Not to be forgotten: New Zealand Association of Scientific Workers

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'The scientist – Today's forgotten man' was the title of the editorial in the first issue of *New Zealand Science Review*, published in December 1942 by the newly formed New Zealand Association of Scientific Workers (NZAScW), later to be renamed New Zealand Association of Scientists (NZAS). While looking to a new age – a 'Scientific Age' – to 'fulfill the hopes of a disillusioned world', the writer summarised how: '… [the scientist's] painstaking work, which does so much to alleviate human suffering, lighten labour, improve man's environment, and release his mind from the shackles of superstition, doubt, and fear, is rarely recognised.' [1]

In the Legislative Council (Upper House of Parliament, in existence until 1950) in late 1941, Hon. T Bloodworth 'referred to the fact that scientists trained in New Zealand were liable to leave the country because their work received better appreciation elsewhere.' [2] However, lack of appreciation was not the worst that scientists had to put up with at the beginning of the Second World War. Dr Ernest Marsden, head of the Department of Scientific and Industrial Research (DSIR), the main employer of scientists at that time and, as Lieutenant Colonel Marsden [3] in charge of the scientific contributions to the war effort, had to resort to all sorts of subterfuges, such as bringing physicists in under the guise of doing earthquake observation, to overcome 'the prevailing opinion in Public Service circles that science was humbug and all scientists suspect, especially physicists …' [4]

Against this background, after a 'preparatory meeting' on 25 November 1941 [5], the formation of the NZAScW was put on a permanent footing at a meeting with a 'large attendance' at the Central Library Hall in Wellington in December 1941 [6], coincidentally a few days after New Zealand, in support of the UK and in conjunction with Australia, had declared war on Japan [7].

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The meeting was chaired by Dr W R B (Walter)[1] Oliver, Director of the Dominion Museum, who outlined the objects of the new organisation as being 'to secure the wider application of science and the scientific method for the welfare of society and to promote the interests of scientific workers'. These have repeatedly been confirmed as overarching objects of NZAScW [8,9] and then NZAS [10].

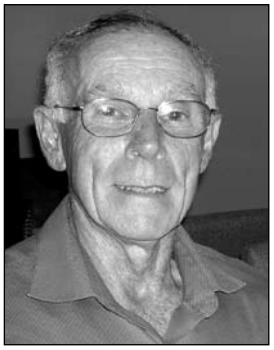
To an objection that it was not an opportune time, Dr Oliver said that, by getting together and pooling resources, scientists could help the war effort and also post-war reconstruction. Drs C O (Colin) Hutton and W B (Bill) Sutch were among other speakers who 'pointed out that the association would consist of scientists working on behalf of science and therefore would not overlap the functions of the Royal Society [of New Zealand]' [11].

Dr Sutch (Fig. 1) was elected President; Dr Oliver, Vice-President; Dr Hutton, Treasurer; and J T (John) Salmon, Secretary. A provisional Council was elected, but its membership was expected to be adjusted after the formation of branches in other centres.

Like its Australian counterpart, founded in 1939, NZAScW was open to all scientists irrespective of professional standing and also had non-scientist associate members, so it aimed to attract a broad base of scientists of different political persuasions united in their belief in their role in both 'winning the war and winning the peace' [12]. At its beginning it had 107 members, including 17 associates [§ 1942[2]], and by 1945, there were 182 members, including 33 associates [§ 31/08/1945]. The membership fee was 10 shillings, with associates paying 5 shillings [§ 1942]. Despite its broad base, most of its officers had some standing in the scientific community. Dr Oliver was a distinguished scientist, approaching retirement, recipient of the Royal

[1] In most instances, initials have been given in the original, but I have added a person's given name where possible.

[2] § with a date refers to an unpublished minute or file note of that date.



Geoff Gregory graduated with honours in Forestry at the University of Oxford in 1960. His lifelong career as a science editor began in the Commonwealth Agricultural Bureaux and continued in the Society of Chemical Industry in London, followed by the Open University. He immigrated with his family to New Zealand in 1972, to join what became the Science Information Division of DSIR, becoming its Superintendent from 1978 until its restructuring in 1984. He was then transferred to New Zealand Geological Survey, where he was in charge of the information section until DSIR's restructuring in 1992. He was given early retirement in 1993, since when he has run his own freelance editing company, Word Therapy. He was honorary editor of *New Zealand Science Review* from 1974 to 1984, and has been its production editor since 2003.

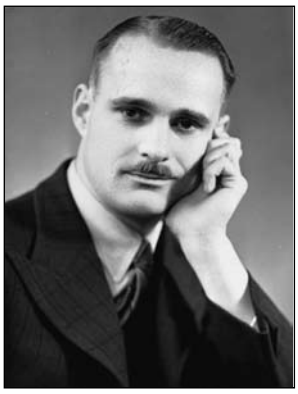


Figure 1. Dr Bill Sutch,* first President of NZAScW.

Society's Hector Medal and a future President of the Royal Society [13]. He was to succeed Dr Sutch as President of NZAScW, and later became its first Patron [14]. Dr Hutton was at the start of a distinguished career as a mineralogist [15]. John Salmon was to become a professor, well known not only as an academic, but also as a conservationist, and writer; he was a later President of NZAScW [16].

The initial impetus

What prompted the idea of an association of scientific workers in New Zealand? The Association of Scientific Workers in the UK (not to be confused with the better-known British Association for the Advancement of Science, now the British Science Association), founded in 1918 as the National Union of Scientific Workers, was presumably known about here – in a post-war article in *Nature*, it was stated, 'The success of the [UK] Association, with its young and widely varied membership, has made a deep impression in many countries overseas' [17], and this reputation had presumably been long-standing. NZAScW had early correspondence with the UK organisation, submitting an article about themselves for publication in their journal, *Scientific Worker* [§ 26/11/1943]. Contact between the two organisations continued on a regular basis.

However, one can only speculate on who took the initiative of getting scientists together in New Zealand to form such a body. A plausible suggestion is Dr Sutch. He was elected first President despite being on the fringe of the scientific community. Part of a 'think tank' of Gordon Coates in the National Government in the 1930s, he had then become economic adviser to the Labour Government, and had accompanied the Minister of Finance, Walter Nash, on trade negotiation visits to the UK, Germany, and Russia in the late 1930s [18]. He was suspected to have contacted various left-wing groups while overseas [19], and it is conceivable that one of these was the AScW in London. He was known as an outspoken political commentator, contributing articles to the journal *Tomorrow*, 'a voice for New Zealand intellectuals, writers, and artists radicalised by the rise of fascism in Europe' [20], but 'maintained a detached attitude towards all political groups' [21]. He had been asked to write a history of New Zealand's social services for the centenary celebrations of 1940, but Prime Minister Peter Fraser declined to publish it, because it was too political, criticising New Zealand's grass-dependent economy and advocating industrial diversification; his views were, however, in concordance with NZAScW's object of applying science for the welfare of society, although science was not mentioned. His report was published, by Modern Books [22], to Fraser's displeasure; when Sutch's call-up papers arrived, the Government did not appeal, so he had to join the Army in June 1942 [23]. This of course brought an end to his Presidency of NZAScW and his other activities; after the war he worked overseas for the United Nations Relief and Rehabilitation Administration and later as a New Zealand delegate to UNICEF, so his involvement in NZAScW was brief, although he was able to address a meeting in August 1944, regrettably poorly attended, on 'The national attitude towards science in New Zealand' [§ 31/08/1944].

* William Ball Sutch. Original photographic prints and postcards from file print collection, Box 7. Ref: PAColl-6001-28. Alexander Turnbull Library, Wellington, New Zealand. http://natlib.govt.nz/records/22607921

New Zealand Science Review

From the beginning, NZAScW saw the need for a 'medium of expression', and in June 1942 it produced the first (and what turned out to be the only) issue of *Quarterly Review of the New Zealand Association of Scientific Workers* [24], a four-page cyclostyled sheet. It was superseded by *New Zealand Science Review* (NZSR), the first issue of which, with the striking editorial quoted above, appeared in December 1942. It was crown quarto size (slightly smaller than B5), 12 pages long, and contained articles on 'Science as a basis of culture', 'Decline in the volume of technical literature', and 'The Medical Advertisements Act 1942' [25]. A significant feature that carried on for many years was the publication of brief abstracts of New Zealand scientific literature. In 1954, NZAScW reaffirmed its policy of publishing abstracts of papers by New Zealand scientists, and to ease the burden on the various honorary abstracts editors, instituted a scheme asking authors themselves to supply abstracts within three weeks of their papers' publication [26].

NZAScW was lucky to have as its first honorary editor J W (Jim) Matthews, whose day job was news editor of the *Dominion* newspaper. After two years, he retired owing to ill health and also left the *Dominion* to found, with his wife, and edit the *New Zealand Gardener* magazine, for which he managed to get government approval to obtain scarce paper supplies on the grounds that it encouraged home vegetable gardening, which contributed to the war effort. It is possible he managed to get similar approval for NZSR; in a tribute there, it was stated: 'At a very difficult period of tight paper controls and other war-time stringencies, it was largely his industry and experience which made the *Review* possible' [27]. In fact vol.1, no.4 of NZSR was delayed by several months 'due to conditions arising out of the war' [28]. During his time as editor of NZSR (until 1945), the editorials were forthright, but they were unsigned, and it is not known whether he used the common practice of newspapers to have a number of editorial writers who were protected by anonymity. He was replaced, first as acting editor and then editor by V J (John) Wilson, an editor in DSIR, who later set up his own company, Editorial Services Ltd, and continued to also edit NZSR until 1953 [29].

However, only volume 4(3-4) appeared in 1946, as 'shortages of paper and labour in the printing industry made the regular appearance of a small quarterly impossible, despite the devoted efforts of the Editor', and Council of NZAScW was negotiating for its production as a monthly [§ 31/08/1947].

Bringing science to the public

NZAScW also started a series of public meetings, the first of which, held at the Dominion Museum on 25 February 1942, was addressed by Dr Marsden, who was a foundation member of NZAScW [§1942]. Four months earlier, Dr Marsden had spoken to the Royal Society on 'Scientific progress in relation to the war', but this talk, entitled 'Technological aspects of

New Zealand's war effort' was open to the public (admission sixpence) and 'designed to inform the man in the street' [30]. For the first few years, NZAScW attempted to schedule general meetings, at which talks on a variety of topics were given, twice a year, although after attendances of only 22 and 11 respectively at meetings on 'Problems of the professional scientist' and 'The national attitude towards science' in 1944, the President, Dr Oliver (Fig. 2), was moved to comment that 'it might appear that the average scientific worker is quite satisfied with his lot, his salary, working conditions, and professional opportunities' [§ 31/08/1944]. When branches were eventually formed, each organised its own general meetings.

Figure 2. Dr Walter Oliver,* first Patron of NZAScW.

On 8 April 1942, there was a screening of scientific and educational films, again designed to enlighten non-scientists and held at the Dominion Museum, admission sixpence; the topics included: Vitamins; Telephones; Airscrews; Raw materials [31]. The Association decided to form a review panel for scientific educational films and even formulated a scheme for making such films in New Zealand [§ 26/11/1943]. Later, when two Australian Government films on aboriginal life, 'Tjurunga' and 'Walkabout', had been banned by the New Zealand censor, the review panel made representations to have that decision reviewed [§ 31/08/1946] and succeeded in having it overturned [32].

The war effort

At the outset of war, Marsden had told all DSIR professional staff that they were in a restricted occupation, forbidden to enlist [33], although some scientists at the Dominion Museum and Ministry of Agriculture escaped this restriction. After a visit to England at the start of the war, Marsden had brought back top secret information about radar, and the Prime Minister ordered a vast increase in staff working on producing sets, developing advances on them, and investigating best operational conditions for their use in the Pacific theatre of war; impressive results were achieved [34]. The geologist Max Gage has described how he and another geologist, Harold Wellman, both foundation members of NZAScW [§ 1942], were among those recruited to this programme [35]. In other areas of research, successful drying of low-grade butterfat, meat and vegetables for export, and work on aerodrome maintenance, mapping, water supplies, and magnetic survey had been recognised in the Minister's report to Parliament [36].

By 1943, the threat of Japanese invasion of New Zealand had been averted, and although New Zealanders were to be involved in Europe, especially Italy, for a couple more years, use of scientists in planning for reconstruction was considered vital; in an editorial in December 1943 [37], it was asserted that: 'The scientists' views on post-war reconstruction are wanted in New Zealand, not after legislation has been adopted – but now!' The editorial in NZSR in July 1945 looked towards rehabilitation of science, 'reviving cherished peace-time projects abandoned through the urgencies of war, … and exploring new horizons opened up through intensive war-time research', taking advantage of the increases in scientists and science students that had occurred since the Japanese threat abated [38]. In his NZAScW Presidential address later that year, Dr L R (Laurence) Richardson said that scientists could no longer remain individually or collectively apart from the affairs of the community, as the 'future of science and of scientists must be fought for, not in the laboratory, but in the broader sphere of society' [39].

Salaries and classification

Despite this influx, salaries remained low. A M Holland of the Canterbury Manufacturers Association had asserted in late 1943 that the then current salary of £300 for a BSc and £400 for an MSc was 'little better than a labourer's wage' [40]. At that time the average male nominal wage was £341 [41]. There was also concern that, unlike their colleagues in Australia and England, salaried persons in New Zealand could not claim tax exemption for subscriptions to learned societies or purchase of books or apparatus [§20/06/1944].

By 1945, however, the Government had obviously heard some of the protests voiced about salaries of scientists in the public service, and had set up a Public Service Consultative Committee to look into classification and remuneration; NZAScW set up its own subcommittee to make submissions, as did the New Zealand Institute of Chemistry (NZIC), the Professional Engineers Association, and the Public Service Association [42]. Subsequently NZAScW and NZIC formed a joint committee to draw up a salary scale based on a classification of scientific officers according to duties, qualifications, and experience [43].

The committee's submission was presented in 1945. It recommended a scale of salaries thought to be 'reasonable remuneration' for scientific workers, with the important adjunct of a classification in 'grade specifications' which take into account responsibility and difficulty of the work being done [44].

To gain further information, NZAScW distributed 2000 salary questionnaires to scientists during 1946 and received 598 returns, which covered a sufficient spread to be considered a fair source from which to draw conclusions [45]. It was concluded that the average male graduate at age 20-25 entered employment at £350, which rose to £451-850 after 15 years, although two-thirds earned less than £650 by this time [46]. [The average male nominal wage in 1946, calculated from the indices given in New Zealand Official Yearbook 1947-49 [47] was £388.] Laurence Richardson, President of NZAScW at the time, asserted that science was 'still a poor living for most', and that there was also a 'continuing fallacious tradition of the inferiority of the female', with 74 of the 81 female respondents, many of them with 10-15 years experience, replying that they received less than £550 [48]. He also noted that private industry was employing only some 200 scientists at the time, putting New Zealand industry at a grave disadvantage compared with industry in other countries [49]. Moreover, half of qualified scientists were occupied with non-research duties and many of those actually doing research

* Walter Reginald Brook Oliver. S P Andrew Ltd :Portrait negatives. Ref: 1/1-018168-F. Alexander Turnbull Library, Wellington, New Zealand. http://natlib.govt.nz/records/23053004

were also 'loaded and hampered with non-research duties'; the picture was 'coloured throughout by a utilitarian expediency and shows little evidence of a comprehensive policy aiming at a complete science service in the community' [50].

Dr C N M (Charles) Watson-Munro, Asst Secretary of DSIR (later Professor of Physics at Victoria College) and a member of NZAScW [§ 18/05/1948], independently drew up a new method of assessing salaries in the public service within the existing grades in 1948. Known as the Watson-Munro Salary Scheme, it became applied in DSIR and other departments (with minor adjustments) until restructuring and corporatisation in 1992 [J G Gregory, personal experience]. The scheme was based on assessment of scientists' overall effectiveness in research, development, or service work, and required them to be marked and placed on an order-of-merit list, determined by negotiation among Directors of Divisions [51], from which their progression up the public service salary scales could be decided. DSIR published a note in NZSR in 1948 about opportunities for new graduates, highlighting the ability to advance on merit, as well as working on research projects alongside specialists and using the most modern equipment [52].

Figure 3. Radway Allen, President of NZAScW 1950/51, 1951/52.
(From ref. 53)

Frustrations in the first ten years

In his review of the first ten years of the Association, President K R (Radway) Allen (Fig. 3) noted that a large part of the Public Service Consultative Committee's recommendations were still unfulfilled in 1951, and he urged more action on them [53]. NZAScW had also broached the subject of tax exemption for subscriptions to learned societies or purchase of books or apparatus with the Commissioner of Taxes, who recommended an approach to the Minister [§20/06/1944], but the approach was unsuccessful; the scientist 'remained at a disadvantage compared with other professions where private practice is the rule and liberal allowances for professional expenses are recognised' [54].On several other occasions, NZAScW had apparently made representations to the Government about desirable changes to the organisation of science in New Zealand, but one might perhaps infer that it had obtained little more than the 'good publicity for its suggestions' that is mentioned in Radway Allen's report [55]. NZAScW had also publicised the 1947 report of Sir Reginald Stradling from the UK on the future organisation of building research in New Zealand [56] and urged its implementation [57], but, as at 1951, the cost had proved a stumbling block, and the Building Research Association was not formed until 1959, when Dr Lyndon Bastings, editor of NZAScW's Directories (see below) for which he was made an Honorary Member [58], became its Director [59].

Science technicians

As NZAScW had been concerned for some years about the status of science technicians, a questionnaire was prepared and circulated to officers-in-charge of science technicians in the public service, NZ Railways, Post & Telegraph Department, and registrars of the university and agricultural colleges for distribution to their staff in May 1953 [§ 10/09/1953]. The total of 240 replies was thought to represent about half of technicians in these and other organisations [§ 10/09/1953]. The results, which were published later in 1953, showed that men reached salaries of £600 in four years but then advanced by only £80 in the next 16 years; women started at a slight advantage at age 17, which disappeared after four years, and no women remained in their jobs after ten years, nearly half leaving after two years [60]. [The average male nominal wage in 1953, calculated from the indices given in New Zealand Official Yearbook 1955 [61] was £617.] It was concluded that there were considerable anomalies in salary rates, many technicians were dissatisfied with their prospects for advancement, and most favoured the institution of special qualifying examinations [62].

Not a trade union

Its involvement with salaries obviously raised some questions about the place of NZAScW, whether it was a trade union, and, if so, should it affiliate to the Federation of Labour. Reference had been made to the AScW in London in NZSR 2(1), published December 1943. The British organisation had registered as a trade union in 1941 and become affiliated to the Trades Union Congress in 1942, and 'had considerable say in political life' [63]. This example notwithstanding, the NZAScW decided, after 'many and lengthy discussions at general meetings', that it should not register as a trade union; salaries and conditions of employment were a 'recognized part of the business of the Association' … and should be handled 'without loss of purpose, strength or identity through affiliation with non-scientific organizations whose range of aims and objects is far narrower than our own' [64]. At the AGM in 1944, a motion proposing affiliation with the Federation of Labour 'was heavily defeated because it was felt that this would entail partial obligations in the political field' [65]. Later, as part of a legal opinion sought by NZAScW, Mr D R Richmond of Webb, Richmond, Swann & Bryan said, 'I do not think it is necessary to register an industrial union of scientific workers at present and I advise against such a course', his reasons being that the half of all scientific workers employed in the public service would not be eligible to belong nor would those working in industries covered by most existing Awards [66]. F F (Frank) Evison, a former member [§ 31/8/1945], but subsequently working in England and a member of the UK AScW, extolled the virtues of that body and the advantages of its affiliation to the Trades Union Congress [67]. However, Council of NZAScW strongly reaffirmed its view that while 'temporary cooperation with other bodies, including political organizations, may be desirable for furthering the objects of the Association, any formal or permanent affiliation or association must be very carefully considered, and must be definitely avoided in the case of political organizations' [68].

Standing Committees and Branches

During 1943, among several subcommittees set up by NZAScW were ones on: Use of geology and geologists in the Army; and Use of biologists, particularly entomologists, in the Armed Forces [§ 31/08/1943]. Later, Council of NZAScW appointed various Standing Committees to cope with the broad range of its activities: Conservation of natural resources, Health, Education, Public relations, and Membership [§ 26/10/1943]. Further committees were spawned, and at one time the number reached 'the

remarkable total of 32', until it was realised that more could be achieved by concentrating efforts on a smaller number of issues, such as Professional status and Public relations [69].

The initially hoped-for branches did not materialise until 1946, when Auckland and Wellington branches were formed, with V W (Victor) Fisher Chairman and B W (Tony) Collins Secretary of the former, and M (Myles) O'Connor Chairman and H E (Henry) Connor Secretary of the latter [§ 31/08/1946]. This enabled the national Council to concentrate on affairs of national and general interest and overseas relations. Despite moves to establish a branch in Dunedin following the transfer there of the former President, O H (Oswald) Keys, the only other branch to be established was in Christchurch, and it did not occur until after the Seventh New Zealand Science Congress 1951 at a meeting organised by Tony Collins (who had now been transferred to the Christchurch office of New Zealand Geological Survey); J W (James) Beagley was elected Chairman, and H B (Herbert) Yeabsley Secretary-Treasurer [70].

Directory of New Zealand Scientists

In 1945, a start was made on assembling information for a *Directory of New Zealand Scientists* [§ 31/08/1945]. Dr Lyndon Bastings (Fig. 4) , a distinguished physicist in DSIR, was the editor, and the book was published for the Association by Harry Tombs in 1947 [71], in time for the Association's representative to provide data for the committee set up by the Government to enquire into scientific manpower resources; such information was available from no other source [72]. Publication contributed to a doubling of membership in the six months following (see below), and it was resolved that an updated edition be undertaken as soon as possible.

Figure 4. Dr Lyndon Bastings, editor of the Directories and subsequently made Honorary Member of NZAScW.

(From ref. 58)

The second edition, named *Directory of New Zealand Science*, duly appeared in 1951 [73]. A foreword by the 1949/50 President, Dr John Salmon, outlined the main objects of the Association, its submissions on salary scales, and the existence of branches in Auckland and Wellington, and invited scientists to join (membership £1; associates 10 shillings). It listed about 1420 names, of whom about 450 were members of the Association [74]. About 120 were women. Forty four per cent of the science community were in Government service, 25 per cent in schools, 17 per cent in university, and 10 per cent in industry; membership of NZAScW was proportionately poorer among university and school teachers, each of whom had their own professional association, and among chemists, most of whom preferred to join the New Zealand Institute of Chemistry [75].

Further editions of the Directory have been produced by the New Zealand Association of Scientists in 1954, 1962, and 1975.

The new look

After the war, membership of NZAScW expanded rapidly, and, despite production difficulties, the size and circulation of NZSR had almost trebled by the end of 1947 [76]. Council of NZAScW decided to bring it out monthly and in a completely new format, demi-quarto in size [equivalent to modern A4], 32 pages long, with 2-colour cover [77]. G W Clark, who as a former staff member of Technical Publications Ltd was familiar with NZSR through being a colleague of the (honorary) editor, John Wilson, was contracted to be publisher, with full responsibility for its revenue from sales and advertising and an undertaking to provide copies free to members of NZAScW; a publications committee of the Association would be responsible for the editorial content [78].

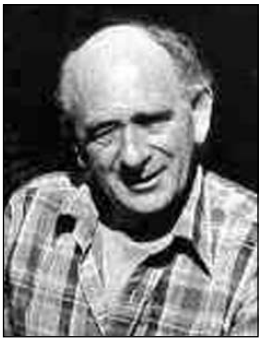


Figure 5. Dr Barry Fell, President of NZAScW 1947/48.

(From ref. 79)

The first issue in the new format, vol. 6(1), appeared in July 1948. It contained a foreword from the new President of NZAScW, Dr H B (Barry) Fell (Fig. 5), a charismatic lecturer at Victoria University College [79]. It also had messages of welcome from the Minister (who was also Minister of Education), Hon. Terry McCombs, and the head of DSIR, F R (Frank) Callaghan (succeeding Marsden, who transferred to London as Scientific Liaison Officer in 1947). There were articles on 'Homing in birds', by K A Wodzicki, and 'The buckling theory of orogeny …', by C A Cotton, as well as a note about 'The bright comet of 1947 December' by I L Thomson, and notes on several items of current research. The newly instituted organisation structure of DSIR was described. An article outlined the organisation of UNESCO in New Zealand, noting NZAScW had just been made a National Cooperating Body of the New Zealand National Commission of UNESCO. There were abstracts and obituaries and 'Personals'. A letter raised concerns about the influence of anti-evolutionists on the new school syllabus (see below). On the back cover, the 15 Objects of NZAScW were recorded.

Perhaps not surprisingly, this new impetus could not be sustained. Advertising support diminished, and Mr Clark had to ask for a subsidy from NZAScW to cover printing costs [§ 31/08/1949], and in 1950, when only six issues were printed, he asked to discontinue publishing the journal. Mrs R M Allen took over the role of business manager, and an editorial board was appointed to supervise the assistant editor (W F (Bill) Harris from 1950 to 1952, then N T (Neville) Moar) [80]. An early policy decision was to confine the content to articles of general scientific interest to members and to give more attention to Association news; abstracts were to continue, and the Abstracts Editor, Dr Fell, who had organised the section since 1945, was succeeded by R K (Dick) Dell [81]. The cover photo was dropped from vol. 8(9–10) onwards.

Science education

In 1942, NZAScW set up a committee to look into science teaching in secondary schools, and its report duly appeared in 1945 [82]. The committee received returns from 64 schools out of 76 sent out, 36 of them being State schools and 14 private schools. It found that boys were taught overwhelmingly chemistry and 'general experimental science', while girls were taught

overwhelmingly 'home science' and 'hygiene'; moreover, some subjects were mutually exclusive and a boy could go through his whole school career and learn a great deal about magnetism and electricity, say, but nothing about biology [83]. The committee recommended that not less than six hours per week be devoted to science, of which biology in a broad sense ['related to human social and political relations, to heredity, and to public and individual health'] should occupy one-third [84].

A subsequent study by Dr Bastings turned attention to numbers of science enrolments and graduates in the University of New Zealand from 1910 to 1944, calculating that there was a loss of science graduates due to WW2 of around 100 [85]. To meet the demand from 1946 onwards, the number of honours graduates in science should approach 65 per year, and there were indications that there would be a severe deficiency of trained graduates in those sciences which were so vital to the post-war recovery [86].

Patents

An editorial in NZSR in 1948 drew attention to the 'long overdue' Commission on New Zealand Patent Law and Procedure [87]. Apparently overseas investigations had shown that, far from promoting the progress of science, the patent monopoly had sometimes been used to suppress competition and discourage inventiveness. The New Zealand Patent Office was ill-equipped to give a prompt and efficient technical examination of inventions, having only nine qualified examiners, compared with Switzerland's 170. NZAScW sought information from scientists to help make its submissions to the Commission [88]. Apparently 'voluminous evidence' was able to be presented to the Commission by NZAScW, which surprisingly was one of few scientific bodies in the world to take such action, and the information was 'favourably received' [89].

A later editorial states that the Commission's report made clear, what NZAScW had submitted, that the Patent Office needed more staff, with technical knowledge and training and appreciation of patent law, and a greatly enlarged library [90]. The Commission's recommendations resulted in the Patent Office Act 1953, which stood unchanged for fifty years.

False and pseudoscience

There was a continuing policy of drawing public attention to unscientific practices masquerading as science. An early activity was making representations to the Government on the Control of Medical Advertisements Bill in 1943 [91].

In 1944, NZAScW published a critique of 'Scalebuoys', small glass globes containing mercury, which were claimed to give off useful radiation, having (among other things) a capacity to prevent formation of scale in boilers [92].

In 1946, P Ongley and Past-President of NZAScW, Oswald Keys, ran tests exposing a water diviner, which brought good publicity for the Association from the prominent reports about it given in the newspapers [§ 31/08/1946].

In 1947, the BBC series 'How Things Began' that was being broadcast by Radio New Zealand was suddenly suspended, as a result of lobbying from anti-evolution groups. NZAScW along with other scientific groups made strenuous protests to the Minister of Broadcasting [Fred Jones, a former trade unionist, also Minister of Defence], who, on the grounds that it was 'controversial', refused to resume broadcasts, although he was stated to be still considering the position [§ 31/08/1947]. He never changed his mind [93], which led W G (Watty) Whittlestone to comment harshly on this decision [94]. A subsequent letter to NZSR revealing the surreptitious dropping of the theory of evolution from the proposed new primary school syllabus drew the comment that this might open the way for the 'active, well-nigh vicious anti-evolution group in the community' to bring any teacher who includes evolution 'to pillory'[95].

Secrecy

During the war, it was inevitable that many scientific developments were surrounded with secrecy, and this was generally accepted by scientists. However, the dropping of 'the bomb' and the subsequent development of 'atomic energy' resulted in the extension of wartime secrecy in this field, and concern was expressed in many scientific groups around the world, including NZAScW, that 'we must throw off this restraint on knowledge, if we are not to lose one of the freedoms for which the war was fought' [96]. Council subsequently published its response to a questionnaire circulated by the World Federation of Scientific Workers on any restrictions in New Zealand on pure and fundamental science. Citing the Official Secrets Act 1911 (of Great Britain), which applied in New Zealand at that time [1948], and other pertinent legislation, it concluded that scientists in New Zealand could feel relatively free to publish their results and communicate with overseas colleagues, but should heed the example of events in Australia (see below) and guard against complacency [97].

Awards and honours

During Dr Fell's Presidency, subcommittees were set up to consider both nominating scientists for the Honours List and establishing a New Zealand Science Medal [§ 18/11/1947]. Of the three names first put forward by the first of these, one was successful [§ 26/6/48], Dr H H (Harry) Allan, retiring Director of Botany Division of DSIR, being awarded the CBE in the Queen's Birthday Honours List in 1948 (98).

The medals subcommittee had meanwhile deliberated on two alternative proposals [§ 20/7/1948], the first of which was advertised in NZSR the following year as being designed to recognise 'outstanding contributions to the welfare and advancement of science in New Zealand' [99]. In the event, nothing materialised, and it was not until 1969 that a Service to Science Medal, later to be called the Marsden Medal, recognising a 'lifetime of outstanding service to the cause or profession of science', was instituted. However, in 1951, the alternative specification was adopted as the Research Medal, recognising 'outstanding fundamental

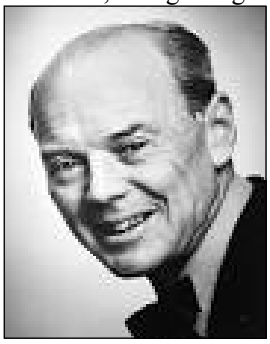


Figure 6. Dr Charles Fleming,* first recipient of the NZAScW Research Medal and later Patron of NZAS.

* Charles Alexander Fleming. Fleming, Charles (Sir) :Portfolio of Royal Society members. Ref: 1/2-055789-F. Alexander Turnbull Library, Wellington, New Zealand. http://natlib.govt.nz/records/22679922

or applied research … published by a scientist under the age of 40 during the year of the award or the preceding three calendar years' [100].

The first recipient of this medal, which is still awarded annually by NZAS, was Dr C A (Charles) Fleming (Fig. 6), a distinguished polymath, later to be the recipient of numerous other awards, including a knighthood and Fellowship of the Royal Society [of London] [101]; he also succeeded Sir Robert Falla as Patron of NZAS in 1980. In 1952, the recipient was Dr Marshall Laird, for his groundbreaking work on blood parasites of birds and mammals [102], and the following year it was the turn of N de B (Norcott) Hornibrook, for his pioneering work on foraminifera and stratigraphic correlation [103]. Although it was not a condition of the award, all of these recipients were longstanding members of NZAScW [§ 31/8/1946].

The next call for nominations, sent out at the same time as the notice about the Association's name change (see below), was for the renamed New Zealand Association of Scientists Research Medal [§ 2/3/1954].

Relations with overseas organisations

In his Presidential address in 1945, Laurence Richardson, later to become Professor of Zoology at Victoria College of Wellington, referred to 'an entirely new organization of scientists … developing throughout the world to meet the new problems of science which have arisen from the impact of science on society' [104]. Associations of Scientific Workers were developing and growing in various countries, such as Britain, France, the United States, Canada, Australia, and South Africa, as well as New Zealand [105].

Following from NZAScW's early dealings with the AScW in the UK, there were continuing communications between the two organisations, for example in June 1944, 'on the eve of the Second Front' [the Allied landings in Normandy to draw some of the German effort away from the Russian Front], the UK organisation had sent a cablegram: 'We pledge our best efforts towards victory over Fascism and we hope soon to be working with you for reconstruction of devastated countries and promotion of democratically planned science for the benefit of all people.' In reply, 'NZAScW reciprocates fraternal greetings … We pledge ourselves, with you, toward complete victory in this war and recognition, by the people, of science as the basis of society.' [106]. By 1946, it was reported that the UK AScW had over 16 000 members and, as a result of recent elections there, had six of its members among new MPs [107].

NZAScW had also been in contact with the Australian AScW from at least 1944, when a paper on scientific planning in New Zealand was presented by J A D (James) Nash as a representative of NZAScW's Council at the Australian organisation's conference [§ 18/04/1944].

Formation of the Association of Scientific Workers in Southern Africa in 1943 was reported in *Nature* [108], and NZScW had evidently made contact, as it is reported on in *NZ Science Review* [109], together with the Canadian AScW, founded in 1944, the newly formed Chinese AScW, and the French Association Française des Travailleurs Scientifiques, also formed in 1944.

In 1946, J G (Gerald) Crowther, a well regarded British science journalist for the *Manchester Guardian* newspaper, *Nature*, and *New Scientist*, and wartime Director of the Science Department of the British Council, was a moving force behind the UK AScW's initiative to propose formation of the World Federation of Scientific Workers [WFSW] [110], and he became its Secretary-General. It was hoped that WFSW would create effective machinery for the various national AScWs to use for mutual assistance to promote 'the fullest utilization of science for the welfare of mankind and that freedom in science which is required for its unhindered growth.' NZAScW was formally affiliated in early 1947 [111].

The Australian AScW had already become affiliated. However, this affiliation and news of the 1946 trial of nuclear scientist Dr Nunn May for spying and the implication that the Canadian and British AScWs harboured communist sympathisers had played into the hands of opposition politicians in Australia, notably William Wentworth MP ('Australian cold warrior') and aspiring parliamentarian Joe Abbott, who in 1947 mounted a campaign charging the Australian AScW of being 'a fifth column for Russia'. Scientists in the Commonwealth Scientific & Industrial Research Organisation perceived that they could not be members of the Australian AScW without considerable risk to their careers, and, by 1949, membership had fallen to such an extent that the Association was dissolved [112].

This anti-communist paranoia across the Tasman, and the rise of McCarthyism in the USA that saw scientists as well as writers, artists, and officials being labelled as communist agents, had a minor effect in New Zealand except for some civil servants, notably Dr Sutch [113]. However, in 1950, Council for NZAScW felt it necessary to re-affirm the non-political nature of the Association's activities, asserting that it is 'not a negative refusal to enter the realms of politics, but a positive pursuit of those objects for which the Association was founded.' [114]. Continued uneasiness about the political agenda behind the WFSW, and its domination by member Associations controlled by communists or 'at least divided on the issue', led NZAScW to also express concern about 'groups seeking to use the [national and international] Associations purely for their own political ends, regardless of the purposes for which they were established' [115]. Council stated that, unless a resolution was passed preventing WFSW from entering into political affiliations and without substantial changes being made to the people on its Executive, 'it will seem very doubtful whether it is useful or desirable' for NZAScW to remain affiliated [116].

WFSW held its second assembly in Paris in April 1951, and the immediate past-president of NZAScW, Dr Salmon, who was in London at that time, was able to attend as a delegate. He submitted the resolution from Council 'that this Assembly, whilst recognizing the right of member bodies to adopt their own policies, considers that for the achievement of its objects the World Federation must abstain from all political affiliations, and instructs the Executive Council to prepare the necessary amendment to the Constitution to ensure this.' Similar resolutions were proposed by South Africa and Britain, and the South African one went forward and was passed by the Assembly. [117].

In his Presidential address to NZAScW in October 1952, K Radway Allen reviewed the international organisation of science [118]. He concluded that WFSW had failed to fulfil the promise suggested by its objects and by the enthusiastic support of its

early days: '…as a result of very limited resources, and perhaps of preoccupation with political objectives, very little of practical value appears to have been accomplished in the six years of its existence.' [119] He went on to recommend that NZAScW instead continue and if possible increase support for UNESCO and cooperation with the International Council of Scientific Unions and their member bodies [120]. NZAScW had earlier also shown support for the Pacific Science Association (PScA), publishing papers from the Seventh Pacific Science Congress, New Zealand,1949, in several issues of NZSR in that year. Some of those members who had been active in NZAScW were also active on various PScA Standing Committees, for example Dr Oliver and Professor Ernest Beaglehole [121].

By 1953, M C (Merv) Probine, convener of the NZAScW public relations subcommittee, and ultimately Chairman of the State Services Commission [122], reported that NZAScW had disaffiliated from WFSW [123], and a criticism of political bias from 'another society' had been countered and the matter resolved amicably [124].

Change of name

The problem of the name remained, as there had become a stigma attached to the name 'scientific workers', giving the false impression that it was aligned to trade unions with similar titles; distinguished visitors from overseas had even declined invitations to speak at meetings of NZAScW for fear of jeopardising their careers [125]. The South African Association, which had changed its name, was 'still sensitive about our Association as long as we retained our present name' [126]. The complication was that, although technicians, who were restricted to being associate members, could be considered 'scientific workers', they were not 'scientists'. However, the Association, mindful of the results of its recent technicians' survey, was taking action to help technicians 'become formally established as a separate group' [127], and that would clear the way for a name that reflected the Association's main scientist membership. Merv Probine's proposal in Council that the Association seek suggested names from members and conduct a postal ballot on them was agreed to [128] and implemented in February 1954. The result was that the proposal to change the name was carried by a majority of 4 to 1, and that it change it to 'Scientists' by 2 to 1 [129], and the name duly became New Zealand Association of Scientists.

Conclusion

Under the Presidency of C G W (Ces) Mason (Fig. 7), always 'conscientious and thorough in his approach to problems' [130], NZAScW had come through, democratically and smoothly, what might have been a terminal set of circumstances (judging from the Australian AScW's experience).

Figure 7. Ces Mason, President of NZAScW 1952/53, 1953/54. (From ref. 130)

It had affirmed its political independence, and cut harmful ties with overseas organisations but strengthened ties with beneficial ones such as UNESCO.

This had all been done while it was busily continuing important projects, such as the technicians' survey, the scientists' survey, and preparation of a new edition of the *Directory of New Zealand Science*. The *New Zealand Science Review* had continued to publish reviews of science topics, abstracts of New Zealand research papers, and information on the Association's affairs and science policy matters.

Figure 8. Dr Ernest Marsden,* first Patron of NZAS.

The Association had a new name with a clear affirmation of its founding objects. During 1954, it would elect a new patron, Dr Marsden (Fig. 8), soon to become Sir Ernest [131], and the next President, Dr F B (Brian) Shorland, Director of DSIR's Fats Research Laboratory, a distinguished researcher, was also an astute negotiator and enthusiast for science [132]. It could look forward to a long future of working for scientists and the promotion of science in the wider community.

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Appendix 1. Officers of New Zealand Association of Scientific Workers 1941–54.

Year	President	Vice-President	Treasurer	Secretary
1941/42	W B Sutch	W R B Oliver	C O Hutton	J T Salmon
1942/43	W R B Oliver	L R Richardson	„	„
1943/44	„	„	„	„
1944/45	O H Keys	„	H G Lawrence	I A McDowall
1945/46	L R Richardson	N T Clare	R L Oliver/ E Cone	I A McDowall/ H B Fell
1946/47	„	J T Salmon	E Cone	K R Allen
1947/48	H B Fell	K R Allen	„	M J Peebles
1948/49	J T Salmon	„	„	R W Willett
1949/50	„	„	„	„
1950/51	K R Allen	C G W Mason	„	„
1951/52	„	„	R M Cassie	R M Cassie
1952/53	C G W Mason	F B Shorland	J G Gibbs	P C Coates
1953/54	„	„	„	V J Wilson