

Division of Professional Relations
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DENNIS CHAMOT, *Editor*

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FROM THE EDITOR . . .

ACS Faces Lawsuit

Let me begin by summarizing a bit of recent history. As regular readers know, Alan Nixon, former ACS president, ran last year for Director from Region VI. While he received the largest number of votes in a three way race, he did not receive a majority. The third place candidate was eliminated, and second choice votes were distributed, resulting in Dr. Nixon coming in second by three votes out of some 4,000. Remember, too, that before the election was run, there was a strong effort to remove Dr. Nixon's name from the ballot.

A recount established that the numbers were correct, but doubts remained. Basically, the problems stem from the procedures used to handle ballots after they are received by ACS, as well as the decision to send ballots by third class mail (until recent years, they have gone first class). The latter results in delay of receipt of ballots, even possible losses of ballots, thus discouraging or preventing voting. The counting procedure prevents checking of decisions about validity of ballots because the ballots and the envelopes in which they are received are separated early.

In light of these and other questions, and the extreme closeness of the final tally, Dr. Nixon requested that the election between himself and Dr. Lemmon be rerun, using first class mail. The Council turned down that request. This leaves him no alternative but to go to court, which Dr. Nixon is now doing.

I fully support Dr. Nixon's decision, and I can only hope that the suit will result in fairer election procedures within

the ACS. I have seen a certain arrogance and smugness on the part of certain ACS officials and staff which should have no place in an organization devoted to the best interests of its membership.

Watch this space for further developments.

Merit Pay

I came across an interesting article recently, which I would like to bring to your attention. It is called, "Pay for Performance? Not Always," by W.J. Kearney, and appeared in the Spring 1979 issue of *MSU Business Topics*. Actually, the title is a little misleading, as the author points out that, more often than not, pay is *not* determined by performance. More important factors are the high rate of inflation, trends toward salary compression, and the impact of labor contracts.

Look around at others in your organization who are in equivalent positions. How much real variation in salary is there? Further, if inflation roars ahead at 12 per cent, and you are offered a 10½ per cent "merit increase," what is being rewarded?

I always find it instructive to compare salary trends with inflation rates. If you would like to check your own development, compare your own salary history with the Consumer Price Index (see table).

Contents

The two articles in this issue are based on presentations at DPR sessions at the last national ACS meeting. We hope you find them informative.

NOTICE

The annual Business Meeting of the Division of Professional Relations is usually held at the Fall ACS national meeting. The meeting will be in Washington during the week of September 10. As of this writing, I do not have the exact time and place, but consider this an invitation to all DPR members to attend the annual Business Meeting. Check *C&EN* for the meeting program details.

—Dennis Chamot

Consumer Price Index* (1967 = 100)

1940	.42.0
1950	.72.1
1960	.88.7
1965	.94.5
1966	.97.2
1967	100.0
1968	104.2
1969	109.8
1970	116.3
1971	121.3
1972	125.3
1973	133.1
1974	147.7
1975	161.2
1976	170.5
1977	181.5
1978	195.3
1979 (June)	216.9

*annual average

source: U.S. Bureau of Labor Statistics

DIFFERENCES BETWEEN JAPANESE AND US PATENT SYSTEMS

Ikuo Inoue
Asahi Glass Co., Ltd.

I'd like to discuss the differences between the Japanese and US patent systems, especially from the viewpoint of a chemist, which legally protect the activities of the chemist.

The patent system of each country is affected by two movements, concerning views of what the patent system should be. Patent systems of most countries in the world are substantially connected by the Paris Convention, under which a chemist can make patent applications in foreign countries. In connection with the revision of this Paris Convention, three groups of countries, developed countries, developing countries, and socialist east European countries, are now struggling around the table. Developing countries are trying, on one hand, to promote technology transfer into their country from developed countries under the protection of patent rights, as Japan succeeded in doing after world war II, and on the other hand, to weaken the monopolistic character of the patent right in their countries. Socialist east European countries are trying to make their invention certificate acknowledged as the patent right within the framework of the Paris Convention.

The other movement lies in an internationalization of the patent system of each country, namely a similarization or homogenization of the patent system throughout the world. This internationalization is already advancing in two directions. One is the effectuation of the European Patent Convention in European Countries, and the other is the effectuation of the Patent Cooperation Treaty.

The final goal of the European countries is to establish one common patent system throughout Europe, namely, protection in every European country under one patent. It will probably take a long time, for instance 20 years, to achieve this final goal, but the patent systems of European countries will gradually become similar to each other and homogeneous.

The Community Patent Convention which is expected to become effective in several years among European countries, will surely promote this trend. The chief object of the Patent Cooperation Treaty, generally speaking, does not lie in promotion of similarization, but lies in de-

creasing the research work necessarily done by each patent office for examination of applications, and to the same extent, decreasing the application procedure of applicants. However, the Patent Cooperation Treaty is believed to assist similarization of the patent system.

Although the patent systems of developed countries are now in the movement I explained above, they still have their own characteristics, based upon their own history, tradition and social and economical situations. Japan and US each has, I believe, their own systems representing the typical properties among developed countries. I'd like to introduce some differences of Japanese and US patent systems and my own comments about reasons which cause such differences.

The first big difference between the Japanese and US patent systems lies in an essential concept as to why the patent right shall be given to the inventor. In the US, the patent system has its origin in the history and tradition of western Europe, and the right to get a patent is deemed to be a kind of human right, natural to inventive activities, similar to the situation in the United Kingdom and France, based upon an article of the US Constitution. The patent right is deemed to be a contract between the inventor and the government.

On the contrary in Japan, the patent system was introduced, as well as the other modern systems of law, from western Europe about a hundred years ago. It was after world war II that the patent system has become really meaningful. Thus the patent right is not natural to inventive activity, but is given to inventors by governmental administrative policy, the same concept as in West Germany.

This essential Japanese concept about patent rights has had deep influence on delaying the acknowledgement of patentability of a chemical substance itself, holding instead to the utility model system. Since 1976, in Japan also, chemical substances themselves have become patentable under the patent law, and as for the patent examining procedure, it is expected that almost the same practices as in the US will be established in the near future. The utility model right is given to small inventions, the object of

which is limited to machine, apparatus, articles and so on, excluding process or method. The utility model right has no substantial importance for the chemist, but for electric and mechanical people the utility model right is useful for giving incentive to small improvements.

Compared with the numbers of patent applications in other countries, the Japanese patent office and the patent practitioners engaging in the application procedure have clearly too much patent and utility model applications to deal with. Thus we are now facing the critical point to preserve the utility model system as it is or to modify it.

The second point in which Japan and US patent systems are different, lies in the concept about the invention. Although this difference may not seem to bring about any substantial effect, it has, in fact, a strong relation to the claim system of the patent.

In almost every developed country except Japan, as represented by US, the invention of the patent means the technical concept which is derived from the total disclosure of the specification, and the claims define the scope of the protection to exclude others from making, selling, or using the invention. Further, the number and the technical aspect of claims shall not be restricted, as long as they remain proper, in order to make the protection of the invention as complete as possible.

In Japan, the multi-claim system almost similar to the US became possible in 1976. However, the content of the system is a little different from the US, based upon the difference in concept about inventions. Under the Japanese patent law, the *technical* scope of the patented invention is defined based upon the claims, but the law does not have any direct reference to the scope of the *protection*. That is, the claims define the technical concept of the invention. Further, the technical aspects of the claims are rather restricted, in that the independent claims are required not to be the same invention to each other under the meaning defined in Japanese patent law, which results in rather incomplete protection by the patent. In order to obtain complete protection under the Japanese patent law, we have to be more careful and prudent in claim terminol-

ogy. Taking the language barrier between Japanese and English into consideration, it is most important, first of all, to select a good patent attorney, in order to make a patent application in Japan.

Another point is the difference in patentability requirement between Japan and the US. While in most developed countries except the US, the first applicant can get a patent, in the US the first inventor can get a patent. This first inventor system in the US is naturally derived from the concept that the right to get a patent is a kind of human right. However, this system is probably the main reason which makes the US patent system more complex and the application procedure more expensive.

On the contrary, in developed countries other than the US, although the first application system makes the total patent system less complicated, the requirement to make the application earlier does not avoid the result that the quality of the patent specification may be lower. Accordingly the description of examples, which is the most interesting part of the patent specification for chemists, will become incomplete. In connection with the first inventor system in the US, the applicants from foreign countries have to pay attention to the fact that in the US they can not insist that their invention date was prior to their application date in their home countries. The first inventor system in the US, requires also that even

if a chemist is a first inventor in the US, he may be a second applicant in a foreign country. Further, the following rather intricate situation must not be forgotten.

Under the US patent law, one can get a patent, even though the invention is described in a printed publication before the date of application, if the description is not more than one year prior to the date of the application. However, the fact that the invention is described in a printed publication before the date of application will make the application unpatentable in most foreign countries, including Japan.

The fourth main difference between the Japanese and US patent systems lies in disputes or litigations about the validity and the infringement of the patent right. In Japan, disputes about the validity of a patent is ruled on in the patent office by three trial examiners who have technical backgrounds. Both the opposition system before the registration and the invalidation trial after the registration in the patent office assure, in my opinion, the reliability of the patent.

In the US, once a patent is granted in the patent office, its validity is judged in the courts, by people who generally do not have the technical background. This leads to the fluctuation of the court decisions.

According to US and Japanese patent laws, there is almost no difference in the

contents of the patent right. Further, Japanese and US companies have similar respect for the other person's or company's patent right, so infringement suits are similar. However, in proving facts, we can usually find a big difference based upon the differences of civil procedure.

In Japan, in the infringement suit, the plaintiff or the patentee have to find and submit all evidence to the court in order to prove the infringement. For instance, in the infringement of a patent of a chemical process, the plaintiff, first of all, has to collect evidence which defines the process the infringer is using or taking, and next to collect evidence which proves that the process is infringing the patent right. The plaintiff can't get the former evidence easily.

On the contrary in the US, the plaintiff can get evidence even from the infringer by the discovery procedure defined in civil procedure. Discovery procedure is believed to be one of the most fundamental elements to assure the protection of the patent right.

As I explained above, there exist some differences between the Japanese and US patent systems. However, the Japanese and US patent authorities are each endeavoring to find the way to protect the patent right more efficiently. I hope the realization of such revision will be soon.

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INTERNATIONAL INFLUENCE ON THE AUSTRALIAN CHEMICAL PROFESSION

Professor D.O. Jordan
President, Royal Australian Chemical Institute

The organization of chemists in Australia and the consideration of their standards of qualification and emolument started to receive attention around 1912. In 1914 Professor David Orme Masson, of the Chemistry Department of Melbourne University, represented the opinion of many chemists when he attempted to initiate a move to raise the status of the chemical profession. However at that time it was considered to be premature to attempt the formation of an Institute or Society and the matter lapsed. It must be recalled that at that time Australia was sparsely populated (as it is now with only 13 million in a country almost the size of mainland USA), the chemists were widely scattered, and organized professional bodies were few in number.

The first practical move toward a professional organization came about through the formation of the "Australian Chemical Association" in the small town of Lithgow in New South Wales, with a circular dated 15th January 1916 inviting those likely to be interested to apply for membership. The objects of this association were primarily concerned with salaries, fees and allowances, and it failed to gain support from leading chemists. However, the arrival of the circular revived Professor Masson's enthusiasm for the formation of a Chemical Institute and on 17th July 1916 the Society of Chemical Industry of Victoria, which had been founded by Professor Masson in 1900, had a special meeting. At this meeting it was agreed that, "an Association or Institute of Chemists be formed in Australia having as its objects

"(i) to guarantee the professional qualification of its members,

(ii) to improve the status of the profession,

(iii) to secure for its practitioners adequate emoluments."

After that meeting steps toward the formation of an Institute moved fairly rapidly, with meetings in each State of

Australia. The use of the title "The Australian Chemical Institute" is first recorded in a notice calling a meeting in Sydney on June 18, 1917.

The Institute at this stage was simply a fraternity whose common bond of interest was chemistry and the chemical profession. It was not endowed with any official powers with which to enforce its objectives. The acquisition of these powers required a Charter which was not to be obtained until 15 years later in 1932 after much controversy with the British Institute.

In order for a professional body, such as the Institute, to have by-laws, grant diplomas of membership and have legal power, it is necessary for it to have a Charter. It was initially intended that the Charter of Incorporation of the Chemical Institute should be granted by the Federal Australian Government. However it was soon discovered that the Federal Government did not have the necessary powers to grant such a charter and it therefore became necessary to apply to Britain for a Royal Charter.

Problems arose almost immediately over the submission and preparation of the Royal Charter. The British Institute of Chemistry, which already operated under a Royal Charter had a well defined examination system of entry to the Associateship and Fellowship of that Institute. When approached in 1920 and its views sought on the proposed regulations for the infant Australian Chemical Institute, the Council of the British Institute expressed its views quite clearly "The Council felt that the status of chemists and the qualifications which are desirable for the practice of chemistry should be the same throughout all the Dominions of the British Commonwealth." The Council therefore suggested that the Australian Institute raise its standards at once.

The words "at once" are important. The Australian Institute had taken the pragmatic view of increasing membership first, so as to give itself strength in

numbers, and it was the intention of the Council at some later date to institute examinations for those desiring to practise the profession of chemistry. This question of standards of admission was to remain a bone of contention between the British and Australian Institutes for several years.

The Council of the Australian Institute for its part, whilst fully in favor of raising the standard of entry to membership, believed it was impractical to do so at that time, and whilst parity with the standards of the British Institute were undoubtedly the objective, it could only be attained by stages of advancement. The Australian Institute in the 1920's still relied heavily for support on a large number of members who were practising the profession but who had come from chemistry schools in country towns lacking facilities for a broad general training in science and specialization in chemistry.

In order to make progress the Australian Institute, rather than instituting its own examinations, began to examine and then recognize schools of chemistry at Universities and Technical Colleges and the internal examinations conducted by them. Whilst there was no formal abandonment of the intention to conduct examinations (and occasionally this right was exercised), in general, degrees and diplomas of recognized colleges, together with approved practical experience became the normal mode of entry to membership. Unfortunately this move introduced in the early 1920's confused the Institute's relations with the British Institute still further.

Because of the long delays anticipated in securing the Royal Charter, the Institute became incorporated under the N.S.W. Companies Act in 1923. It thus functioned as a public company with its own by-laws. The application for a Royal Charter proceeded over the years, with in 1929 the British Institute still "objecting to the proposed method of admission and standard of qualifications

of membership which in the opinion of the [British] Institute should be comparable with that laid down by their own Charter." This attitude of the British Institute undoubtedly again set back progress with the Australian Institute's petition.

As so often happens, it was not until personal contact and full discussion was possible that the differences between the British and Australian Institutes were resolved. It must be remembered that Australia is separated from Britain by 10,000 miles of water and ships took 4 to 5 weeks for the journey. The time from the dispatch of a letter to receiving a reply could at best be about 3 months. On July 2, 1930, Dr. David Rivett (Chief Executive Officer of CSIR, later CSIRO), after personal discussions in London, was able to report that the British Institute would raise no objections to the granting of a Royal Charter. The Charter was finally approved on 26th January 1932. Whether the insistence by the British Institute on entry standards of its own kind and its lack of understanding of the problems and intentions of the Australian Institute had any great influence on the standards adopted is difficult to judge. One recognizes and appreciates the case made for high standards, and this was undoubtedly correct, but this also was the avowed objective of the Australian Institute.

Today all applications, which are based on qualifications gained at Universities, Colleges, etc., are first studied by the Standing Application Committees of Branches and the Branch Committee, then reviewed by the Permanent Applications Committee, which is a committee of Council, and finally presented to Council.

The Chemical Institute became 'Royal' in 1949. This required a supplemental charter. Although it was initially incorporated under a Royal Charter this did not grant the qualification to use the title 'Royal'.

The aims of the Chemical Institute have been, or were initially concerned with (i) the qualifications of professional chemists, (ii) the status of the profession and (iii) emoluments. It will be seen that it had no 'chemical society' or learned society function. In fact Professor Mason had emphasized that it should not have such a role. However, the Branches in the various States of Australia organized lectures and had 'specialist groups', e.g. analytical chemistry group, which concentrated on lectures and courses of lectures in their special fields of interest.

In the early 1960's the Institute faced a crisis with a significant division of opinion among its members. This was brought about by the increased numbers of members within the Institute employed in Universities, Colleges, and in CSIRO. In these positions emoluments and terms of employment were determined by channels other than through the Institute, the qualifications were usually well above the minimum, i.e. the Ph.D. was the normal requirement for such positions. These people had little use for the Institute in its professional capacity and demanded a more "learned society" role. On the other hand many industrial chemists, self employed chemists, consultants, etc. appreciated and needed the professional role of the Institute and looked upon it as essential to maintaining their professional status. The danger of a split in the Institute and the formation of a separate chemical society was very real. Many of us did not believe there was room for two chemical bodies in Australia where the likely total membership was around 8,000.

At, I believe, the 1964 Council meeting, I was invited to chair a committee which for the want of a better name was termed the "Group Steering Committee" which was charged with working out the machinery to enable specialist groups to exist within the Institute. We examined the structures of chemical bodies in England, in Europe and in North America. After much discussion we finally recommended the formation of Divisions within the Institute. These Divisions are charged with the holding of specialist symposia, can hold funds, invite overseas speakers to symposia, hold workshops and refresher courses of lectures, much in the way that Divisions of the American Chemical Society operate. The move after a few teething troubles, largely of an administrative nature, has been a great success. We now have eleven Divisions [Organic, Physical, Coordination and Metal Organic, Polymer, Solid State, Cereal, Electrochemistry, Education, Chemical Engineering, Colloid and Surface, Analytical] which hold Symposia every 12-18 months, sometimes joining at a National Convention, but at other times meeting at a country center with numbers in the range 80-250. Thus while the Institute publishes no learned Journal, in other regards it closely follows the American Chemical Society model.

Although no Journal of its own is published it cooperates with the Australian Academy of Science and CSIRO in

the publication of the Australian Journal of Chemistry, a recognized international journal. It also publishes 'Chemistry in Australia,' containing 'news and views,' review articles and some lectures given at Divisional symposia.

It is worthy of note, when judging whether we were right in forming Divisions and thus avoiding the split into an Institute and Society, that the three major chemical institutions in Britain, the Chemical Society, the Faraday Society and the Royal Institute of Chemistry, have now amalgamated to form the Royal Society of Chemistry.

Chemical industry in Australia was one of the earliest secondary industries to develop. Chemists were required by mining companies for ore analysis, by smelting companies for analytical and quality control, by the wool industry for control of scouring operations, etc. These operations still continue but following the industrialization of Australia after two world wars, fine and heavy chemical industries were established. Although a few small Australian companies were formed and some of these have grown and prospered, others have been absorbed into larger concerns. In particular the multinational companies involved in pharmaceuticals, fine chemicals, heavy chemicals, agricultural chemicals, petrochemicals, synthetic fibres, plastics, i.e. the whole range of the chemical industry, has become established in Australia. Such companies have their origins in Britain, Europe and the USA. There are still however some large, and some small, purely Australian companies but these are few in number.

At first many of the multinational companies established research laboratories in Australia; there was a genuine desire to spread the research effort and at that time Australian Ph.D.s were less expensive to employ than their counterparts in Europe and USA. For a variety of reasons most of these research enterprises have been reduced and in some cases closed down. It is true that our salaries for research chemists have risen and are now as high as anywhere in the world, but an additional reason is the failure of a succession of Australian Governments to provide a tax incentive to companies prepared to establish a research effort in Australia. Whatever the reasons, and as I have said these are complex, the result has been that with one or two notable exceptions, chemical industry does not support a major research effort in Australia and the employment prospects for Ph.D.s in chemical industry at present are very

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poor. The most unfortunate aspect has been the 'go' then 'stop' policy which industry adopted and probably had no choice but to adopt. A growth of research and development in the 1950's and early 1960's was followed by a dramatic curtailment.

These trends have of course not passed unnoticed by intending chemists and graduate students. The RACI has run surveys on employment prospects for chemists and these have been gloomy. One thus sees that the multinational companies based overseas have and are influencing employment prospects for chemists and even recruitment into the profession. This is unfortunate as Australia has produced many outstanding chemists in its time and its graduates and Ph.D. students are in my view some of the best trained in the world. I have just come from a meeting of our own Academy of Sciences where we discussed with concern this very problem, which is not peculiar to chemists but also applies to mathematicians, physicists, geologists, and biologists as well. It is accentuated by a reduction in University

funding and a decline in the number of faculty positions and in postdoctoral programs. It is of very real concern that there are many very able Australian scientists in the 25-35 age group who are experiencing great difficulty in finding suitable positions in Australia. While it is not the only cause, the inability of the chemical industry to absorb a significant number of graduates and Ph.D.s because the research laboratories are centered in the USA, Europe and Britain is a major contributing factor.

In this talk I have chosen three themes to illustrate international influence on the profession of chemistry in Australia: these were the development of the RACI, the development of Divisions within the RACI and the influence of multinational chemical companies on employment prospects in Australia. These influences have been a mixture of good and bad. I hope you now have some appreciation of our problems in a large country, comparable in size to mainland USA, rich in natural resources, but small in population, and still at an early stage in our development.