual roles. In fact, the physical re-grouping of an office to match changes in working group composition should be encouraged, in the same way as production engineers now move machinery more frequently to match production requirements.

The co-ordination problem will involve the effective communication of the objectives of the practice throughout the whole organization. Drucker has suggested ways in which individuals and organizational objectives can be integrated, and originated the idea of 'management by objectives' and 'self-control' which

John Humble of Urwick Orr and Partners, management consultants, has so successfully exploited in recent years. In 'The Practice of Management', Drucker states that "each manager .... needs clearly spelled out objectives. These objectives should lay out what performance the man's own managerial unit is supposed to produce. They should lay out what contribution he and his unit are expected to make to help other units obtain their objectives. Finally, they should spell out what contribution the manager can expect from other units toward the attainment of his own objectives. Right from the start .... emphasis should be on teamwork and team results. These objectives should always derive from the goals of the enterprise." [28]

Although the setting of objectives is an initial task of the strategic activity, not all members of the organization will necessarily be involved in this activity, and thus the formal communication of objectives must be part of the implementation process. A long period of time may also elapse between the strategic planning and analysis and the implementation of a chosen strategy, during which time objectives may need revision, or changes in staff may have taken place.

section 10

CONCLUDING STATEMENTS

10.1 AN APPROACH TO THE FUTURE

The purpose of this section of the study is not to close the discussion, so much as to open it up into a wider context, and to suggest some directions in which the subject of specialization in private architectural practice might be pursued from now on.

For the individual practice, the main concern of the study, it is hoped that sufficient indicators have been provided for the process of specialization to begin. It is felt that the major conclusions to the approach described can only be reached by a feed-back exercise from experience, so that the whole process of the analysis of change, strategic planning and the monitoring of the contribution that well developed, balanced specialization might make within the life of a practice, can be carefully examined. This exercise is necessarily lengthy and the measure of success will be difficult to quantify. The ultimate test, of course, must be the quality of the end product of a practice's activity, the performance of the buildings it designs, and the efficacy of the solutions to clients' problems to which it contributes.

The preceding sections of the study have suggested that the influence of change upon the profession would bring the need for practices to be prepared to alter their composition, and the nature of their services. These changes can be summarised as: specialization with its complement of teamwork; integrated comprehensive services according to the needs and wishes of clients; and diversification of professional interests to ensure that no opportunities for professional development be lost, or the innovatory creativity of the profession be dulled.

Specialization and Inter-Professional Relationships

The sub-division of the environmental problem scale into different professional spheres was noted, and it must be concluded that to match the continuous movements and changes within the environment and to find their natural levels, specialization and the other consequences of the influences of change must be allowed to operate freely within the entire scope of the building and design professions. This conclusion means that inter-professional barriers, and the rigid demarcation of spheres of activity must eventually be removed.

The development of specialists within any profession will include those specialists whose interests will fall across existing professional boundaries; but it must be remembered that all professions are intended to serve the same clients, and are contributors to different but related aspects of the same problem. These particular 'hybrid' specialists will be of vital importance to the integration of services, since they will interface different disciplines and assist in the flow of communications and information between different members of a team.

This is particularly important for architects, especially for those who will continue to play a central role within the design process, synthesising the contributions from many disciplines into one conceptual whole. In the performance of their tasks the traditional figure of the architect, holding a wide horizontal span of functional responsibilities, and the architect of the future, who retains the central position as conceptual thinker and synthesisor, can both be considered as one twin in a pair-bond relationship for the performance of particular functions. Traditionally this is expressible in clear-cut professional descriptions: the architect-structural engineer relationship to create a structural concept and solution; the architect-services engineer relationship to

provide a suitably controlled environment; or the architect-quantity surveyor relationship which ensures that the execution of the concept is a balanced expenditure of the client's money. We must now expect to see many new patterns of pair-bond relationships with particular functions to perform within the design process; relationships which may build up in multiples, linking the synthesisor to all contributors less directly than before. In this way, specialists will bring their contribution to the total task to be performed in environmental problem solving.

These aspects of the future of the profession provide an indication of the ultimate objective of the process of specialization; not a fragmented, rigidly compartmentalized subdivision, but integrated diversifications, spanning the whole realm of the human habitat.

How can the individual, the practice and the whole private sector of the architectural profession contribute to make this come about? The major part of this study has been concerned with specialization within the individual practice, and with its implications in relation to the management processes within the individual professional firm. Attention must now be given to the wider dimensions of the problem. The strategic activity of individual practices should have a wider strategic framework within which to be developed.

10.2 REQUIREMENTS FOR A TOTAL STRATEGY FOR THE PRIVATE SECTOR

The private sector of the architectural profession has three dimensions: the corporate identity of all members of the profession who work in this sector; the individual practice which is the operational unit through which society at large comes into direct contact with private practice professional services; and the individual professional who provides the basic resources for the services offered. To provide a satisfactory framework for the future of the individual practice, there must be an approach to collective strategy that will take account of these three inter-related dimensions. Such an approach must :

a) place the RIBA, or a subsidiary of it, in a controlling, co-ordinating and promotional position

b) assist practices to raise their standards of service, to adapt to change, and eventually attempt to stabilize fluctuations in their work-load, ensuring fairness and equality in the distribution of work

c) support the individual professional, assisting him to reach his full potential and promote attractive career structure opportunities and adequate remuneration comparative to other sectors

d) improve professional-client relationships, by direct contact, and by assuring clients that the best possible use is being made of the total resources of skill and experience within the private sector.

The Essential Characteristic of Professional Association and the Inter-dependence of Members

In section 2 the characteristics and functions of professions were described, and the importance and critical function which they display was stated as being the subjection of individual action to collective constraints. This places all members of

a professional association in a state of inter-dependence, which must be honoured by all the members, lest the purpose of the association should become weakened and valueless.

At present, architects in private practice accept constraints regarding the fees they will charge, the methods by which they seek commissions, and the activities in which they will engage, as well as constraints regarding entry to the profession and qualifications to practice. It is important to remember the origins of professional associations, that inter-dependence is based on common objectives and concerns which each member wishes to uphold. Presumably architects remain members of the RIBA because they believe that their concern for the human environment, and their approach to building design will be strengthened by maintaining membership.

However, the structure of the private sector does not manifest any collective action to ensure that the result of professional services is advancing these concerns. Each practice stands alone in the services it supplies and there is no method of determining that the best available skill will be brought to bear on each client's problems, except through the running of competitions which are slow and expensive to sponsor, costly to enter, and account for only very few commissions each year. The Nomination Service does attempt to link the clients with the most suitable practice, but what is really missing is an exchange of skills and experience between the practices themselves, and means by which they can bring assistance to project work in an efficient way.

The findings of authoritative surveys of the profession were quoted, which described major weaknesses of the profession including the isolation of working, a lack of technical skills, and the inability to satisfy potential clients' requirements for specialist services. Each of these weaknesses, it is

believed, can be strengthened by the promotion of more specialization.

An Outline of a Collective Strategy

Beyond the need to satisfy the four requirements set out above, a collective strategy must begin to take effect within the current situation, having regard for the present structure, distribution and attitudes of practices, and must provide for the gradual development and extending awareness of requirements for the future throughout the whole of the sector and in each individual practice.

Professional Mobility

The proposed strategy for the promotion of specialization in private practice would initially require the setting up of a Register of Practices with information about practices for the use of other architectural firms. Ideally, this should be an extension of the Register which forms the basis of the Nomination Service, dealing with client enquiries. However, in contrast to the Clients Bureau, but in close contact with it, would be a Professional Services Bureau to assist architects and other professional practices to find specialist skills and services that they themselves may not hold. In addition, the Bureau would promote the services of specialists seeking work, and would provide a clearing-house for requirements and availability of services with up-to-date information that individuals and practices could exchange continuously.

At present, practices confronted with a commission of a type unfamiliar in their experience or with special requirements, are faced with a choice: either to undertake the necessary information research and skill development themselves, or to employ new staff with specific experience and qualifications. The former can be slow and expensive, the latter may upset the

balance of the practice or create over-staffing problems at a later date. The availability of relevant skills on a short-term basis would allow practices to undertake such projects with confidence, and would reassure clients that specific requirements would be met.

The Professional Services Bureau would become an important source of specialist knowledge and information, and could undertake publication of technical literature by commissioning those whom it knew to be the most authoritative in their fields.

Professional Federation

Once the inter-practice movement and exchange of skills has become accepted and developed, and the resources of specialist skills present within the profession have become more fully recognised, the Professional Services Bureau will be able to employ specialists direct and assist the development of specialist skills by providing a central base and facilities for research and development. The operation of a professional specialist employment agency for both temporary and permanent appointments, offering individuals a secure base, would be a further development. The creation of such a pool of specialist skills and personnel would suggest that research and development 'sub-contracting' would be undertaken on behalf of practices, using the best available specialist skills, both practically and on a national basis.

This development would also afford an ideal national network for the bringing together of academic research and the needs and requirements of practice, and would provide a framework for joint programmes, secondment of personnel, and the placing of research contracts between the profession and the universities.

When the private sector has begun to fully realise the benefits of collective inter-dependence in practice, then the promotion of more comprehensive collective services will be possible, with the ultimate objective of bringing practices together into 'Architecture Centres' located at a focal point within each major provincial region. The Centres would in no way hinder or attempt to pressurise practices to change their size, composition or any other characteristic, and each member practice would remain in complete and confidential control of its own client relationships. The structure of the private sector would pursue its own evolution according to demands on its services. The Architecture Centres would reduce economic and competitive pressures, and allow practices to spend more time and money on developing their services.

By 1980 it is estimated that there will be between 27,000 and 30,000 professional architects, approximately 12,000 - 15,000 of whom will practice in up to 4,500 private practices. Therefore, the private sector could support 12 - 15 regional Architecture Centres with approximately 300 - 375 practices and 1,000 professional architects in each, supported by 1,500 technical staff, and an additional 500 - 800 non-technical administrative staff, providing a total of about 3,000 people. This is assuming one Centre in each of the twelve Economic Planning Regions, plus an extra Centre in the major conurbations of London, Birmingham and Glasgow.

The Architecture Centres would provide a complete range of facilities for member practices on cost and management fee basis, with all savings being reflected in lower practice overheads. With membership based on a suitable shareholding, an initial fund would be established to provide for the development of offices and other accommodation into which practices would move, along with the central services and administration, and the regional offices of the RIBA, the

Professional Services Bureau and the Clients Bureau.

Naturally, not all practices would wish, or be able, to physically uproot and come together in the shared facilities that each Centre would support, but all practices could be members of Regional Centres and share in certain central services in the same way that Chambers of Commerce are supported by industrial and commercial firms. The economic and other advantages would demonstrate the savings in overheads, and collective promotion and marketing services by the whole network of Architecture Centres would allow members to remain firmly within the professional Code of Conduct. These advantages would attract a very high membership.

The organization of the Regional Centres would be co-ordinated by a central management unit to ensure that the maximum advantages of scale were realised by the network as a whole. Apart from the physical facilities of office space, any aspect of professional practice which involves costs that could be lowered by centralized organization would be catered for. All aspects of professional services would be supported by specialists available within the Centres, employed by the central management unit.

Where it would be advantageous, central services could provide administrative facilities such as accounts, work programming and progressing, duplication and printing services. Financial facilities could be centralized with specialist advice available and interest rates reduced through collective borrowing, say via a merchant bank. There would also be a library, and trade literature services which could provide a trade centre where technical representatives might offer an on-call service and exhibit or demonstrate products. These facilities would be leased to manufacturers, thus providing an income to the Centres and ease of access to information for members.

Other professions could be invited to join the Centres to facilitate communication on projects, and ease of co-ordinating consultants into design teams because of physical proximity. This would extend the attraction to clients in terms of the comprehensiveness of services the Centres would offer.

'Continuing Education' and staff training would be facilitated as the Centres would provide management, technical, design and other courses, negotiating with higher educational institutes for lecturing staff, as well as providing advisory services to individuals and practices. The links of practices with schools of architecture and other educational institutes would be strengthened by the existence of the Architecture Centres, and the placing of students for practical experience, and the development of 'teaching offices' would be facilitated. This would greatly reduce the differences of opinion and misconceptions that practitioners and academics have of each others' domains.

Changes in the demand for professional services, such as more integrated comprehensive services and team working, will require that the private sector develops a facility for group practice, which, it is felt, the mobility of specialists and the Architecture Centres described above should promote. Various qualities for successful professional development are required. These include easy and precise communications, and a readiness to accept a degree of anonymity.

10.3 ALTERNATIVE FUTURES

It is realized that the acceptance of such an idea as the Architecture Centres, and the full federation of the majority of private practices, will only develop slowly, or may never come about in its totality, if present attitudes of independence remain too strong to allow the advantages of interdependence to be seized and implemented. Thus it is sensible to consider what might otherwise occur, or precede the full acceptance in the medium term.

Firstly, one might expect an increase in the number of large practices. However, the merging of the private sector into just a few very large firms would not be expected. The precise number would depend on the degree to which the market for professional services will support large practices. One thing is certain, large practices by themselves will not be able to cover the whole market; they will not be able to undertake more than a certain percentage of their total work-load in the form of smaller jobs, and they will need a continuous throughput of large jobs.

These large practices will become comprehensive in character in two senses: firstly, they will offer integrated services combining those of all the design and building professions; secondly, they will tend to offer services in increasingly broad spheres, in overseas markets and beyond the building industry. These developments will be necessary to keep the large organization together, its professional teams at full stretch, and to provide economic flexibility by developing conglomerate interests.

Below the level of the relatively few very large practices, one would also expect to see the development of more medium sized practices, which would become comprehensive mainly in one

dimension, that of integrated building design services for the 'main-line' building design processes. Many of these medium sized practices will develop from small practices with a positive attitude to growth, and they will develop by internal expansion or by merger with other small professional firms, such as structural engineers, or heating, ventilating and mechanical services engineers.

Small practices will continue to cease practising and new ones will be formed. The net gain or loss cannot be predicted, but small practices which survive into the future without any collective organization to provide the economic and other advantages described above will do so by achieving extreme efficiency and very high standards of service, and by offering unique qualities of design ability or highly specialized skills which may be sought by other professionals, as well as by clients.

One would expect to see the development of many alternative arrangements for providing service combinations, extending client contacts, achieving costs and overhead reductions of a similar type but on a smaller scale than would occur in the complete federation of practices in Architecture Centres. These will range from loose arrangements of a consortium type, with partners from different firms sharing the control of 'convenience' companies and practices, to various forms of holding company offering tax and limited liability advantages on the income and assets of constituent firms. These will variously suit different temperaments and attitudes to professional practice, but will not be a complete answer to the four requirements set out previously for a collective strategy in the private sector; thus a certain weakness and instability will remain.

10.4 CONCLUSION

If the private sector of the profession fails to adopt positive attitudes towards adaption to change, to encourage the development of specialization and a collective responsibility and interdependence, then the task of education will be that much greater, since it will have to demonstrate to practitioners that graduates can command the existing methods as well as providing the potential for new forms of practice more relevant for the future. This will be difficult to accomplish, since many graduates will be required to be employable under an old order whilst being motivated to establish the new.

Further study of this area, including the most important aspect of testing out practical experience suggested above, should be, it is felt, a team effort between contributors from different disciplines. This would enable detailed studies of the requirements for joint education of specialists, not simply within one profession, but opening the field of choice across all present professional and disciplinary boundaries. For aspects of practical implementation of specialization, other joint studies would consider working methods and information co-ordination, inter-professional recognition of qualifications, standards of service, joint fee structures, and aspects of joint practice responsibility and liability.

Finally, the end product must not be forgotten amidst the concern with methods. This study has been mainly concerned with means rather than ends. Further studies of specialization must be firmly linked with the nature of specialist concerns. Many of these will be set within the spheres of clients' activity and with the environments that influence client and user requirements; others will relate to the technologies which will furnish the solutions to these needs.

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