

10TH OCTOBER, 1918.

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**PRESIDENTIAL ADDRESS.**

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Delivered by Mr. D. F. J. HARRICKS.

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The Forty-eighth Session of the Association closes, as it should do, with membership at the highest mark, viz., 278 members of all grades. The success of such a body as ours is not, however, to be measured by the counting of heads, but rather by the extent to which we have carried into effect the objects the Association was constituted for, and the level to which we have striven to elevate the ethics of our profession. And, it may be added, that in the critical years we are passing through, when we see the engineering life of practically every nation devoted to the single purpose of successfully prosecuting the war, we must be prepared to answer the question whether, as an Association of Engineers, we have accepted the challenge of efficiency, and have risen to our responsibilities in this connection. I feel justified in saying that the session has, to a very large extent, been a satisfying one to all concerned, and, gentlemen, so long as members are prepared to enthusiastically enter into the work of the Association, closely regarding the value of it, first, in relation to its usefulness to the community, and secondly, as a help to them personally in the pursuit of their profession, it will continue to make progress.

After all has been said with regard to the contributing causes of success in any association such as ours, I am sure that nothing counts more than willing personal service, and a realisation by everyone of us that progress will not come by any other means than by active, constructive interest in the advancement of the Association. In this respect we

have been most fortunate in having for our Hon. Secretary and Editor Mr. McNamara, and for our Hon. Treasurer Mr. Thompson. It is only an officer of the institution situated as I have been who can adequately judge how greatly is due to these two gentlemen the thanks of the Association. The students' section has continued doing useful work, although owing to the war its ranks have been reduced by more than one-half. To Mr. Maclean, the Hon. Secretary, is due our thanks, and although eligible for a higher grade, he has must unselfishly sacrificed the honour of elevation, and devoted his enthusiastic service to this most important section of our work.

From the Annual Report it will be seen that several matters of unusual importance have come before the Council during the session. Referring now more particularly to those matters calling for work by sub-committees, it will be noticed that the members thereof have had their hands full, but it is just as pleasing a circumstance to them as it must be to you that the Association is being looked to more and more as a body to which engineering matters of public interest may be referred. There are but few more important functions of a professional association than that of acting as an independent authority upon questions affecting the scientific and industrial services of the country.

The growth in membership of the Association can surely be taken as evidence of its growing usefulness. An association might, in its earliest years, easily double its members, but when it is nearly fifty years old, and adds nearly twelve per cent. to its membership, and that during war time, it is a sign of strong growth. Remembering, too, how much tighter the qualifications for full membership have been drawn in recent years, it at once becomes evident from the list of acquisitions to this grade that many prominent engineers in the community have come into the fold. At the same time, let it not be lost sight of that the honour of

election to the lower grades now carries with it far more significance and value than it did some years ago. In raising the qualifications for entrance to our Association we have taken one of the greatest possible steps to elevate its prestige, and at the same time we have, to a very considerable extent, anticipated the requirements of the Association when, in the near future, it becomes a branch of the Australian Institution of Engineers now about to be formed, and which will, when established, control this most important matter. It must at all times be remembered that it is largely according to a member's position in the scientific societies that his standing as a professional man is now guaranteed to the public and to his fellow-engineers.

#### AMALGAMATION.

When addressing you last year upon the pressing need for closer co-operation of the Engineering Societies throughout the Commonwealth, I was only giving voice to a question which, in common with many others, I had for a long time felt should be taken up at the earliest possible time, i.e., if we are to develop in the truest sense of the term our professional being. You are all aware that important developments have taken place since then, and, as it has been my very great privilege to be closely identified with the movement, and in view of the fact that you will shortly be called upon to take an important action in regard thereto, I think it appropriate for me to devote most of this evening to a resume of what has already taken place, and what will, I hope, be the outcome.

Of the need for greater unity among engineers one can have no doubt. Similarly am I certain that immediate and definite steps towards progress to a better state of affairs is opportune, for surely no time for the unfoldment of a good idea can be more opportune than the present. That closer co-operation is a good idea the representatives of

every Engineering Association in the Commonwealth have agreed, and I hope to be able to-night to give some reasons why the object should be consummated without delay, although, from what I know of the motives actuating the members of this Association hitherto, in matters affecting professional progress, I do not feel there will be a great call for much convincing argument. Let us think of this matter as it affects the profession, and not as it affects us as individuals.

#### HISTORY OF GROWTH OF ENGINEERING ASSOCIATIONS.

As it will, perhaps, give you a truer perspective of the importance of the movement, I propose to trace briefly the history of the growth of Engineering Societies in Australia, and from this, I believe, there will be gained the conviction that, broadly speaking, the objects and the interests of all are so nearly identical that amalgamation would in no wise depreciate the efficiency of any one of them, but rather that it would render the whole of them truer reflexes of the community's engineering ability, and certainly make them more effective custodians of the status of the profession.

In the following table, No. I., there is given the names of the existing Australian Societies, the year of their establishment, a rough indication of their scope, the number of grades or classes, the age of admission to and the approximate number of members in each grade or class, and the amount of the subscriptions. Similar information with regard to the principal British, American, Canadian and South African Institutions is given in Table II., and it is well that members should carefully peruse the information given, for there can be no doubt that, in the difficult problem we have to face, in very many respects our safe course lies in the direction of adopting, wherever reasonable and possible, the tried practice of other well-established institutions of a similar nature elsewhere.



**Table I**

**ENGINEERING ASSOCIATIONS.**  
TITLES, SCOPE, CLASSES, AGES QUALIFICATIONS AND SUBSCRIPTIONS.

Australian												
Titles..	Electrical Association of Australia	Australasian Institute of Mining Engineers	Institute of Local Government Engineers	Victorian Institute of Engineers	Engineering Association of N.S.W.	S.A. Institute of Engineers	Queensland Institute of Engineers	Northern Engineering Institute of N.S.W.	W.A. Institution of Engineers	Sydney University Engineering Society	Melbourne University Engineering Society	Tasmanian Engineering Institute
Scope..	Fed. 1914 N.S.W. 1931 Vic. 1906 Sectional	Sectional but includes Geologists Metallurgists Chemists	Sectional	General but principally Mechanical	General but principally Mechanical	General but principally Mechanical	General but principally Mechanical	General but principally Mechanical	General including Civil Mechanical Electrical Hydraulic Mining etc.	General	General	General
Classes. No in Class. Age. Qualification. Subscription.	Hon Mem No Fees Members 263 30 years £1-1 Ent. £1-15 p a	Hon. and Life Mem. 6 Members 387 30 years £2-2 Ent. £2-2 p.a. Associate Members 143 £1-11-6 Ent £1-11-6 p.a	Hon Mem Members 300 Cap Fee 10/-	Hon Mem and Life Mem. Members 156 £2-2 Ent. £2-2 p a	Hon Mem No Fees Members 175 27 years £2-2 Ent. £2-2 p.a. Associate Members 27 24 years £2-2 Ent. £2-2 p.a.	Hon. Mem. No Fees Members 75	Hon. Mem No Fees Members 88 30 years £1-1 Ent £1-1 p a Associate Members 11 25 years £1-1 Ent. £1-1 p a	Hon. Mem No Fees Members 186 21 years £1-1 p a Associate Members 11 25 years £1-1 Ent. £1-1 p a	Hon Mem No Fees Members 90 30 years £2 2 Ent. £2-2 p a Associate Members 50 25 years 30/6 p.a. 30/6 p.a.	Hon. Members Members 200? including Students Graduates and Engineers in practise £1-1 p.a. and 7/6 p.a. to U.G.	Hon Mem Members 175? including Students Graduates and Engineers in practise	Members 50 app.

The approx total membership of Australian Associations is as follows :-

Members	..	..	..	..	2000
Associate Members	..	..	..	..	250
Associates	..	..	..	..	200
Juniors (or graduates)	..	..	..	..	30
Students	..	..	..	..	270
<b>Total..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>2750</b>

The actual number of members is perhaps 250 less (say 2500) because many belong to two or more Associations.

**Table II.**

**ENGINEERING ASSOCIATIONS.**  
TITLES, SCOPE, CLASSES, AGES QUALIFICATIONS AND SUBSCRIPTIONS.

Titles..	British				American					Canadian	South African	
	Institution of Mechanical Engineers	Institution of Civil Engineers	Institution of Electrical Engineers	Institution of Mining Engineers	American Society of Mechanical Engineers	American Institute of Mining Engineers	American Institute of Electrical Engineers	Western Society of Engineers (Chicago)	American Society of Civil Engineers	Canadian Society of Civil Engineers	South African Institute of Electrical Engineers	South African Society of Civil Engineers
Scope..	Estab 1847 Sectional	Estab 1818 Incor 1828 General	Estab. 1881 Sectional	Estab. 1889 Incor. 1915 Sectional but admits Engineers employed in other branches to Associate Mem'ship.	Incor. 1881 Sectional	Org. 1871 Incor 1905 Sectional but admits Geologists Metallurgists Chemists	Sectional	General including Electrical Bridge and Structural Hyd. San. and Municipal Sections	Estab 1869 Incor 1880 General	Estab. 1852 General including all Branch other than Military	Estab. 1827 Incor 1827 General including Mechanical Mining and General Sections	Estab 1902 General
Classes. No in Class. Age. Qualification. Subscription.	Hon. Mem No Fees Members 2700 30 years £2-2 Ent. £3 p a Associate Members 3000 25 years £1 Ent. £2-10 p a	Hon. Mem No Fees Members 2400 33 years Associate Members 5400 25 years	Hon. Mem No Fees Members 1600 30 years £5-5 Ent. £4-4 p a Associate Members 3700 25 years £3-3 Ent. £3-3 p a	Hon Mem No Fees Members 30 years Associate Members 23 years Associate Members 21 years	Hon Mem No Fees Members 5000 32 years £5 Ent. £3 p a Associate Members 900 27 years £5 Ent. £3 p a Associates 450 30 years £5 Ent £3 p a	Hon. Mem No Fees Members 5500 27 years £2 Ent. £2-10 p a Associates 250	Fellows Members 27 years £3 Ent. £3 p a Associates	Hon Mem No Fees Members 30 years £3 Ent. £3 p a Associate Members 25 years £2-10 Ent. £2-10 p a Affiliated Members	Hon. Mem. No Fees Members 3500 33 years Associate Members 3500 25 years	Hon. Mem No Fees Members 600 30 years £5 Ent. £3 p a Associate Members 1200 25 years £3 Ent. £2-10 p a Associates 40	Hon. Mem. No Fees Members 88 30 years £3-3 Ent. £3-3 p a Associate Members 102 25 years £3-3 Ent. £2-2 p a Associates 10	Hon. Mem No Fees Members 182 30 years Associate Members 33 25 years Associates 33 25 years £1-1 p a

**NOTES RE ABOVE.**

1st May, 1918.

Practically all of the Associations admit life membership by compounding fees. Practically all of the Associations make a reduction in fees for members resident outside a certain distance from main centres where meetings are held. A few British Associations, notably the Institute of Mining Engineers, and some of the American Associations pay for their proceedings by accepting advertisements, but this practice is not adopted by the leading Associations of any country. The British Institution of Mining Engineers is a Federation of seven separate Institutes, each of which carries on its own Government in certain matters, but the Council of the Federated Institution governs qualifications for membership and general rules for the proper control of the Federated Institutes. The Canadian Society of Civil Engineers is practically the only important Society in Canada and covers every branch of the profession. It has a Council consisting of the President, 3 Vice-Presidents, 3 Past Presidents, a Secretary, Treasurer and 24 Councillors, all of whom are elected proportionately from 7 geographical divisions. Most of the leading Institutions in Great Britain and in other countries, including Canada, call for an examination for all grades other than full membership. It is noticeable that in those Associations recently-established and those with recently re-constructed rules, five grades of membership have been adopted, viz: Members, Associate Members, Associates, Juniors (or Graduates) and Students.

**Table III**

NUMBER OF MEMBERS IN AUSTRALIAN ENGINEERING ASSOCIATIONS									
TAS.	S.A. & N.T.	W.A.	VIC.	N.S.W.	Q.				
Hobart 46	Adelaide 150	Perth 105	Melbourne 610	Sydney 681	Brisbane 124				
Queenstown 15	All other districts 28	Katgoortie 22	Ballarat 18	Newcastle 147	Mt. Morgan 21				
Launceston 10		Boulder 18	Bendigo 15	Broken Hill 102	Ipswich 14				
All other districts 42		All other districts 47	Geelong 11	W. Maitland 19	Cloncurry 13				
			Wonthaggi 10	Cessnock 13	All other districts 85				
			All other districts 140	Cobar 11					
				All other districts 143					
<b>Total 113</b>	<b>Total 178</b>	<b>Total 192</b>	<b>Total 804</b>	<b>Total 1116</b>	<b>Total 257</b>				

There are 168 Members residing outside Australia.

Gt Britain 38, New Zealand 64, Africa 15, U.S.A. 14, India 11, Japan 7, Russia 3, Fiji & Pacific Islands 16.



From the first table it will be seen that there are twelve distinct societies in the Commonwealth. Of these, nine are State institutions, and the remaining three Federal. Of the latter the Mining Institute has branches, but these are not confined to States; the Electrical Association has two branches, one each in Victoria and New South Wales; whilst the Australasian Institute of Local Government Engineers has three branches, one each in Queensland, New South Wales, and Victoria. Not including the branches of the Mining Institute, but counting it as one, there are, therefore, no less than fifteen branch societies in the Commonwealth. One may rightly judge from the titles of the nine State Associations that membership includes engineers in every branch of the profession, and it is obvious that those who framed the constitutions of these institutions had to carry this fact in mind. A somewhat interesting light is thrown upon the subsequent inclination towards division of the profession into branches when one reads the objects of our Association:

“The Engineering Association of New South Wales was first established, and has since been incorporated by Act of Parliament, for the general advancement of Engineering and Mechanical Science, and more particularly those branches of Civil and Mechanical Engineering which tend to develop the resources of Australia, and to receive and discuss at its stated meetings original papers on Civil and Mechanical Engineering.”

And from which it will be seen that, less than fifty years ago civil and mechanical engineering were then expected to embrace the description of prospective members of the only association then in existence in Australia.

When the early development and importance of mining in Australia is remembered, one would naturally expect that this branch of the profession would provide the first sectional association, and in 1893 the Australian Institute

of Mining Engineers was established, and it is at the present date the strongest, numerically, in the Commonwealth. One of the difficulties common to mining associations is, however, that it is only in certain big fields that sufficiently large groups of members can be found to carry on regular business meetings, and enjoy the privileges of the corporate interests available to members of institutions whose headquarters are in capital cities. This is one reason why one would expect the Mining Institute to gladly join in any movement that would bring their members into closer touch with the members of other branches of the profession.

Electrical engineering has come into prominence in a fashion characteristic of the force it represents, for it was only in 1881, thirty-nine years ago, that the British Institute of Electrical Engineers was established, and was then mainly composed of telegraph engineers. The Electrical Association of N.S.W. was formed in 1891, and the Victorian Institute of Electrical Engineers in 1906. In 1914 the two Associations agreed to combine, and now form The Electrical Association of Australia. The latest sectional association formed was The Local Government Institute, the three branches of which federated in the year 1909.

#### SECTIONAL AMALGAMATIONS.

There appears to be no doubt that these sectional amalgamations have been thoroughly successful, and this fact surely provides great justification for taking the broader aspect, now under consideration, of welding the whole of the sections of the profession into one strong and truly representative national body. Certain of the Associations have seen the necessity for such from time to time, and have put forward concrete proposals to that end. I will endeavour to briefly outline the actions taken by such bodies, for it is due very largely to the seed of unity sown by them that germination is now, I believe, about to take place.

## SUMMARY OF THE HISTORY OF AMALGAMATION MOVEMENTS.

Upon the formation of the West Australian Institute in 1909, the possibility of co-operation was considered, and a rule provided in the constitution for affiliation with other Associations.

In commenting, in October, 1910, on the proposed amalgamation of the Victorian and N.S.W. Electric Associations, the "Australian Mining and Engineering Review" made an appeal for general co-operation of the Associations.

In November of the same year, the West Australian Institute of Engineers wrote to the various institutions suggesting the federation or affiliation of kindred institutions.

In 1912, in presenting a draft memorandum for incorporation of the Victoria Institute of Engineers, one of the objects stated was as follows:—

"To amalgamate or combine with any other Society having its headquarters in the Commonwealth of Australia or the Dominion of New Zealand."

In 1913, a representative of the West Australian Institute of Engineers discussed the matter with members of the Victorian Institute of Engineers, and suggested that the old associations should take some steps in the matter.

In 1914, the Victorian Institute of Engineers again had this matter under consideration, but postponed further discussion until normal times prevailed, but no further action was taken by them.

In August, 1916, Prof. Hawkin, in addressing the Institute of Local Government Engineers, made closer co-operation of the Associations the subject of his remarks, and framed on a broad basis the method of amalgamation he would recommend. The suggestion was passed on to various Associations and discussed.

When the Electrical Associations in Victoria and New South Wales federated in 1915, there was a further discussion as to whether the movement should not be a broader one.

The "Commonwealth Engineer," in commenting on the federation of the Electrical Associations, again strongly recommended such a course, and in the following issue there were letters from several well-known gentlemen of the engineering profession; Mr. Myers and Mr. Tivey also strongly advocating such a step.

In November, 1917, the South Australian Institute, after a good deal of discussion as to its own position and the possibility of joining the Electrical Association, ultimately decided to abandon that move, and took up the general question of amalgamation of the whole of the Associations. This suggestion fell upon ground which had already been cultivated by the earlier efforts of certain associations and engineers, who had had the matter in mind for a considerable time. From the circular letter of the South Australian Institute there sprang the definite action described herein.

It is impossible to record fully the good work of certain individuals who have had this matter in mind for many years past.

Then we must remember the efforts of the technical press, for in representing the interests of no particular State or branch of the profession, but of Australia, and of the engineers as a whole, these journals have seen through long-distance spectacles, and have been in an excellent position to judge of the value of co-ordinated effort, and, what is more to the point, have been far-seeing and strong enough to advocate it.

#### THE PRESENT MOVEMENT.

And now we come to the fact that, as the result of cultivation of the idea of closer union in various fields in the past, there recently developed a concensus of opinion, which

was hastened by the war, that the time was ripe for action. To the South Australian Institute of Engineers belongs the credit of having set the matter definitely in motion, for, in November of last year, the following letter was sent by this Association to all of the other institutions throughout the Commonwealth:—

“The South Australian Institute of Engineers has been seriously considering what action would be necessary to achieve the formation of an Australian Institute of Engineers having a Federal character.

“The matter is one of extreme importance to the Engineering profession, and my Institute realises that its consummation would take considerable time in the settlement of terms of a constitution and qualifications for membership of such a Federal body.

“To my Association it appears there is good reason for taking immediate action in this direction.

“Although we have taken it upon ourselves to bring the subject under your notice, we are aware the general question has had the attention of several Engineering Associations, but we hope that this enquiry will result in some definite furtherance of the proposal in view.

“Although we do not wish to indicate the manner in which this general affiliation of Engineering Associations is to be brought about, we respectfully suggest that you call a special meeting of your members to consider the matter, and, if it is thought fit, to recommend the holding of an Interstate Conference at an early date.

“A copy of this letter is being forwarded to kindred Associations in N.S.W., Victoria, Queensland, W.A., and Tasmania.”

State Conferences were held, and support was forthcoming for the suggestion to hold a general conference to consider the proposal to form, either by federation or amal-

gamation, an Australian Institution of Engineers. In deference, no doubt, to the fact that this Association is the oldest of its kind in Australia, and partly, perhaps, because it was known that it was keen to see something done, it was left to your President to convene the conference. This was done, and on the 12th February there met in Melbourne, in the rooms of the Engineering Association, at 57 and 59 Swanston-street, the gentlemen whose names are given below.\*

## \*DELEGATES.

Representing.	At Conference in Melbourne February 12—13, 1918	At Provisional Council Meetings, May 15-16, 1918,
Australasian Institute of Mining Engineers	Mr. A. S. Kenyon	Mr. F. Danvers Power
Electrical Association of Australia (Fed)	.. .. .	„ Wm. Poole
Electrical Association of Australia New South Wales Branch	Mr. G. A. Julius	Mr. W. J. Newbigin
Electrical Association of Australia, Victorian Branch	„ A. E. Burgess	Mr. G. A. Julius
Institute of Local Govt. Engineers	„ J. P. Tivey	Mr. A. McKinstry
	Mr. A. McKinstry	
	„ W. J. Newbigin	Mr. A. Farrer
	„ H. R. Harper	Prof. R. W. Hawken
	Mr. A. Farrer	Mr. T. H. Kirkpatrick
	Prof. R. W. Hawken	
	Mr. C. C. P. Wilson	
	„ A. C. Fitznead	
	„ G. A. Taylor	
	„ R. W. Winstanley	
	„ T. H. Kirkpatrick	
	„ A. C. Mountain	
Victorian Institute of Engineers	Mr. M. E. Kernot	Mr. M. E. Kernot
	„ J. A. Smith	„ J. A. Smith
	„ A. McCowan	
South Australian Institute of Engineers	Prof. R. W. Chapman	Prof. R. W. Chapman
Queensland Institute of Engineers	Mr. C. E. Wright	Mr. C. E. Wright
	Prof. R. W. Hawken	„ W. M. Nelson
	Mr. A. Jackson	„ W. J. Doak
	Prof. A. J. Gibson	
Western Australian Insti- tute of Engineers	.. .. .	Mr. W. B. Shaw
Northern Engineering Institute of Engineers	Mr. W. R. Pulver	„ H. W. Haynes
Melbourne University Engineering Society	„ D. N. Morison	Mr. W. R. Pulver
Sydney University Engine- ering Society	.. .. .	„ D. N. Morison
	Mr. J. J. C. Bradfield	Prof. H. Payne
	„ H. J. Swain	Mr. J. W. S. Crow
	„ H. H. Dare	Mr. J. J. C. Bradfield
Engineering Association of New South Wales	Mr. D. F. J. Harricks	„ J. P. Tivey
	„ Jas. Vicars	Mr. D. F. J. Harricks
	„ J. G. McEwin	„ Jas. Vicars
	„ A. W. Tournay-Hinde	
Tasmanian Engineering Institution	.. .. .	Mr. W. J. Newbigin



The convener of the meeting was elected chairman. The only two Societies not represented were the West Australian Institute of Engineers and the Melbourne University Society. The former had expressed its sympathy with the movement, but found it inconvenient, on account of the distance, to send representatives; and the latter, unfortunately, was not represented because of a miscarriage of the invitation to attend. The conference sat for two days, and, with almost unanimous agreement, passed the following resolutions:—

RESOLUTIONS ADOPTED AT MELBOURNE  
CONFERENCE, February, 1918.

1. That this meeting of delegates recommends that the various engineering bodies of the Commonwealth of Australia shall combine and form an institution to conserve the interests of the engineering profession therein.
2. All persons on the rolls of associating societies shall be entitled to enrolment in the institution.
3. That a Provisional Council be elected, to consist of two members from each purely State society and three from each Federal body, and that any association has power to appoint a substitute in the event of the unavoidable absence of its representative.
4. That the Provisional Council be called together not later than May 15th, 1918, and that its first duty shall be to draft a constitution and submit same to the associating societies for consideration.
5. Upon acceptance of a constitution by associating societies, the institution shall be deemed to be formed.
6. That on transfer to the new institution all section members of whatever grade, under the age of 25 years, shall be classified as students and graduates. All section members of whatever grade over the age of 25 years shall be classified as associate members.