



Status of specialization in major professions

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Synopsis

The professions are subject to a wide range of changing conditions, and are as a result forced to become more competitive. Although there is a need for specialization under these circumstances, no formal recognition, definition, or control of specialists exists. Some of the professions have attempted, over extensive periods of time, to resolve the issues involved, and have met with varying degrees of success.

It appeared from the replies to a questionnaire sent to over one-hundred-and-fifty professionals, that both advanced education and experiential training, are considered to be necessary qualifications for specialization. The opinion as to whether it should be left to the individual to call himself a specialist, or whether recognition should be based on peer

Introduction

The word *special* has two meanings¹. In the one instance it means 'to be of such kind as to exceed or excel in some way, that which is usual or common', and in the other, 'to indicate particularity or exclusivity'. The relationship between the two meanings depends on whether exclusivity is necessarily associated with excellence. The words specialist, speciality, and specialization embrace both meanings, and are used as such in the paper. Although the word *specialism* also embraces both meanings, it may be used to rather indicate exclusiveness or limitation to one subject, as apparently the case in accountancy².

Academic competence and experiential training, which are the two basic aspects required in all professions for the recognition of specialists, both derive from the two meanings of the word specialist, and associate excellence with exclusiveness in the sense of devoted pursuance of a particular discipline. In addition, the ability to innovatively solve problems in terms of fundamental considerations, may be required in some professions. These finer distinctions are not dealt with in the paper.

The paper was initially titled *The right to be called a specialist*. However, during the preparation of this paper, it became apparent that the worldwide increase in competition has given rise to an increase in demand for specialization. The specialist has shown an innate ability to survive under adverse economic conditions, and has as a result gained ground over the generalist. The debate on this old issue has indeed changed from a juxtaposition of the one versus the other, to how specialization should be accommodated. The question is no longer whether specialization is required or whether it should be allowed, but how it should be accommodated. The initial title represented, to a certain extent, an appeal for the recognition of specialization as a right denied, and as such was not in accord with the fact that a demand instead existed for specialization. The title was accordingly changed.

As in the rest of the world, the entire environment in South Africa is changing rapidly in all respects including the professions. What has been held as the very basis of professionalism has changed. For example, commercial competition has become the order of the day, and controls against marketing have largely fallen away. The changes confronting the professions require ongoing extensions in the knowledge and skills of the individual and the surrounding team.

Although specialization has long been recognised in most professions, relatively little has been written on the implementation and control thereof in practice. The object of this paper is to present the views currently held on specialization in the various professions, and to evaluate the role of specialization in terms of a representative body of professional opinion. To this end, a questionnaire was circulated to more than one-hundred-and-fifty professionals in accountancy, law, quantity surveying, architecture, and engineering. A limited literature survey was also undertaken.

Multiple points of entry have to be provided in the professions, and in the educational programmes for the professions, to accommodate the heterogeneous nature of the South African population. A common error in this regard is to consider that technical colleges, technikons, and universities are a means of progressive improvement of qualifications.

Feasibility of inter-vocational mobility

According to the editor of *De Rebus*³, (the proposed new model for the South African legal profession will comprise a dual ladder of courts, and qualifications which will allow multiple points of entry into the profession, and subsequent upward mobility by progressive improvement of qualifications. By doing this the 'creation of second-class attorneys would be preempted'. This may well succeed, except for the suggestion that the qualifications would rank from technikon diplomas at the bottom, to certificates of specialization at an intermediate stage, with degrees in law at the top.

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review, was divided. The majority did not want the number of specialists to be controlled. The response to the reservation of work for specialists was ambivalent.

An error, with far-reaching consequences for the national economy, was made in engineering by considering technical college, technikon, and university training to represent progressive steps in educational curricula of the same types of skills and techniques⁴. Social and professional biases, with regard to the types of institution and education, were in addition not reckoned with. The result is commonly known. The technical college and technikon qualifications are still not recognised and respected by society, and the professions, as first-class measures of prestigious personal achievement.

Four complementary sets of skills and techniques are required in balanced proportions in engineering for the productive, efficient, and competitive construction or manufacturing of any one project or product. In horizontal array these comprise engineers, technologists, technicians, and artisans. It was only by recognizing that universities, technikons, and technical colleges produce training and qualifications for these completely different vocations, and that mobility from the one to the other is not desirable or possible, because of differences in the underlying educational paradigms, that the problem of potential inferiority could be addressed. The technikon curriculum has accordingly been extended to 3 years of full-time study, and degrees have been introduced instead of diplomas.

The suggestion that the legal profession should follow a model—which has proven to be fallacious in engineering—should be seriously reviewed. It may, in addition, be out-of-date in terms of the developments in the educational dispensation which have taken place since.

Developments in specialization

The following review of developments on specialization in the legal and accountancy professions, agriculture, the minerals industry and the engineering profession in general in South Africa, helps to explain the background against which the replies to the questionnaire were submitted.

Law

Two forms of specialization are recognised in The Attorneys Act, that of notary and that of conveyancer. In addition, patent and trademark attorneys are recognised by their peers as specialists⁵. A statutorily prescribed examination on the law of immaterial goods has to be passed to qualify for registration as patent attorney. The syllabus for this course of study includes, in addition to patents, aspects of trademarks, and copyright. Although they may not have completed the course on the law on immaterial goods, other attorneys also practice in the laws on trademarks and copyright, and through practical experience become specialists in these fields, but are not recognised as such. The recognition of specialists in the legal profession is evidently somewhat ambiguous.

Such ambiguities, together with other factors—such as the reservation of certain legal work, and the difficulties in definitively measuring the skill of a specialist—have given rise to an intensive debate for a considerable period of time about the recognition of further areas of specialization in the legal profession. The debate has gone hand-in-hand with the question of advertising. The problems with regard to advertising were recently resolved which resulted in the extension of specialization to areas other than those already recognised, being further considered.

Two approaches are being pursued in this regard⁶. Firstly, to leave it to the individual to call himself a specialist, as is the procedure in England, on the implicit condition that he would be required to render services of a higher standard than generally expected, and that unless the claim to being a specialist is justified, the self-styled specialist would be guilty of unprofessional conduct. Secondly, peer accreditation was considered, as in certain States in Australia.

The South African Association of Law Societies initially wished to follow the first route. However, the change-in-rule which was required was not approved by the Judge President and the Chief Justice. The Council of the Law Society of the Transvaal as a result embarked upon the second course of action, and is considering implementation of a peer accreditation scheme along the following guidelines⁷:

- applicants to be accredited and certificated as specialists by the Council
- the scheme to be administered by the Council
- accreditation to be subject to review every 5 years
- the field of specialization to be identified in the certificate of accreditation

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- notice of the specialist's accredited field to be given in the firm's letterhead and advertising material
- applicants to have practised for a minimum period of 5 years, and to have been substantially engaged in the field of specialization for at least 3 years
- applicants to devote at least 25 per cent of their time to the field of specialization
- three independent references confirming the applicant's skill in the field of specialization to be submitted with application
- applications to be scrutinized by the committee of the Council responsible for the particular field of specialisation
- guidelines with regard to qualifications and continued training, to be determined by the committee of the Council responsible for the particular field of specialization
- accredited specialists annually to submit information on their assignments as specialists, and on their attendance of training courses and seminars
- a higher degree of skill to be required of accredited specialists.

Accountancy

A Commission of Enquiry into developments in the Accountancy Profession in South Africa submitted recommendations on specialization in 1980. An *ad hoc* Committee of Enquiry on Specialization of The South African Institute of Chartered Accountants, formed in 1983, submitted recommendations in 1985 on the basis of the recommendations of the Commission of Enquiry, a report on specialization by the Canadian Institute of Chartered Accountants, two questionnaires to the members of the Institute, and on the basis of written views of two standing committees of the Institute. The first questionnaire was sent to all the members of the Institute and received a 14,8 per cent response. The second questionnaire was sent to a randomly selected sample of 100 of the members who replied to the first questionnaire, and in turn received an 89 per cent reply.

The recommendations of the *ad hoc* Committee may be summarized as follows:

- existence of specialist areas enjoying sufficient interest to be recognised by the Institute
- publicly published registers of specialists be established for each area of specialization
- specialists to be registered in one area only at any one time
- specialists practising as consultants to be separately identified from those in full-time employment

- sub-committees of the Institute to set criteria, and monitor applications for registration, which will at least demonstrate practical experience and academic competence in the proposed area of specialization
- university courses to be identified to satisfy requirements in respect of academic competence
- practical experience to be a minimum of 5 years of which at least 40 per cent of the last year should be devoted to the area of specialization.

In addition to all the information that was gathered over a number of years, the Executive Committee of the Institute took account in 1986 of a discussion paper on specialization by the Education Committee of the International Federation of Accountants, and early in 1987 came to the following conclusions and decisions:

- members of the Institute were sensitive to and divided over the issue
- a final decision on the matter was premature and may fragment the profession
- the formal recognition of specialization may result in competition between the large and the small firms, possibly to the detriment of the latter
- advertising, which was still being investigated, was considered by some members to be related to specialization
- specialization would only affect a small proportion of the members of the Institute
- the matter was not of that immediate urgency, and should be considered again within a year
- the formal recognition of areas of specialization in accountancy, posed similar problems in some other countries which had not been resolved after many years of deliberation.

The Institute has apparently not considered the matter since, which indicates a general lack of interest or requirement for specialization in accountancy. It is understood that specialization has, in fact, become a non-issue in the accountancy profession.

Agriculture

In agriculture, the transfer of technology between source and application, has for decades been facilitated by an intermediary, or extensionist, at ward-level between the researcher and the farmer. The speed and efficiency with which such information flows from researcher to farmer, is a vital aspect in agricultural development which poses an ever increasing challenge with regard to the heterogeneous make up of the South African society⁸. The need for more specialized knowledge in agriculture is bound to increase, because of the continuously increasing demand for food production and production efficiency. Reduction in the time lag between research and application of the findings, is necessary because of the reduction in profit margins, and in development budgets, and the increasing discrepancy between the more- and the less-successful farmers.

The existing extremely small extensionist to farmer ratio, comprises the most important constraint to agricultural development. The corresponding need to reduce the time lag between the source and application of information, required that the services of the extensionist be augmented, expanded, or replaced. Düvel⁸ accordingly investigated the issue, and came to the following conclusions;

- ▶ a subject matter specialist be interposed between the researcher and extensionist, or generalist, to provide a supportive or complementary service to the generalist, and a feed-back service to the researcher
- ▶ a number of generalists should be served by a single specialist as far as a specific field of specialization was concerned
- ▶ specialists and generalists alike should restrict themselves to their sequential line functions of transferring information, and should not pose as superordinate farmers
- ▶ specialists should take care of regional specializations concerning their specific subjects or commodities.

The emphasis on functionality, in this proposed structural adjustment in the transfer of technology in agriculture, will ensure its successful deployment in practice.

Mining

Commercial competitiveness in the minerals industry is based fundamentally on refinements in the processes and special skills of the staff involved, especially when the product goes beyond refined metal. According to Parbo⁹, the world environment for the minerals industry is undergoing substantial change, which will result in more difficult, demanding, and competitive operating conditions and ultimately in greater specialization. The phenomena referred to by Parbo may be summarized as follows in terms of the effects of changes and personal skills on the mining industry.

Changes in world minerals industry

- ▶ **Globalization.** An increasing number of international enterprises regard the whole world as their area of operations, and are accordingly active in more than one country. The large companies in Europe are leading this trend. A number of years ago, the sales of five of the largest companies external to their home countries, averaged 96 per cent of their total sales. The assets held outside the home country, ranged between 85 per cent and 95 per cent of the total assets.
- ▶ **GATT treaty.** The General Agreement on Tariffs and Trade was designed to open barriers between countries to free trade. The apparently indefatigable pursuit to have these conditions conformed to, as widely as possible, enhances globalization.
- ▶ **Regionalization.** Contrary to globalization, there is a trend towards forming regional groupings of countries such as the European Common Market Community, the North American Free Trade Association, and the Asia-Pacific Economic Cooperation Group.
- ▶ **Economic power.** China is the third largest economy in the world, after the United States and Japan, in terms of purchasing power. The development of China's vast and widely ranging minerals resources will make enormous markets available for goods and services from the international community. However, once developed, the situation may be reversed, and China may become a major competitor in minerals and related products in world markets.
- ▶ **Joining of the east- and west-world economies.** The dissolution of the Soviet Union has resulted in metal supplies reaching western markets in unprecedented quantities, which is responsible for the present downturn in the world mineral industry. Many metal prices are, as a

result, at the lowest levels ever in real terms. It is uncertain whether the developments in Russia will reverse this trend, and result in a predominant internal consumption of its products.

- **Miscellaneous aspects.** Other world-wide changes that are taking place are as follows:
 - gradual shift in the minerals industry from developed to developing countries
 - slowing down of growth rates in the developed world
 - reduction in the use of metals per unit of economic activity, owing to the increasing relative importance of service industries, availability of better technology, substitution by other materials, and the more sophisticated use of materials.

Connection between competition and personal skills

A notable development in all industries in recent years, is for companies to match or exceed the strongest competitor in their field of endeavour. This drive has a number of consequences; firstly, that competition has come into the open; secondly, that costs are reduced and flattened out. Thirdly—and the most significant consequence—is the demand that is placed on the development of the skills and qualities of people, as the dominant factor which determines the competitiveness of a company. According to Bridenbaugh¹⁰ the personal attributes that will be required in future in the minerals industry may be summarized as follows:

- abstract problem-solving built upon a firm foundation, and demonstrated competence in the basic sciences and analytical tools
- interpersonal skills, including strong written and oral communication capabilities, the ability to work in a team and in a culturally diverse environment, and a working familiarity with two or three languages and cultures
- ability to cross-disciplinary thinking. The future professionals must be able to integrate their disciplines to fully contribute to an industrial setting
- ability to demonstrate deep individual acumen in the chosen discipline, i.e., specialization
- ability for on-going self-learning
- ability to effectively communicate the objectives of the particular industry to the public at large, for which an understanding of the political, public-policy, and community issues is required.

General engineering

Key opportunities and threats which illustrate the stresses and strains to which the engineering profession in South Africa is generally subjected as a result of changes in surrounding conditions, may be summarized as follows.

- **Shortfalls in professional engineers.** The ranks of engineers have been thinned out considerably during the past three to four years, as a result of the adverse economic and political circumstances. The shortage in engineering staff will worsen when the expected recovery in the economy is realized.
- **Increased productivity.** The situation with regard to technologists and technicians is even more critical⁴. The ratio of engineers and scientists to technologists and technicians is 1:0,8 at present, and has to be turned around on average to 1:8, if industrial efficiency and productivity are to be improved significantly.

The upside of the shortfall in technical personnel is that the existing staff will be more than fully occupied in the foreseeable future, and the downside that the quality of work will suffer. Unless it can be relatively quickly resolved, a shortfall in technical staff will in the long run have an adverse effect on the economy, and on the provision of jobs.

The biggest problems that are faced in this regard, are that not enough students are coming forward for technical training. The biggest challenge under the resulting pressures of work, will be to remain at the forefront of technology under extremely tight budgets and time constraints.

- **Project financing.** Project financing in the public sector was relatively readily available in the past. It can be expected that the funding of public works by central government will be reduced in future, and that project finance will be supplied and controlled more directly by the end-user of the works and services provided. The financier will undoubtedly have a larger interest in the project, and will definitely want to be assured to a greater extent of the cost-effectiveness of the project by competition amongst the suppliers of goods and services. The expected increased role of international aid funding, will further affect the issue.

- ▶ **Competition for work.** Competition for work has come to stay, and the submission of proposals in terms of price, delivery, and technical merit will be an irrevocable aspect of engineering consultancy. Price alone will in the short-term be the distinguishing measure between competitors, at the expense of technical merit and quality of workmanship. To the extent that the professional will not submit to pressures of this kind, will he contribute to the profession and in the long run assist in shaping the rules by which competition can be exploited to the best advantage of both client and consulting engineer. A shortfall in technical excellence always results in increased project costs, in one form or another. It is also a fact that the insurance industry is very alert to inadequate expertise, and does not readily pay claims and continue without challenge to provide insurance cover to those responsible for inadequate engineering services.
- ▶ **Change in type of work.** The engineering services required are changing rapidly, and engineers are continually required to acquire new skills. The present focus is very much on the environment, on worker safety for those involved in the mining industry, and on engineering appropriate for particular needs. The provision of housing and basic services will preoccupy the attention of engineers in the years to come. Soil conservation and land rehabilitation are so fundamental to a sustainable economy in the long term, that the environmental engineers and scientists will have to be very resourceful to curb and remedy the loss of the soil cover through erosion.
- ▶ **Construction and professional indemnity insurance.** The insurance industry's attitude towards construction, design shortfalls, and mishaps is hardening very significantly, and not without reason. The design engineer's work is under the magnifying glass as never before. Project losses are scrutinized closely by insurance underwriters to determine their liability, and if there is any chance of pointing it in another direction, there is no hesitation. The overall problem is aggravated by the withdrawal from the market of a number of the large underwriting concerns. The reduction in competition is undoubtedly driving the cost of insurance upwards. The pressure from clients in the form of tight budgets with regard to both time and cost, aggravates the situation.
- ▶ **Interpersonal skills.** Engineers have a proud record of achievement, and are respected for their ability to deal with large and complex problems, but their relevance to society is poorly understood, because the fruits of their labours are either not visible, or are beyond the grasp of the public. Engineers will be required to become acquainted with issues of public interest, and to acquire the skill of communicating the benefits of their endeavours on behalf of society to the public, in order to overcome this problem.
- ▶ **New products and markets.** That far-reaching changes have already occurred is evident in the selective occupation of engineering services. Most of the multi-disciplinary consulting-engineering firms will attest to the fact that some of their divisions are busy and some not. The demand for engineering services has been skewed, and will only be addressed by the development of new products and markets. The substantial investment which is required in this regard, could not have been more ill-timed in terms of the current state of the economy.
- ▶ **Competition from abroad.** The changes in the world will, in addition to those currently taking place in South Africa, result in an increase in internationally-based engineering services being offered locally, at prices very likely lower than current levels. Some previously state-owned Eastern European engineering corporations are being restyled under the guise of private enterprise. The underdeveloped and unexploited markets of the world, of which South Africa is a prime example, must to some extent be the aim of such developments. The Japanese industrialists cannot be too indifferent about the prospects either. The aid funding which is expected to flow into the country, will certainly not come without engineering services attached to a large extent.
- ▶ **Affirmative action.** In addition to all of these challenges, the engineering profession should also want to actively engage in affirmative action. This problem would not have been nearly so hard, if there were enough students enrolled for technical training at the tertiary educational institutions. However, the real problem is that not enough students are coming forward from school to enter technical careers. This is where the solution to effective affirmative action is rooted; only by introducing and encouraging the school pupil to take an interest in a technical career, will engineers, technologists, and technicians be found in the required numbers.

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- **Impact on specialization.** The engineering profession is pulled apart by a deluge of disparate demands, and is as a result very likely to be adversely affected for some time. The chronic shortages in all categories of technical staff, and the demands for greater efficiency and productivity, will deprive the profession of those resources that are required to develop the very aspects by means of which the demands can be met. Under increased pressures of work and reduced financial resources, scant opportunity will be available to improve the ratios between the various categories of technical staff, develop existing skills into specializations, acquire new skills, develop new products and markets, improve quality assurance and control, and to engage in the training and education of staff as a contribution to affirmative action.

Specialization will undoubtedly take a back seat under such circumstances. It is a recognised phenomenon that the quality of training and education, is directly related to the extent that excellence and specialization are pursued. The negative effect that the expected developments in engineering services will have on specialization, will therefore be counter-productive in the long-term. The first step towards progression on the high road to prosperity in South Africa, is to promote the development and practice of specializations in engineering, if not in all professions.

Content and statistics of response to questionnaire

Specialization means different things in different professions, and even to different people in the same profession. Although specialization is not a new concept and has indeed played a recognised and important role in most professions and industries, it has not received much attention in the literature of any of the professions.

A questionnaire was accordingly prepared to shed some light on what a representative cross-section of members from the various professions understand by the term *specialist*, what educational and experiential qualifications are considered to be required of a specialist, and what regulations with regard to specialist commercial practice are considered necessary. The issues raised in the questionnaire, which is given in full in Appendix A, may be summarized as follows.

- Does a university degree qualify a person as a specialist?
- Under what circumstances does someone qualify as specialist? Further study, practical experience or both?

- Under what circumstances does someone gain access to specialist practice? By calling himself a specialist, by peer recognition or by statutory regulation?
- What limitations should be imposed on specialists? Further educational qualifications, length of qualifying practical training, both or none?
- At what level should post graduate study be considered a requirement? Honours, Masters or Doctoral?
- Are present requirements as to who may call himself a specialist, satisfactory?
- Describe the changes that are required to be made to people calling themselves specialists.
- Should the number of specialists be controlled?
- Does the particular market recognise the specialist?
- Should certain aspects of work be reserved for the specialist?

It was sent to over one-hundred-and-fifty people in the following positions in the five main professions:

- chairmen of the committees of The South African Institute of Chartered Accountants
- various members of the standing committees and *ad hoc* committees of The Association of Law Societies of the Republic of South Africa
- various members of the standing committees of the Association of South African Quantity Surveyors
- the members of the National Board of The Institute of South African Architects
- various members of the South African Association of Consulting Engineers
- various individual professionals including educationists, insurance brokers, marketing and communication specialists, medical doctors and dentists, economists, and housing consultants.

The statistics of the enquiry are shown in Table I. The overall response of 64 per cent was remarkably good, and is considered to provide a representative basis for evaluating the broad understanding of the issues raised in the questionnaire. The usual response to questionnaires of this kind averages less than 15 per cent according to Sinclair¹¹. Therefore even the limited number of responses from accountants, quantity surveyors, and architects are considered to be representative samples of the general opinion in the respective professions.

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Table I
Statistics of enquiry

Profession	Number of enquiries	Number of replies	Response %
Miscellaneous	8	4	50
Accountancy	13	5	38
Legal	30	11	37
Quantity Surveying	28	7	25
Architecture	15	5	33
Engineering	65	44	68
Unmarked	-	25	-
Late replies	-	3	-
Total	159	101	64

The good response from lawyers is very likely related to the present preoccupation with specialization in the legal profession; that from engineers reflects to a large extent the role which the specialist is considered to play, in either preventing or overcoming, the adverse effects of overruns on cost and time in construction. It also probably reflects a keen interest in professionalism amongst engineers in so far as it is considered to be assured by advanced training and specialist skills. This aspect was noticeably absent from the replies received from accountants, quantity surveyors, and architects.

The comparatively lower response from accountants, quantity surveyors and architects is probably because specialization affects a smaller proportion of members in these professions. However, the small number of replies received from the accountants was more than made-up by the results of earlier surveys that had been carried out by The South African Institute of Chartered Accountants².

It was evident from the replies to question 5, that it was remiss with regard to a sixth option, which was accordingly added and duly interpreted. Question 6 was not answered in a considerable number of cases, because post-graduate studies were generally not considered to be an indication of specialist abilities. The closest choice to such opinion was considered to be option (i) and was accordingly interpreted. In view of the near 100 per cent reply to question 1, question 2 was irrelevant. The replies to questions 1, 3, 4, 5, 6, 7, 9, 10, 11, and 13 may be analyzed as shown in Table II. The general conclusions which may be drawn from the replies to these questions are summarized in Section 5.(i); the recommendations requested in question 8 are summarized in Section 5.(ii); the reasons given for the specialist not being recognised in response to question 12, are summarized in Section 5.(iii) of Table II.

Findings of enquiry

General

The following conclusions can be drawn from the analysis given in Table II of the replies to questions 1, 3, 4, 5, 6, 7, 9, 10, 11, and 13.

- 97 per cent of the respondents were of the opinion that graduate study alone is not sufficient qualification for a specialist.
- 84 per cent of the respondents considered that tertiary academic qualifications together with extensive practical experience, are required to be recognised as a specialist. The accountants and lawyers were somewhat less inclined to requiring both training and experience.

Table II
Analysis of response to questionnaire

Profession	Questions																				
	1	3			4			5						6			7	9	10	11	13
		i	ii	iii	i	ii	iii	i	ii	iii	iv	v	vi	i	ii	iii					
	Response examined, %																				
N	Y			Y			Y						Y			N	Y	N	Y	Y	
Miscellaneous	100	-	-	100	-	100	-	25	25	50	-	-	-	75	-	25	67	100	100	50	25
Accountancy	80	20	20	60	60	40	-	20	20	60	-	-	-	60	20	20	20	100	100	100	60
Legal	100	9	18	73	36	55	9	20	10	60	-	10	-	46	18	36	67	100	73	64	36
Quantity Surveying	100	-	14	86	43	57	-	-	14	43	-	14	29	43	28	29	83	100	100	57	71
Architecture	100	-	20	80	80	20	-	-	-	80	-	-	-	20	-	40	80	80	80	80	40
Engineering	96	-	12	88	51	47	2	2	19	60	5	5	9	27	30	43	57	98	93	91	57
Unmarked	100	4	12	84	36	60	4	8	4	52	-	-	36	32	40	28	45	96	84	80	64
Overall	97	3	13	84	45	52	3	7	13	58	2	5	15	37	27	36	57	97	90	81	56

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- The poll was nearly equally divided between either personal initiative or formal peer recognition, as means to gaining access to specialist practice. Architects were an exception in that they felt reasonably strongly—80 per cent—that it is up to the individual to determine whether he may practice as a specialist.
- 58 per cent of the replies supported the view that further study, and appropriate practical training should be imposed as requirements to becoming a specialist in any of the professions. 80 per cent of the replies from architects supported this view.
- The opinion on the level of post-graduate study required, was uncertain and approximately equally divided between all three levels proposed, i.e. Honours, Masters, and Doctoral.
- 57 per cent of the respondents were not satisfied with the requirements in their professions as to who may refer to themselves as specialists, although only 20 per cent of accountants were dissatisfied in this regard.
- 97 per cent of the respondents agreed that there was a need in the market for specialization in their profession.
- 90 per cent of the replies would not want the number of specialists to be controlled, but rather be determined in a free-market situation. The lawyers were less so inclined, and only 73 per cent did not wish to have the numbers controlled.
- 81 per cent of the respondents reported that the market in their profession recognises the specialist. The lawyers and quantity surveyors were ambivalent in this regard.
- The overall response to the reservation of certain work for specialists, was to a large extent ambivalent. This apparently contradictory response, is due to it being recognised on the one hand, that higher standards of skill, experience, and care are required, and on the other, that market forces should be allowed to operate freely. These two aspects are in essence not contradictory, and can be accommodated simultaneously by requiring appropriate qualification and training of the specialist, and by remunerating him at a relatively higher level.

Changes recommended with regard to specialization

The changes recommended with regard to the right of the individual to call himself a specialist, may be summarized as follows. The number of respondents supporting the various points in principle is identified in brackets in terms of abbreviations A, L, Q, C, E, M, and U in respect of Accountancy, Law, Quantity Surveying, Architecture, Engineering, Miscellaneous, and Unmarked.

- Greater freedom to be given to the individual to practice as specialist on own initiative (2L, 1Q, 3U).
- Areas of specialization to be extended (1L).
- Advancement of specialization by universities (1Q).
- Accreditation and registration of specialists by statutory bodies or institutions (4E) or by advertising standards authority (1M, 1Q, 2U).
- Formal peer recognition by professional institutions (1L, 3E).
- Formal promulgation and implementation of requirements by professional institutions, particularly with regard to academic competence and practical experience of extensive, 10-15 years, duration (1L, 9E, 3U).
- Stricter enforcement of requirements of statutes on professions (2E).
- Gazetting of specialist, higher, fee rate (1M, 1E).
- Advertise recognised specializations, especially with clients (2E).

Reasons for lack of recognition of specialist

The reasons given for the markets not recognising the specialist may be summarized as follows on the same basis as defined above:

- lack of formal definition and requirements of specialist (1L, 2Q, 1E, 1M)
- lack of formal recognition (2L, 1M, 1U)
- lack of client awareness (5E)
- misrepresentation by non-specialists (2E)
- low demand (1U).

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Summary of findings

The replies indicated that both advanced education and extensive practical training are required for recognition as specialist. The opinions on whether it should be left to the individual to call himself a specialist, or whether specialists should be subjected to formal peer recognition, were nearly equally divided. The majority of the respondents were not satisfied with the provisions in their professions as to who may call himself a specialist, and on what basis it may be done. Nearly 100 per cent of the respondents agreed that there was a need for specialization, 81 per cent reported that the specialist was recognised in the market, and 90 per cent did not want the number of specialists to be controlled. The response to the reservation of work was ambivalent, owing to it being recognised on the one hand that higher standards of skill, experience and care were required, and on the other, that market forces should be allowed to operate freely.

Conclusions and recommendations

The circumstances surrounding the professions are changing and are becoming more competitive at an ever-increasing rate which can only be met by greater knowledge, skill, and specialization on the part of the individual and the surrounding team. The question is no longer whether specialization is required or whether it should be allowed, but how it should be accommodated. There is a pressing need in the market for specialization and for extending the areas of specialization in most professions. However, there is no formal recognition, definition or control of specialists in the professions, except to a limited extent in the legal profession.

A number of ambiguities exist at present in the legal profession with regard to specialization. The profession is as a result very concertedly considering formal recognition and extension of the existing areas of specialization, and is likely to ratify the situation in the foreseeable future. Provision in this regard will probably assume the form of peer accreditation under the auspices of the professional institutions.

The accountancy profession grappled with the problem of specialization from 1980 to 1987, but has apparently not considered it since. The recommendations which were developed were remarkably similar to those currently considered by the legal profession. The process of formalizing specialization in accounting was not completed owing to a lack of sufficient interest, and fear that the deep divisions which existed over the matter, would fragment the profession.

In agriculture, the ready and efficient flow of information from the research institute to the farmer who applies it, comprises the most important constraint to its development. It was recognised by this profession that a specialist needed to be interposed in the technology transfer chain to overcome this problem.

The substantial changes to which the minerals industry is subjected, will give rise to more difficult, demanding, and competitive operating conditions. The associated demand on the development of the skills, and qualities of personnel, is the most significant consequence of these changes. The mining industry has accordingly recognised that it will have to improve the knowledge, skills, and specializations of its personnel to meet external demands, and to remain competitive.

The engineering profession in South Africa is pulled apart by a deluge of disparate demands which will usurp all the available resources that are required to develop the very aspects by means of which the demands can be met. Scant opportunity will be available for addressing the problems under increased pressures of work and reduced financial resources. Specialization will very likely be neglected, which will give rise to a reduction in the quality of training and education, and the quality of workmanship in all technical fields.

The different approaches to specialization in the various professions, are not a cause for concern. However, those professions in which specialization is subject to control, but which have not implemented the concomitant regulatory procedures, should either deregulate such control or implement the required procedures. It is not defensible, particularly in view of the growing competitiveness, for any profession to stand in the way of any member to be as active as the market may demand, all subject to the highest codes of ethical conduct. If a profession is in control of the situation, but is remiss in determining the procedures, its members will in time under increasing demands of competition, circumvent the restrictions in ways which do not become the conduct of a professional and contribute to the erosion of the fabric of professionalism. The professional institutions should indeed assume as objective, the promotion of the activity and standing of its members as far as is practically possible.

Status of specialization in major professions

There is a great deal in common between the professions which may be briefly summarized as follows. The ever-continuing increase in competitiveness in post-modern society, results directly in an increase in the demand for higher education, skills, and specialization. The transfer in information and technology which accompanies the competitive process, will be facilitated to a large extent by specialists. There is little doubt that a definite need exists for specialization, albeit to varying extent in the different professions. Very high standards of competence with regard to education and training, and that of professional conduct are expected of the specialist in all professions. It is, however, also recog-

nised as the counterside to these demanding expectations, that the specialist should be rewarded at a comparatively higher level. Specialization is accommodated differently in the various professions. Three categories can be identified. In the first instance, specialists are identified by peer recognition, and are not subject to any controls other than existing codes of ethical conduct. In the second instance, specialization is formally provided for in terms of recognised tertiary educational curricula and statutory registration. In the third instance, specialization is subject to statutory or institutional control, but are the controlling authorities remiss in promulgating the regulatory procedures. ◆

Appendix A—Questionnaire

Date Profession of respondent

- | | |
|---|--|
| 1. If a person studies for a degree in a particular discipline, is that person a specialist in that field? | Yes/No |
| 2. If your answer is yes, briefly describe which aspects of the study curriculum for a first degree qualify the graduate as a specialist rather than as generalist on entry into the chosen profession. | |
| 3. If your answer is no to question 1, under what conditions does a professional qualify as a specialist in your area of work. | Tick the answer that applies closest in your profession. |
| (i) After studying and passing a further examination or test in the field of work? | Yes/No |
| (ii) Having spent a number of years working in that field? | Yes/No |
| (iii) After both successfully undertaking further study and having spent a number of years working in the field? | Yes/No |
| 4. Accepting that certain professional areas require particular advanced courses of study and experiential training, under what circumstances does a professional gain access to specialist practice. | Tick the answer that applies closest in your profession. |
| (i) By describing/calling themselves specialists if they spend the bulk of their time in that field? | Yes/No |
| (ii) By peer recognition in terms of sanction by professional societies or institutions? | Yes/No |
| (iii) By satisfying statutory regulation? | Yes/No |
| 5. What limitations do you think should be placed on professionals describing themselves as specialists in certain fields. | Tick the answer that applies closest in your profession. |
| (i) Qualifications following study and examinations? | Yes/No |
| (ii) A period of time spent in the particular field? | Yes/No |
| (iii) Passing set study courses and appropriate experiential training? | Yes/No |
| (iv) There should be no limitations with regard to tertiary studies. | Yes/No |
| (v) There should be no limitations with regard to experiential training. | Yes/No |
| (vi) There should be no limitations with regard to tertiary studies or experiential training. | Yes/No |
| 6. Could post graduate studies be considered a sufficient indication of specialist abilities. If so at what level. | Tick the answer closest to your opinion. |
| (i) Honours? | Yes/No |
| (ii) Masters? | Yes/No |
| (iii) Doctoral? | Yes/No |
| 7. Accepting that there are requirements regarding who may call themselves a specialist in your profession, are you satisfied with these? | Yes/No |
| 8. Briefly describe the changes that you would like to see in your profession regarding the right to calling oneself a specialist. | |
| 9. Is there a need for specialization in the market in which you practice your profession? | Yes/No |
| 10. Should the number of specialists practising in your profession be controlled? | Yes/No |
| 11. Does the market in which you practice your profession recognise the specialist? | Yes/No |
| 12. What are the reasons if the answer to the previous question is no. | |
| 13. Should certain aspects of work in your profession be reserved for specialists? | Yes/No |

Some Reminiscences—Lionel Phillips

edited by Maryna Frazer

This book is essentially the memoirs of Lionel Phillips, beginning with his sea voyage to South Africa in 1875 at the age of 20.

The story covers the period 1875 to his death in 1936, and interweaves Phillips's life with the historical developments of the country and the rise of the great South African mining houses. The latter has been told many times, However, this is essentially a personal biography by one of the great mining magnates, and deals with his association with men such as Sir Julius Wernher, Alfred Beit, Friedrich Eckstein, Otto Beit, and Percy Fitzpatrick. The book outlines their involvement in the earlier discovery and development of the Kimberley diamond fields, which provided the experience and wherewithal for their later and larger involvement in the Witwatersrand goldfields.

Lionel Phillips was intensely associated with household mining names such as Central Mining and Investment Corporation, Rand Mines, and Corner House, and the mines they founded, developed, and exploited. It is a sad reflection on the passage of time to think that these giants of the industry no longer exist in the current line-up of producers and investment houses! He was also intimately involved with the development of the mining-house system, which was started to exploit the great Witwatersrand goldfields more fully, and still endures today.

The reminiscences of Lionel Phillips will be of special interest to mining people with a historical bent; and to those who firmly believe that mining was, is, and will be the mainstay of the South African economy, and the major contributor to the Reconstruction and Development Programme. The first section of the book is 'The Editor's Introduction' serves as an able executive summary.

The book is easy to read and entertaining. It can be enjoyed during a single (long) sitting, or during several sittings over a period of months in a leisurely manner.

Probing the Frontiers: The Story of Pinkie Hill

by John Lang

Probing the Frontiers tells the story of the eventful life of Dr Francis George 'Pinkie' Hill from his years as a Rhodes Scholar at Oxford to his recognition as one of South Africa's great and visionary men.

Hill is the doyen of those who created a safer, healthier, and more congenial environment in South African mining. He was an innovator, initiating a scientific approach which led to the industry's vigorous involvement in research. The work of Hill and other like him placed South Africa in the forefront of world mining.

He took a leading position too in the evolution of a more humanitarian approach to the management of mining labour.

As a consulting engineer at Corner House he was a restless seeker after new ventures. He was a founder of the great ferrochrome industry which today has a dominating position in the world markets.

His achievement earned the acclaim of professional societies in both South Africa and Britain, and were recognised by the conferring of honorary degrees from the University of Port Elizabeth (for the advancement of science), and from the University of the Witwatersrand (for service to the community). It was said of him on the latter occasion that he was motivated essentially by his concern for his fellow man.

This is a book which will interest an audience beyond the mining industry for it is a story of courage and assertiveness in confronting critical challenges in both science and industry.



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