

Professionals and Professionalism in Surveying and Spatial Information: Essential, Desirable or Superfluous?

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Key words: Professionalism, professional organisations; basic & applied knowledge; ethics and responsibility; innovation.

SUMMARY

This paper analyses the characteristics required of both a professional, and an organisation which intends to represent and service professional members. It notes certain inappropriate applications of the term, and in particular the use of the word to describe those (currently) admitted to the basic level of membership to the Spatial Sciences Institute of Australia, noting the dangers in such inappropriate use of the word both to the organisation, and its membership, but proposing means by which such problems can be solved.

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1. INTRODUCTION

We are all familiar with the so-called “universities” in the USA and other countries that offer degrees – even PhD’s - to those who send them a sufficient and specified sum of money. We are equally aware of the value the general public places upon those degrees, and upon the bodies which offer them. This example serves to illustrate the need to be very cautious about the use of terms to define grades of education or levels of membership within professional societies. To be loose in their use or application only serves to downgrade, and even degrade, both the qualifications offered, and the body offering them.

It is therefore essential that the words we use are used correctly and appropriately; without this we expose ourselves to criticism and even ridicule.

The motivation for writing this document is my concern over the current (February, 2007) range of criteria adopted for granting the “Certified **Professional**” grade to the Spatial Sciences Institute of Australia (SSI) members. I have been asked by the Land Surveying Commission of the SSI to express this concern in writing, and this paper is based upon the document written December, 2005. As a result, they have proposed changes to the terminology used by SSI Aust along the lines I have proposed below, but at this stage the SSI has not moved to modify their position. So below I outline my concerns, and propose a method of satisfying them without detracting from the spirit and intention of the membership grades offered to the various levels of membership of SSI Aust.

1.1 What a Professional IS NOT

1.1.1 Defined by a fee for service

In my local shopping centre I am confronted by a shop called “Professional Nails”. This shop provides a service of cleaning, filing, shaping and painting both finger and toe nails of its clients, and massages feet and hands. It is, so I’m told by my wife, very good at its job. But does it deserve the qualifier “Professional”? Of course not! We are all aware of businesses who call themselves “Professional” but which fall well outside the normally accepted definitions of the word. There are “Professional musicians”, “Professional Sportsmen and Women”, indeed “Professional Gangsters and Street Walkers”, and professional dog-handlers and gardeners, and so on. The word “professional” used in these contexts essentially infers that these people who call themselves thus earn their living by that activity. In other words, there are sufficient people around who are happy enough to pay for their services. But is it sufficient to earn money at a particular job in order for it to earn the right to be called a “Profession”? Certainly not; indeed many who are in the traditional professions earn LESS

than those outside them. It is obviously NOT sufficient to earn money from a certain activity for it to be called a “Profession”.

1.1.2 Defined by the quality of their service

Again, using the analogy of the Professional Nails shop above, they are by all accounts, very good at the service they provide. We all know the value of a tradesman who is punctual, trustworthy, and whose work is good quality. All these qualities are those we would expect to find in a “professional”. But they are not, in themselves, sufficient to define what it means to be a professional.

So, what then is a “Professional”? And how does one gain this time-honoured and jealously guarded title?

2. REQUIREMENTS OF A PROFESSIONAL

2.1 Definition of “a Profession” given by Professions Australia

Professions Australia (<http://www.professions.com.au/thecouncil.html>) is the national Australian organisation of professional associations. It advances and promotes professionalism for the benefit of the community, and it defines a profession as:

“... a disciplined group of individuals who adhere to ethical standards and who hold themselves out as, and are accepted by the public as *possessing special knowledge and skills in a widely recognised body of learning derived from research, education and training at a high level* (my emphasis), and who are prepared to apply this knowledge and exercise these skills in the interest of others.

It is inherent in the definition of a profession that a code of ethics governs the activities of each profession. Such codes require behaviour and practice beyond the personal moral obligations of an individual”.

There are therefore **three criteria** to be satisfied before one can claim the title of “a professional”. The individual should have achieved three things -

- a certain defined body of **Fundamental Knowledge** (scientific in the case of the science and engineering-based professions)
- a body of **Applied Knowledge** based upon a), and a demonstrated capacity to apply this knowledge in practice, and
- a high level of **Responsibility** for their personal actions and opinions (including ethics and public service).

These characteristics are those which distinguish a professional from those in the trades and businesses referred to in Section 1 above.

2.2 Satisfying the Criteria

The first of the necessary requirements (a) is normally, and especially in these days of greater access to tertiary education, exclusively demonstrated by the individual having graduated from a recognised or accredited program of education at tertiary level. The second element, (b), is similarly demonstrated - both by applying fundamental sciences given in (a) at this same tertiary level, and also by the individual having practised for a number of years (usually 3 to 5) at an appropriate level. The third, (c), is judged by the individual demonstrating the capacity to make informed decisions on the matters they are dealing with, (based upon both a) and b)), while taking in to account the public good. *Note that if only one or two of these three criteria are met, the individual is not considered eligible for full professional membership.* In other words, all three of the boxes have to be ticked before an individual deserves the right to be called “a professional”.

The universities are the bodies given the task of assessing and guaranteeing, independently, transparently and without favour, that sufficient knowledge is achieved to satisfy the first two requirements. The organisations which represent (and protect the standards of) the profession accredit these programs, and are (usually) given the task of assessing an individual’s capacity to act at the desired level of ethics and behaviour to meet c) - the third requirement.

It is useful to review the educational requirements for member bodies of Professions Australia. This reveals that, at the time of writing, the Spatial Sciences Institute of Australia is the *only* body which is willing to use the term “Professional” for a member who has NOT obtained a University degree. This is hardly a desirable distinction to have, and certainly not a good reflection upon the Institute, or the many members it represents who do have all the requirements for that status.

2.3 The Definition of a Professional Surveyor

2.3.1 The FIG Definition

In Enemark and Higgins (2006) the requirements of a professional surveyor are unambiguously defined. They are:

“A surveyor is a person with the academic qualifications and technical expertise to conduct one, or more, of the following activities:

- To determine, measure and represent land, three dimensional objects, point-fields and trajectories;
- to assemble and interpret land and geographically related information,
- to use that information for planning and efficient administration of land, the sea and any structures thereon; and,
- to conduct research into the above practices and to develop them.”

It is clear that this definition, which defines the specifics of the particular discipline of surveying, contain the elements for the basic criteria described in 2.1 above. Note especially that there is an expectation of academic qualifications, and even research, which immediately implies the possession of the *basic*, as well as the applied, sciences needed as fundamental to the practice and profession of surveying.

Indeed, the current (2006) President of the FIG takes it a little further, and suggests that the special characteristic of a professional is their capacity to innovate, i.e. to handle and solve difficult and non-routine problems in an inventive and original fashion (Enemark, 2006, personal communication). This capacity to innovate (interestingly, the very word “engineer” comes from the French “ingenious”!) is unquestionably a desired and desirable characteristic of a professional and, without the basic and applied knowledge described in 2.1 (a) and 2.1 (b) above, it is impossible to innovate anything at other than a superficial level. In other words, one has to go back to first principles to solve out-of-the-ordinary problems – hence the need to understand the fundamentals of the science.

In any case, we are now in a position to answer the question posed in the title with absolute certainty. At every level, International and National, State and Local, the Surveying and Spatial Information industries *require* Professional status; such status is neither superfluous or desirable, but essential!

2.4 Academic Requirements for Member Organisations of Professions Australia

It is useful to review the expectations of fellow professional bodies which belong to Professions Australia. Below I group the member bodies into three distinct and well-defined areas. In almost every case these are associations of individuals. Many of the bodies listed below have parallel bodies which do in fact represent firms and companies (eg, The Association of Consulting Surveyors; ASIBA, The Pharmacy Guild...). A few of these are also member organisations of Professions Australia (eg., Association of Consulting Engineers).

2.4.1 Resources, Property and Construction Services

Royal Australian Institute of Architects (RAIA); Engineers Australia (IEAust); Australian Institute of Quantity Surveyors (AIQS); Australasian Institute of Mining and Metallurgy (AusIMM); Australian Computer Society (ACS); Australian Property Institute (API); Association of Consulting Engineers Australia (ACEA); Australian Institute of Landscape Architects (AILA) and Spatial Sciences Institute (SSI).

2.4.2 Medical and Human Resources Services

Pharmaceutical Society of Australia (PSA); Audiological Society of Australia (ASA); Australian Veterinary Association (AVA); Australasian Podiatry Council (APODC) Australian Institute of Interpreters and Translators (AUSIT); Institute of Management Consultants (IMC).

2.4.3 Financial Services

Certified Practitioner Accountants, Australia (CPA); Institute of Actuaries of Australia (IAAust); Institute of Chartered Accountants in Australia (ICAA); National Institute of Accountants (NIA).

Notable absences from Professions Australia are the Teachers Federations, The Law Society and the Australian Medical Association; these bodies are very large and have high public profiles in their own right, so probably do not see a need to belong to an umbrella organisation such as Professions Australia.

We should also note that the organisation representing the nail manicuring firms mentioned above is NOT listed among these associations.

It should however be noted that the member bodies **almost all have a fundamental academic requirements** for membership at a professional level, that is the relevant degree or its equivalent (ie a demonstration of understanding at the relevant level of a systematic body of knowledge at tertiary level.) The only group which is an exception to this rule, at the time of writing, is the Spatial Sciences Institute of Australia. One has to query, then, why it chooses to differ from the other member organisations, and what impact this has upon both its own name, and upon the name of those who choose to become its members.

3. THE ROLE OF A PROFESSIONAL ORGANISATION

Fundamental to its role of any Professional body is its capacity - and authority - to accredit individual members, usually by defining grades of membership. This grading is for the benefit of both the public the profession serves, and also of the individual members. The main functions of a professional organisation are, therefore

- to provide the wider public with some guarantee that its members satisfy the criteria defined for that profession by its peers, and
- to give the individual members an imprimatur that they are recognised by their peers as attaining the required level(s) of achievement and responsibility. This includes all three requirements listed in 2.1, but is uniquely that body which certifies 2.1.c.

3.1 Professions Australia

Professions Australia (<http://www.professions.com.au/>) is the national Australian organisation of professional associations. It advances and promotes professionalism for the benefit of the community, and does this by:

- complementing and supporting its member associations
- communicating the benefits of professionalism and ethical practices

- providing the means for sharing information, ideas and experience among the professions
- developing and promoting policies on agreed matters
- encouraging wide debate on professional matters
- providing governments with reliable and objective advice on relevant issues, and
- supporting member associations in the promotion of professionalism.

3.2 The Spatial Sciences Institute and Professions Australia

By the accepted definition of a “Professional” level of membership above, the SSI (Australia) fails to meet the criteria expected of a “Professional”. It accepts someone into the first or basic level of membership (which they term “**Certified Professional**”) those who have achieved one of the following;

- a four year degree, and 1 year’s experience, or
- a three year degree with 2.5 years experience, or
- a three year advanced diploma, with 4 years experience, or
- a two year diploma with 6 years experience, or
- no tertiary qualification, and 10 year’s experience.

In contrast, Engineers Australia (IEAust - the body with which the Land Surveying Commission of the SSI would most closely align itself) the requirements for professional membership are absolute and unnegotiable. IEAust requires that an applicant for full membership (ie professional status) have (i) a four year, fully accredited Engineering degree and (ii) three years experience at the relevant level. This Institute (IEAust) also has a comprehensive system of membership levels, and a well-defined means of articulation between levels (see Appendix A).

Similarly, the Royal Australian Institute of Architects (RAIA) requires a five year degree for professional membership, with at least five years experience at the relevant level.

Clearly, even the a four year degree, and 1 year’s experience required by the SSI Aust. falls short of these standards, but how much more inappropriate are the rules which allow TAFE diplomats, or those without ANY tertiary qualifications membership at any level described as “Professional”!

However, there are certain other types of membership which the current SSI definition DOES fulfil, and will argue that it is in the best interests of *all* members concerned that these intermediate levels be adopted.

As stated above, and seen from Appendix A, *almost all of* the professional associations in Professions Australia expect their members to have an academic qualification (by way of a

university degree) before they can be admitted to the *professional* or full (IE, NOT Associate or similar) grade of membership. In the Resources, Property and Construction Services, (the group most relevant to Surveyors and Spatial Scientists, and hence to SSI) **a degree is the norm**. The one exception (other than the SSI) is the Australian Computer Society (ACS), where it is *possible* to obtain professional status by satisfying the Society that the applicant has acquired the Core Body of Knowledge through demonstrated equivalence. This is achieved by completing a Graduate Diploma at an accredited institution, or sitting four exams run by the ACS itself in areas fundamental to Computing (programming, etc).

Thus, the Spatial Sciences Institute of Australia has, at the time of writing, the dubious and unwelcome distinction of being the *only body* out of the twenty members of Professions Australia which will admit applicants to a level of membership which they term “Certified Professional”- without *any* degree.

In view of the above requirements for Professionalism used by the established professions, and indeed expected by the general public, it is important the SSI change the inappropriate terminology of their General level of membership, and to omit the term “Professional”. It is clear from the stated requirements, and their other levels of membership, that this level is the entry or **basic** level of membership, and is thus best described in those terms. It is obvious that our fellow Institutes would be surprised – even appalled – to see this terminology used for non-degreed applicants. They would, in practice, admit such applicants to membership of their organisation as Technologist Members, Associates or similar.

There is, at the time of writing, a motion to the SSI Council from the Land Surveying Commission, that the terminology used for membership be changed in line with that proposed above.

3.2.1 Impact of lowering standards for Professional Certification

- There are a number of undesirable consequences which follow the use of Professional for the general (ie non-specialist) grade of membership.
- By admitting to this level those who have not the required level of academic qualification, SSI is down-grading the entire SI profession, and itself as its representative body. The public perception, and perception of those we would wish to benchmark against, will be adversely affected (see my opening remarks – Section 1!).
- ii) Again, by using these criteria SSI is also downgrading the existing University degree programs. What will be the point of a University degree if, by working in the industry for sufficient years (10 in this case) your peer group will grant you professional status in any case?
- iii) The SSI is also downgrading the learning and education of the university graduates. The SSI is effectively equating a graduate with a four year degree and 6 years experience with a person who has no formal tertiary education and has worked for 10 years. This is of course totally untenable, and probably not intended.
- iv) SSI is at the same time downgrading the Surveying/ Spatial Profession relative to all those professions with whom we like to compare ourselves (eg IEAust; RAIA; Australian Computer Society – see Appendix A).

- v) SSI is also moving out of step with our kindred associations overseas, notably FIG, and the New Zealand Institution of Surveyors, whose expectations are well established and expect university qualifications of those given professional status.

4. PROPOSAL

In the moves toward the formation of the SSI I strongly supported accreditation for all individuals working in the SI Industry, and have spoken publicly to this effect. But it is vital that such **recognition be given at the appropriate level**, and with clear **means of articulation** to professional status. Indeed, as stated above, the Land Surveying Commission of the SSI has proposed changes along these lines to the national board of the SSI, but as of the time of writing, they are still using the inappropriate terminology complained of above.

So I would propose that SSI Australia

- Change the naming of the *basic* level of membership – and call, for example General, Associate or similar.
- *Using the term “Professional” to define the specialisation* (where it more properly belongs), ensuring professional requirements are met, and
- Defining clear paths of articulation between grades of membership, using similar routes as those already used by IEAust.

A number of individuals in SSIAust I have expressed my concerns to have pointed out that there are in the industry a number of very competent individuals who, while having no formal tertiary education, have advanced knowledge and experience of the industry. Naturally it is good to recognise the contribution and standing of such individuals, but I would propose that such recognition is better given by creating a separate level of membership for such a small number of individuals, (for example Honorary or Senior Member or some such – see Appendix A; Landscape Architects). This is preferable to an across-the-board lowering the standards required of fully qualified professionals.

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BIOGRAPHICAL NOTES.

A. H. W. (Bill) Kearsley graduated with a Bachelor of Surveying from the University of New South Wales in 1963, and worked in the geodetic control area of the NSW Central Mapping Authority, Department of Lands, for six years. During this time he started the Master of Surveying Science degree at UNSW part time, graduating in 1970. He joined the staff of the School of Surveying, UNSW, as a Senior Tutor in July, 1968. In 1972 he enrolled

in a Ph.D. in Physical Geodesy, which degree he was awarded in 1977. He was promoted through the academic ranks to become an Associate Professor in 1991, and in July, 1999, was elected Head of the School. He retired from that position in July, 2004, and was subsequently appointed Visiting Associate Professor.

His research work has concentrated on obtaining elevations from GPS and GNSS satellite technology, precise geoid evaluation and vertical datum determination, and has been successful in applying for Australian Research Council funds to support this work. He has published in the area of precise geoid computation and GPS Heighting, as well as Geodetic Computations and Teaching of Surveying and Geodesy. He spent his Study Leaves from UNSW at the Ohio State University, the Universities of Uppsala, Copenhagen, and Calgary and University College London. He was elected a Fellow of the International Association of Geodesy (IAG) in 1991, a Fellow of the Institution of Engineers Australia in 1999, a Fellow of the Institution of Surveyors Australia in 2001, and admitted as a Fellow of the SSI in 2004. He has held many positions in the IAG, including co-secretary of IAG's Commission XII - the International Geoid Commission, as well as Chairman of the IAG Working Group on the Unification of the Global Vertical Datum. He is currently Chairman of the South-East Asian Subcommittee of the International Geoid Commission and member of a number of IAG Special Study Groups. He served as Editor-in-Chief of Geomatics Research Australasia from 1978 to 2004. As well as his positions in the SSI, he is a NSW Councillor on the Institution of Surveyors Australia National Council.

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APPENDIX A: MEMBER ASSOCIATION IN PROFESSIONS AUSTRALIA

(extracted from the web sites for the members of Professions Australia)

Name	Grade	Subgrade	Minimum Qualification	Experience
RESOURCES, PROPERTY & CONSTRUCTION SERVICES				
<i>Engineers Australia</i>				
79000 members	Professional	Student	Enrolled in accredited 4 yr program	N/a
		Graduate	4 Yr degree program completed	N/a
	Other grades	Member	4 Yr degree program completed	Grad with 3 years
		Fellow, Chartered		Eminence, etc.
	Technologist	Student	Enrolled in accredited 3 yr program	N/a
		Graduate	3 Yr degree program completed	N/a
	Other grades	Member, Fellow	??	Grad with 3 years
		Associate	Student	Enrolled in accredited 2 yr program
	Graduate		2 Yr degree program completed	
	Member		2 Yr degree program completed	Grad with 3 years
Fellow	??			
Other	Honorary, Companion, Affiliate			
<i>Royal Australian Institute of Architects (RAIA)</i>				
9000 members		Student	Enrolled in relevant program	N/a
		Graduate	Qualified in relevant program	< 4years
		Member, Fellow, Practice	Relevant degree completed	> 4 years
	Other grades			
Para Professional			Graduate from four year degree course	2 years practice
<i>Aust. Inst. Quantity Surveyors</i>				
<i>Australian Institute of Landscape Architects (AILA)</i>				
		Associate	Graduates (eg 4 years @ UNSW)	2 years
		Associate - Senior	Recognised degree + 10 y expnce	
		Senior LA	No LA qualfn + 10 y expnce in LA	
		Fellow	Elected position	
		Registered	?	
<i>Aust. Inst. Mining and Metallurgy</i>				
		Student	Enrolled in 3 year Geology/Geophysics degree	
		Graduate	3 year Geology/Geophysics degree after graduation plus experience	
		Member		
Others		Fellow, Associate		
<i>Australian Computer Society</i>				
		Student	Enrolled in an accredited course	
		Provisional	Completed an Associate Level Course	
		Associate	Completed an Professional Level Course	2 years
		Provisional	Completed an Professional Level Course	
		Member	Completed an Professional Level Course	Satisfies Criteria for Member
		Member	Completed an Professional Level Course OR satisfies the Society that he or she has acquired the Core Body of Knowledge; AND has at least 4 years' Relevant Professional Experience; AND	

[satisfies the criteria for admission of Members.](#)

APPENDIX A (cont.)

<i>Name</i>	<i>Grade</i>	<i>Subgrade</i>	<i>Minimum Qualification</i>	<i>Experience</i>
<i>Australian Computer Society Spatial Science Institute</i>	Other levels	Senior Member, Companion, Fellow Certified		
	General	<u>Professional</u>	4 Year degree 3 Year degree 3 year advanced diploma 2 year diploma <i>No</i> tertiary qualification	1 year's experience 2.5 year's experience 4 year's experience 6 year's experience 10 year's experience
	Specialist	Certified Practitioner (Specialisation)	To be defined by the specialist Commissions Accredited Program (4 y Degree @ UNSW)	
<i>Australian Property Institute</i>		Student Graduate Technical Associate Provisional Associate Associate Fellow		
<i>Association of Consulting Engineers</i>		Membership	Consulting Engineering Firms (10 or more)	
MEDICAL & HUMAN RESOURCE SERVICES				
<i>Aust Dental Association</i> 90% of all dentists	State dependant	Dentist	5 year degree/4 year grad entry	Clinical training plus interview
<i>Pharmaceutical Society Australia</i>		Pharm. Students Pharmacists Affiliates	3 year degree Dispensary Technicians & Support Staff	
<i>Audiological Society Australia</i>		Student member Full member Affiliate Emeritus Fellow	Pursuing uni program in Audiology First degree + Masters in Audiology Retired Full Member	
<i>Aust Veterinary Association</i>		Student member Full member Affiliate	Enrolled in 4 yr(?) University Vet Science Program Graduate from above	Automatic upon gradn.
	Others	Honorary, Fellow, Life, Overseas		
<i>Australasian Podiatry Council (APODC)</i>		Member	B. Podiatry + registration. P/grad education available 3 year B.Sc + honours year	
<i>Australian Institute of Interpreters and Translators (AUSIT)</i>				

Accredited	Grad from NAATI-approved Uni or 3ry instn OR passed NAATI exms OR documented qualfns	Expnce at appropriate level
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APPENDIX A (cont.)

<i>Name</i>	<i>Grade</i>	<i>Subgrade</i>	<i>Minimum Qualification</i>	<i>Experience</i>
FINANCIAL SERVICES				
<i>Chartered Professional Accountant (CPA)</i>				
		Student	Enrolled in relevant degree	
		Associate	4 year degree/ degree plus conversion course	
		Chartered	As above	M O Workshop plus P/Grad CP course
<i>Institute of Actuaries of Australia (AIAA)</i>				
		Affiliates	No recognised actuarial qualifications	Professionals in related fields/Enrolled in AIAA Program
		Student	Enrolled in FT Uni program (4 U maths; TER 95+)	
		Associates	Satisfied Part 1 and Part 2 of AIAA Program	
		Accredited Members	Fully qualified o/seas; completed prof course	6 months
		Fellows	Satisfied Parts 1, 2 & 3 of AIAA Program + 12 months	
		Life	Fellow elected to this grade	
<i>Institute of Chartered Accountants in Australia (ICAA)</i>				
		Members	Accountants in industry, commerce, not-for profit & public sector businesses	
	Others	International		
<i>National Institute of Accountants in Australia (NIA)</i>				
		Student	Enrolled in approved TAFE or Uni course	
		Associate	Completed approved TAFE or Uni course	
		Member	Advanced Diploma/Uni degree plus 3 y expnce	
		Professional Fellow	Advanced Diploma/Uni degree plus PEP ST 1&2+MEP	
		Professional	Advanced Diploma/Uni degree plus PEP ST 1&2+MEP + 10 y expnce (5 snr) + 7 y membership.	
Institute of Management Consultants				
<i>(IMC)</i>				
		Affiliate	Interest in profession but not practicing/ Students	
		Associate	Practising management consultants	
		Member	Graduates + 3 y expnce/non-graduates + 8 y expnce	
		Fellow	Member for 5 y + distictive practice for 15 y	