

Division of Professional Relations
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DENNIS CHAMOT, *Editor*

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FROM THE EDITOR...

The bulk of this issue is given over to four of the many papers presented at DPR sessions at the national ACS meeting in Dallas last April.

The professional activities of British and Canadian chemists are described by Dr. R. E. Parker of the Royal Institute of Chemistry, and Dr. D. M. Wiles of the Chemical Institute of Canada. The British are moving toward unionization, while the CIC is putting its major effort into guidelines covering employment of chemists and chemical engineers.

The ACS, of course, has been developing and using guidelines for employers for several years. Two alternatives are presented in our final two papers. Louis McIntire gives the arguments in favor of compulsory licensing of professional chemists, and Harold Ammond discusses unionization from the inside.

We hope that these papers will prove not only informative, but also the basis for stimulating discussion. Each of our authors would be interested in comments from our members (see p. 7 for addresses), and so would I.

DPR Committees

Our Program Committee is working on the DPR sessions for upcoming national meetings in Chicago and Los Angeles. The first one is set, but suggestions would be welcome for future meetings. What do you want to see?

All of our committees would like more input, and can use more members. Here's a current list:

Legislative Committee
Membership Committee
Program Committee
Publications Committee.

If you would like to serve, write to the chairman of the appropriate committee, Division of Professional Relations, Box 286, Rahway, New Jersey 07065.

Questionnaire Results

The results of our most recent questionnaire are shown on p. 8. The Executive Committee extends its thanks to all those who sent in replies.

Most of the results need no explanation, but here are some comments for amplification.

First, the questions concerning the ACS Guidelines for Employers (1a-f). I am glad to say that the Council Committee on Professional Relations (CCPR) recently voted to change their procedures, so that some of this no longer applies. For example, the Committee will no longer give simple ratings of "compliance" or "non-compliance," but will publish more details of each layoff. The officers of your Division have been pushing for this for some time. Although we can't claim credit for another group's actions, our voice was heard loudly and frequently. We have also submitted some recommended changes to strengthen the current Guidelines. These are being worked on by a subcommittee of CCPR.

The response to questions on C&EN seem to point to a strong desire for more information on professional

matters and ACS news. We'll spread the word.

Question 3b, on endorsing national ACS candidates, was so close that we feel that the Division should *not* issue official endorsements. However, just as many people wanted us to do so as didn't, so we should try to find some middle ground. Perhaps we'll give an unofficial listing of officers' preferences.

Chicago Meeting

We've got some great things prepared for Chicago. Peter J. Petkas, organizer of Ralph Nader's Clearinghouse for Professional Responsibility, will speak Monday afternoon on, "Legal Rights and Professional Responsibility." This will be followed by our Divisional social hour. Plan to attend *both* events.

Wednesday afternoon features an open forum on the development of professional attitudes. And the major effort—five sessions devoted to a symposium on, "New Venture Businesses -- How It's Done," will be presented Monday through Thursday. If you have ever had the itch to start your own business, don't miss these.

There will be more. Check C&EN for complete details.

We hope to see as many of you as possible in Chicago.

Membership

Notice the application form on p. 7. Why not make a few copies, and get some friends to join us? The larger our membership, the more we can do.

—DENNIS CHAMOT

Chemists in the United Kingdom

R. E. Parker, Secretary and Registrar Royal Institute of Chemistry

Before considering how British chemists are organized we must first of all know what we mean by a chemist. We must also know something of the changes in supply and demand that have led to the present organizational structure and to the strains that exist within it.

British degree courses are the shortest in the world and when we in Britain talk of a chemist we normally mean a person who has left secondary school at 18 (with several years of chemistry already behind him), spent 3 years at university and emerged at 21 with a bachelor's degree. A minority follow sandwich courses, where periods at a university or polytechnic alternate with periods of industrial employment for a total of 4 years, and a still smaller number follow part-time courses while in permanent employment. A high proportion of first-degree graduates stay at university for higher degrees (master's degrees or Ph.D.s) and the output of Ph.D.s is currently about 700 a year. The Ph.D. course is invariably 3 years and a Ph.D. graduate thus emerges at age 24.

Not only is Britain unique in having the shortest degree courses, it is also the only country in the Western world where university education is free - at least for those whose parents' income is not too high. The system of maintenance grants to students is now considered a matter of right and, as the proportion of the age group going to university is increasing, higher education is costing more each year out of public funds. There is consequently pressure to make courses even shorter and this has resulted in a recent government decision to introduce the Diploma in Higher Education, to be awarded after a course lasting only 2 years.

As against this, degree courses in other European countries are much longer - 7 years in the Netherlands, for example - and now that Britain has entered the European Common Market there is pressure for British degree courses to be lengthened. One of the chief objectives of the Treaty of Rome, which set up the Common Market in 1957, is the free movement of people and this requires at least some degree of harmonization of qualifications.

The numbers of first-degree chemistry graduates since 1958 went through a maximum in 1969. We know from entry figures that the output of first-degree chemists will continue to decline until at least 1975.

Data on the destinations of first-degree chemistry graduates and the categories of their first employment, and similar information for higher-degree graduates, show some important trends, particularly in relation to industrial employment. Expressed as a proportion of chemistry graduates leaving university, either with a first degree or a higher degree, the total number going into industry in the UK dropped from 44% in 1969 to 30% in 1971 (1129 out of 2570 in 1969 and 751 out of 2526 in 1971). This is a substantial drop and it is even more striking when compared with the analysis of employment of all members of the Royal Institute of Chemistry, which is shown in Table 1. It is probably justifiable to take the RIC membership as representa-

tive of all British chemists and, even though there has been some fall in the number employed in industry, the proportion was still nearly 60% at the beginning of 1973.

The quite sudden drop in the number of industrial vacancies has resulted in a significant amount of unemployment, for the first time since the end of the Second World War. About 250 of the 25,000 RIC members in Britain are currently unemployed and, as only about 50-60% of all British chemists are RIC members, the total number of unemployed chemists is probably at least 500. At around 1% this is substantially less than the overall level of unemployment in the UK, which is about 3%, but it is nevertheless an alarming experience for chemists who, for more than a quarter of a century, have been accustomed to full employment. Moreover, the situation is worse than the figure of 1% of unemployment suggests, for there is also a significant amount of under-employment - i.e., chemists doing jobs that would previously have been done by non-graduate technicians.

Not surprisingly, this situation led to a mood of dissatisfaction with the organizations for chemists as they existed in 1970 and a demand for greatly increased professional representation. At that time the two principal organizations for chemists in the UK, were the Chemical Society and the Royal Institute of Chemistry. The Society was founded in 1841 for the advancement of chemical science and the Institute in 1877 to concern itself with the training of chemists and with their organization as a profession (after unsuccessful attempts to persuade the Society to assume these roles). By 1970 the Society had some 16,000 members and the Institute 27,000, only 4000 of these being common to both organizations. Although the functions of the two bodies were complementary rather than competitive, many people felt that chemists could achieve a much more effective voice in the community if they were represented by one powerful body and in 1972 a scheme of amalgamation was implemented between the Society and the Institute and two smaller societies (the Faraday Society and the Society for Analytical Chemistry). As a result, all members of the participating bodies are now members of the Chemical Society - about 44,000 in all - and 29,000 of these are also members of RIC. The Society and the Institute are still legally independent chartered bodies but the staffs have been amalgamated and the activities rationalized. The Society is responsible for publications and scientific matters generally and is organized on the basis of Divisions, Subject Groups and Local Sections, and the Institute is responsible for the qualifying, examining and professional functions and also has its own local groupings.

This structure is regarded as an interim stage on the way to full amalgamation into one single society, although opinions vary as to the desirable rate of change for the final step. Already, however, the present structure has enabled the RIC to concentrate on its essential function of certifying the competence of its members as practicing chemists and of securing their recognition as a profession. It is not a trade union and

cannot become one and it does not negotiate salaries for individual members (but see below-Ed.). It does, however, work to enhance the status and rewards of the profession as a whole and it is, for example, invariably consulted by government departments on any impending legislation that might affect the work of chemists. Matters undergoing study at the present time for discussion with government departments include safety and health legislation, the transport of dangerous chemicals, salary increments for chemists in the context of the government's income policy, and - most important of all - the possible consequences for British chemists of entry into the Common Market. Indeed, the RIC has taken the initiative in establishing an EEC Chemistry Committee with representatives from all nine countries, which can negotiate directly with the EEC Commission in Brussels.

Because it has always maintained high standards of professional competence and conduct and because it has always taken seriously its charter obligation to have regard to the public interest, the Institute is highly respected by government and by academic and industrial employers and its views are always listened to. In the last few years there has been a very thorough reappraisal of the professional role of the Institute and its activities in the professional sphere are now undergoing considerable expansion. Also, a written code of professional ethics is currently being drawn up.

The high prestige of the Institute has enabled it to exert considerable influence and it has done much to raise the status of the profession. However, the employment situation in recent years has brought about a much more militant mood among chemists and, in response to this, the Institute in conjunction with professional bodies in other fields of science has been responsible for the creation of a professional union - the Association of Professional Scientists and Technologists (APST). This union, now about two years old and independent of the professional institutes that created it, initially restricted its membership to members of RIC or the other professional science institutes. The circumstances resulting from the passing of the Industrial Relations Act, however, have forced a change in this policy and member-

Table 1 - Employment of RIC members at 1 January. Summary.

	1971	1972	1973
Industry - private	55.3%	55.8%	53.8%
Industry - nationalized	5.1	4.9	5.2
Teaching	20.5	20.1	20.1
Central or local government	11.8	15.1	16.3
Consulting firm	1.2	1.2	1.2
Other	2.8	2.9	3.4
	100.0%	100.0%	100.0%

Unemployed (not included in above figures)

0.7	1.1	1.1
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Professionalism and the Chemical Institute of Canada*

**D. M. Wiles, Chairman of the Board of Directors
The Chemical Institute of Canada**

The Chemical Institute of Canada (CIC) is a national non-profit organization with a Federal Charter. It offers Membership to those actively engaged in the practice of chemistry or chemical engineering who meet specific educational or examination requirements, plus relevant career experience. Associate Membership is available to those associated with the practice of chemistry, the chemical sciences and related technologies who do not qualify for the M. C. I. C.

The CIC comprises twelve Subject Divisions and two Constituent Societies, the Canadian Society for Chemical Engineering and the Canadian Society for Chemical and Biochemical Technology. It operates across Canada through Local Sections and Student Chapters at every location of chemical significance; there are approximately 8200 members, including about 1700 who belong to Student Chapters. The CIC has established various course accreditation programs which are applicable across the country, and it provides qualifications criteria in the eight provinces (and two territories) where no legally established qualifying bodies exist. The affairs of the Institute are managed by a Council and a Board of Directors, whose members are elected by Council from their own number¹.

Each of the ten Directors has a specific responsibility for a segment of the overall CIC activities, as indicated by titles such as Treasurer, Director of Scientific Affairs, Director of Awards and National Meetings. Germane to the topic of this paper are many of the activities of the Director of Professional Affairs and the Director of Membership and Services. In the interest of brevity, however, it is possible to discuss only the CIC's "Guidelines for Employment" prepared under the aegis of the first of these portfolios, and efforts to improve pension practices as carried out under the second.

Employer — Employee Relations

In 1970, the CIC Council authorized the Board to undertake an examination of the conditions under which chemists and chemical engineers are employed in Canada. The mandate obviously included the identification of differences between these conditions and those under which they would like to be employed. The CIC Director of Professional Affairs found it helpful to refer to prior activities and experiences of the ACS in the area of professional problems, dating back to 1939². In fact, an early trial model of the CIC guidelines was based on the ACS Guidelines for Employers approved by the ACS Council in September, 1970 (see ref. 2, pp. 79 & 80) and this influence is still evident.

In 1971, the CIC Board decided to enlarge the original scope of the guidelines approach to professional relations, primarily in two ways: (1) to include some aspects of professional ethics — a kind of behavioral code for scientists and engineers; (2) to add to

the basic concepts, some consideration of recruitment practices and income security, etc. Officers of the Canadian Society for Chemical Engineering contributed in a major way along these lines, with some regard for the contents of a relevant A.I.Ch.E. draft document. Comments and suggestions were also received from the executives of two provincial bodies, The Corporation of Professional Chemists of Quebec (CPCQ) and the Association of the Chemical Professional of Ontario (ACPO). The result was a set of "Guidelines pertaining to the Employment of Chemists and Chemical Engineers"; the difference between this title (and the implications regarding the document itself) and a guidelines-for-employers-approach, is intentionally significant. After the "inevitable" preamble, our Guidelines contain sections on Recruitment and Employment, Employment Environment, Professional Development, Resignation and Termination, Income Security, and finally Confidentiality Considerations. Of the 41 specific numbered items, approximately 25 per cent refer to employee obligations. The full text is available from the CIC³.

At this stage, members of the CIC Council and a few personnel officers associated with major employers were asked for their comments. Reactions were generally favorable but the few who suggested strengthening the document (e.g., the addition of a tenure clause) were approximately matched by the number who complained of excessive requirements in some sections of the text. Changes were made as a result of these comments and the Guidelines were published in June, 1972 so that all members of the Institute could express their opinions. A few members have argued in favor of specific changes and a very welcome discussion of these issues is currently taking place on the pages of *Chemistry in Canada*.

Utilization of the Guidelines

The official position of the Institute in publishing its Guidelines is to provide a consensus on conditions under which professional chemists and chemical engineers wish to be employed and to provide a basis for uniformity in such matters across Canada. Individual requirements are considered to be minimum standards in some areas of professional relations; others are useful and attainable goals. This might be thought of as an attempt to put a "gentleman's agreement" in writing. But how will the Guidelines be used?

Important aspects of matters related to labor relations and employment practices fall under provincial jurisdiction. Thus, relations between employers and chemists may be handled by the CIC in the eight provinces where there is no provincial association of chemists*, but by the ACPO and the CPCQ in Ontario and Quebec, respectively. Any

*It is beyond the scope of this article even to summarize the operations of provincial associations of engineers to which chemical engineers belong. These operations do not, however, preclude the use by chemical engineers of CIC Guidelines.

official distribution of Guidelines to employers of chemists in these two provinces is considered to be the sole responsibility of these two groups. The 1963 act of the Ontario Legislature by which the ACPO was formed defines those who may become members but does not restrict the practise of chemistry or chemical engineering in Ontario to those who are members. At its annual meeting in September, 1972, the president of the ACPO urged members to present the CIC Guidelines to their employers⁴. On the other hand, at present and under the terms of the proposed Professional Code (Bill 250) in the province of Quebec, only members of the professional corporation of chemists (and engineers in their corporation) can practise the profession and use the title⁵. Although the CPCQ, which seems likely to become known as the Professional Corporation of Chemists of Quebec, has not announced the distribution of CIC Guidelines to relevant employers in Quebec, individual Institute members in any province are free to use them if they wish.

Now that the CIC Council has adopted a set of employer-employee Guidelines (subject to periodic modification, of course), the implementation of them could involve one of several philosophies. These include a rather militant "trade union" approach of coercive action on the one hand, and the gentleman's agreement approach to eventual uniformity of employment practices, on the other hand. The CIC Council is considering various possibilities at this time but, certainly to the present Board of Directors, the "trade union" approach is anathema, even if it were legally feasible. One can envisage use of the Guidelines literally as that, in discussions between chemists or chemical engineers and their employers. It is anticipated that the Guidelines will provide useful terms of reference for those negotiating for employment, particularly in a "first job" situation. And the Guidelines should help to lead to the eventual reduction of disparities in employment practices between large and small companies and between employers in different parts of Canada. It must be admitted that some CIC members and/or provincial associations of professionals may prefer a more forthright "pressure" approach.

Pension Rights

The provision of pension rights for professional employees is now a common although by no means a universal practice in North America, and the vesting and other terms of pension plans are likely to play an increasingly important role in collective bargaining and related negotiations. Pensions are indeed considered by many to be a form of deferred income in return for services performed by employees for their employer.

In the Guidelines discussed above, desirable objectives are listed in regard to both the level and the vesting of a pension-derived retirement income. It is recognized, however, that the pension rights area is a complicated subject and that the provision of new pension

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Compulsory Licensing of Chemists: How it Can Work For Us*

Louis V. McIntire (Author of "Scientists and Engineers:
The Professionals Who Are Not")

Some of you may remember the story of the rooster who found the basketball. He rolled the ball into the hen house, gathered the hens around it and said, "Ladies, I'm not criticizing the size of your eggs—but I just wanted to show you what is being done."

And that reminds me of another story—this one involving a chemist. It seems that several prominent chemists from Europe, while visiting a large U. S. chemical company, asked to see what they thought would be a landmark—the laboratory where Dr. H. W. Caruthers discovered nylon. Their guide mumbled some excuse and hustled them in another direction. He suddenly realized the laboratory had been converted into a men's room. Now, like the rooster, I'm not prodding you—but you should know *where we stand!*

As you know, President Johnson signed the automobile safety act in 1966. After the ceremony, Senator Ribicoff turned to an aide and asked, "Do you think we've saved any lives?" The aide replied that he did not know, but that this was not the issue. "The issue," he said, "is *who decides* what is safe? Who decides whether these lives should be saved?" With the President's signature, control of safety in automobiles passed from the industry management to the federal government. The federal government now sets the standards for safe automobile design.

The President's signature on another—as yet unwritten piece of legislation, could resolve one of the most important issues facing the country today. That is, the *future of chemists*.

Who decides what standards we must meet to qualify as chemists? Who decides how many individuals can call themselves chemists? Who decides what in the chemical field is in the public interest? Who decides what is good performance for a chemist? Who decides what rewards chemists receive? Who decides what is or is not safe in chemical work? Who decides what is in the best interest of chemistry? And who decides what is in the best interest of chemists?

At the present time these tasks are primarily in the hands of the management of large corporations. However, as in the case of the safety act, a stroke of the pen on appropriate legislation could pass this control from management to the chemists themselves. If chemists are to claim this control over their own profession, the legislation must require licensing. Without it, chemists, like all other professional-technical employees today, are just that—*employees*. Employees who must do exactly what they are told, regardless of the public interest or professional ethics. Otherwise, they face severe reprisals from the management they serve.

As a result of our permitting this policy, our avoiding involvement in controversial issues, and not making effective public presentations of our accomplishments—our public image, never an accurate reflection even at its best, has currently captured an all-time low. Ask yourselves: Does the public think

of chemists in the same terms as the Marcus Welbys, and Perry Masons? Or, are we more likely to be represented as "the mad scientists," intent upon an evil mission of world destruction, hovering over a brew of sinister concoction, creating monsters of technology that cannot be controlled, the Franksteins, the Mr. Hydres, and other test-tube creatures of fiction. *These are our image-makers!* They are the products of the imaginations of writers who know nothing about chemistry or science, yet *we* have made no public effort to change this image.

Why has this happened to us . . . and not to other professions? What is the factor common to them and missing in the profession of chemistry? We have long *assumed* that the difference lies in the fact that we are, by and large, *employees*, and must practice chemistry not as self employed individuals, but as employees. Perhaps . . . but let's look more closely. Physicians and attorneys are more and more becoming employees also. Employees of organizations, hospitals, corporations, the courts and law firms, *without detracting from their traditionally accepted and protected professional status!*

The missing factor which they enjoy and we lack is the mandatory requirement that they must have a license to practice their profession, and the ability of the group to which they belong to take away that license. It is the *license* that ensures high standards of public protection, the license that ensures enforcement of ethical behavior of professionals to each other, the license that controls the supply of practitioners, the license that enables its holders to perform, in the public interest, in *publicly supported* hospitals and courtrooms, in a manner that ensures recognition for individual effort and at a fee that ensures an adequate standard of living.

But most important of all, it is their own self-regulatory body — created by law and with the authority of law — that has the power to withhold or revoke a license if standards are not met and if an unethical practice of a member is validated. *This* is the clout that enforces and makes meaningful the license. In this manner, the license ensures professionalism. Professionalism in terms of performance, therefore the public is protected; professionalism in terms of behavior to each other, therefore the licensees are protected from irresponsible, arbitrary decisions regarding their competence made by one member of their profession who happens to be in management. And finally, professionalism in terms of status, recognition and monetary compensation.

With licensing, the law or the profession would determine the rewards we receive. The *profession* would govern what is equitable treatment. Only when chemists are bonded together by license, intent upon self-regulation, dedicated to common good, allied in favorable public image-making and purposeful in their respect and loyalty to each other, regardless of position in the corporate or government hierarchy, only then can we expect to survive and prosper as a true profession in the classical sense.

Do we *deserve* the licensing legislation and treatment as professionals? I say we *do*. No group which has existed in all the years of recorded history has ever earned or deserved the right to professional treatment more than chemists. Specifically, chemists have discovered the causes of many diseases, including the existence of germs themselves. They *have* discovered many life-saving drugs as well as the techniques for mass-producing and making them available to everyone. However, the public identifies the medical profession with these accomplishments and they, along with corporations, receive the monetary benefits. Chemists have created synthetic materials that have revolutionized our life styles, but corporations receive the recognition and the profits. To the man on the street, *Du Pont*, not Dr. Caruthers, is the inventor of the fiber called nylon.

Furthermore, chemists have discovered and produced vitamins and food supplements which benefit everyone involved, yet everyone involved *except* chemists have built fortunes. In short, chemists have created more, produced more, advanced the cause of civilization more, improved our chances for health and longevity more, and in return have received *less* for their efforts than any other profession on earth!

So we ask: Can licensing be accomplished, implemented and enforced? With proper legislation, it can. Look at those professions that have made licensing work for the profession and its individual members. They have done it with legislation. Also, let us remember that the corporations that employ us are themselves creatures of legislation. As you know, medical doctors, lawyers, dentists and architects are regulated with substantial legislation and thereby are protected by it. In contrast, *we are exempt even from the Fair Wage and Standards Act that labor enjoys!* The situation, when you think of it, is incredible.

It is our responsibility to ask for, push for, demand the legislation we need. Without it, *accepted practice becomes law*. In our case, our employers, by accepted practice and in the absence of legislation, have complete control over our professional lives. To assume that the companies which employ us, acting out of benevolence for our human welfare and in the interest of our professional status, will take it upon themselves to create a fair and equitable climate for our benefit, and to do this in the absence of protection guaranteed to us by law, is to assume a fantasy. And to ignore history.

More likely, we find ourselves subjected to inequitable salary treatment, arbitrary judgments of our competence, dismissal without cause, mass lay-offs, little or no recognition for our accomplishments, and forced early retirement. Just as surely as it took legislation to insure that automobiles would be made safer, it is going to take legislation to insure equity for us!

What *type* of legislation will work for us? I feel that a national effort by national chemical societies would produce better legislation and in a shorter time, than a state by state

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1. McCarry, *Citizen Nader*, New American Library, page 75.

The Chemist - Unions: What Lies Ahead?

Harold J. Ammond, Executive Secretary

Association of Scientists and Professional Engineering Personnel

The Association of Scientists and Professional Engineering Personnel represents the research, development and design engineers and scientists at RCA in the Camden, New Jersey, area. This Association (or union) was certified by the National Labor Relations Board in 1945 as the duly authorized collective bargaining representative for the professional community at RCA. The Association negotiated a contract with RCA covering salaries, pension, fringe benefits and, in fact, all terms and conditions of employment. This includes a formal merit review system, a layoff and rehiring procedure, a severance pay program, as well as an arbitration procedure in the event a dispute should arise between the parties. This contract has been re-negotiated some 17 times since 1945.

Our Association is not unique within industry; similar organizations are to be found at Boeing, Lockheed, McDonnell Douglas, Westinghouse and among the professional community employed by the City of Los Angeles. These organizations (or unions) founded the Council of Engineers and Scientists Organizations (CESO) in 1969. The Council is a federation of organizations involved with the economic welfare of its members.

Many professionals who are members of Societies like the American Chemical Society have turned to the Society leaders asking or demanding that the Society take an active role in the employer-employee relationship and the economic welfare of the membership of the Society.

To all who survey the current employment scene on the professional level, it becomes increasingly apparent that the engineering profession is coming apart at the seams. Deteriorating political and economic conditions are undermining the formerly secure engineering picture, and extensive federally induced economic cutbacks have created a series of bleak developments harmful to the job security of engineers throughout the United States.

Unfortunately, restricting economic pressures have not only brought about an undercurrent of desperation in a large segment of the engineering industry but the blame for this situation is being misplaced and lodged on the shoulders of professional or technical societies. Engineers are suddenly raising probing questions regarding the ability of their respective professional societies to constructively alter the present assault on their economic security. One has only to attend a meeting of the IEEE or the ASME to note the preoccupation with exigency and disillusionment of the membership. Additionally, many societies have been forced to cut back on their activities because large numbers of engineers have refused to pay their annual dues. The Engineers Joint Council was forced to eliminate publication of its magazine, *The Engineer*, after sustaining a serious loss of revenue from dues.

Local, state and national societies are undergoing an internal upheaval and facing irreparable cleavage fostered by growing dissatisfaction among their members, but unless the direction of this attack is strikingly reversed, the same professionals will face an even greater debility in their security status.

The objective of professional and technical societies is to advance knowledge in the various areas of science and engineering and to recognize the contributions that individuals make to the state of the art. The general membership of societies is normally made up of owners, managers, officials of companies involved in a particular area of engineering, consultants who work in that field and engineers involved in the various sectors of the field whether it be aerospace, electronic or mechanical engineering. In some cases, the societies also open their membership to students. Obviously then, any given society may at some time alienate one segment of its members if it takes a position which is considered objectionable by another group of members. It is inconceivable that any given professional society could become involved in a higher wage issue without incurring the dissatisfaction of its managerial or owner representative members, and without losing financial and active support from this very influential group. One has only to examine the Board of Directors of the Engineers Joint Council to note the influential representatives from the management community (Vice Presidents from IT & T, United Aircraft and Boeing) serving on that Board; as well as those who head the important committees within any society.

Moreover, engineers are badly fractionalized from a political point of view. Nowhere on local, state or federal levels has it been found that a professional or technical society or group of engineers has affected the election of any candidate for political office.

Very limited representation by sympathetic legislators has resulted in a lack of progress on local, state or federal levels. No major progress can be reported on such problems as portable pensions or for tax relief for retraining costs. However, it is encouraging to note the merging of the Institute of Electronic and Electrical Engineers (IEEE) and The National Society of Professional Engineers (NSPE) in the area of research and lobbying activities in Washington. Nevertheless, these two groups are but a fraction of the entire engineering and scientific population throughout the United States. A more potent force would be established if a single political representative was supported by every professional and technical society. Currently each organization is too weak in numbers to effect any type of significant change for the total profession. While complete unanimity of opinion cannot be expected, a common denominator for many issues must be found in order to effect constructive change beneficial to the engineering profession.

Professional and technical societies are being pressured by their membership to become involved in establishing wage standards, layoff procedures, severance pay programs and other economic issues. Demanding the establishment by professional or technical societies of codes of ethics, salary standards, hiring or layoff procedures or severance programs is a meaningless gesture simply because these standards are unenforceable and unilaterally established. Such action can be likened to passing a law without having a police force or court system for enforcement purposes. If a salary standard was established

as a simple guideline for both industry and working engineers, and its unenforceability is recognized, then no harm is done. As a point of law however, should any society or any local chapter of a society seek to enforce the standard they would subsequently be in violation of either a federal or state law because it is illegal to assume representation of a group of employees, unless legal recognition has been obtained by the society as their duly authorized representative. Existing today are laws on both the federal and state levels for those seeking to obtain legal recognition. Recognition may be granted voluntarily by a company, or by secret election conducted through state or federal agencies whose responsibility it is to certify duly authorized representative, of employees. If a society seeks enforcement of its standards without proper certification, the filing of an unfair labor practice charge against the society and its leadership by management may result. If a successful resolution to the problems confronting the vast majority of employed engineers in the United States is not possible in direct meetings by the individual and his management then other legal courses of action must be explored. Any individual or group of individuals may seek out an attorney in their community who specializes in labor relations, or go directly to the National Labor Relations Board itself for advice and information regarding certification as representatives. Only then can industrially employed engineers and scientists seek a resolution to the problems confronting them and their profession today. The professional and technical society has a very important role to play in the life of an engineer and it should be supported with dues and participation. But these same organizations should not be used as a scapegoat because of their inability to solve problems which in effect were never their responsibility to resolve originally.

Once the engineer has accepted the role of his society, he may begin to venture further into the possibility of joining with or becoming a legally certified unit which would provide him with the proper legal tools to tip the economic and job scales in his favor.

The chemist as well as a vast majority of the professional community in industry found little or no reason to establish a formal organization (or union) for more than 20 years. During the period of 1950 to 1970 few, if any, petitions were filed with the National Labor Relations Board by any group seeking to represent professionals in industry. Would this then indicate that there was stability within the professional community?

The rather hard facts were these — an individual would take a position with a firm; if after a few months or a year or so, he or she found that the employer's programs in such areas of a fair merit review system did not work, or that no cost of living increases were forthcoming, or that fringe benefits program, such as pensions and hospital plans, left a lot to be desired, we had what I call a "one man strike." The professional contacted a placement specialist, set his new objectives (usually on salary) and left his or her place of employment to gain "Professional Status."

First, let us analyze what the individual did! He took the most un-professional course

of action possible by calling a one man strike, leaving the problems behind so that his replacement would find the same problems which forced him to move on.

Industry meetings are held to discuss such items as salaries, working conditions and fringe benefit programs. These meetings were held and are held today to be certain that no participating company within that industry gets too far out of line. Thus, the individual in the past gained little by such "strikes" against the system.

In the late 60's, we all saw a rapid change in the situation when there were more chemists than jobs. New problems then arose; for example, the inequities of various company layoff procedures; in some cases, the older and more costly chemists were the first to be laid off — loss of pensions, scheduled overtime without pay — this is possible because you are an exempt employee, that is, exempt from the protection of the law giving you a legal right to overtime compensation, the Fair Labor Standards Act.

The chemist, as well as, many other "professionals" in industry will be forced to recognize that the problems he faces cannot be solved by a "wishbone"; they can and will be solved only when he gets a "backbone"!

Under existing law, what can the chemist do should he or she feel that an effective means must be sought to correct a situation at his or her place of employment?

Now given whatever set of circumstances are present, one or more individuals determine that the way to correct the problem is to establish an association, guild or a union.

Of major concern is the description of what is called the "appropriate unit" for the purpose of collective bargaining under the National Labor Relations Act. A supervisor within the meaning of the National Labor Relations Act is an individual who has the authority to hire, discharge, discipline, grant merit increases and, in general, affect the terms and conditions of employment. Should the company employ not only chemists but computer operators who have degrees, engineers or scientists, these individuals would probably be considered part of an appropriate unit for the purpose of collective bargaining.

Other factors which a group must consider is, if the company has more than one plant in the immediate area, would the National Labor Relations Board hold that all professional employees in the employ of the company in that area be considered part of the appropriate unit.

The first of four stages is that it is neces-

Licensing — from p. 4

sary by law for the petitioning group to have signature of at least 30% of the appropriate unit signifying they wish representation by the union before filing a petition with the National Labor Relations Board; and in that petition, it is necessary to tell the National Labor Relations Board whom you are seeking to represent and the number of employees in the proposed bargaining unit.

The second stage is the actual filing of the petition for a consent election with the National Labor Relations Board. Informal and formal hearings are held by the National Labor Relations Board. It is possible to reach an agreement on the appropriate unit with the employer; or the National Labor Relations Board will order an election in what has been determined to be the appropriate unit for the purpose of collective bargaining.

The third stage is to have a secret ballot election of the individuals within the appropriate bargaining unit and to have the majority of those voting to vote in favor of the petitioning organization.

The fourth and final stage is to negotiate a legal binding contract covering all conditions and terms of employment.

Concurrent with the four stages is the need for the group to structure its own organization. Regarding structure, in general the professional community has not responded to the overtures of the American labor movement. A number of unions within the AFL-CIO have changed their names to include the word "professional" — the Office Workers International is now called the Office and Professional Employees International Union; the American Federation of Technical Engineers is now called the International Federation of Professional and Technical Engineers. However, the groups I've mentioned as well as others within the trade union movement present the problem of the professional community becoming second class citizens in someone else's union!

The successful structure to date has been an independent self-governing organization, an organization run by and for the particular group dealing with the employer.

The Association of Scientists and Professional Engineering Personnel for instance has no compulsory membership clause in its contract with RCA yet more than 85% of the professional community are active members. Members of ASPEP support their Association with dues which are 8/10 of 1% and the average member pays more than \$160.00 annually. From recent Congressional and writers receive royalties. Actors receive a percentage of the gross for their films. Architects have a special situation. Legislation guarantees no competitive bidding among architects; their fee is a fixed percentage of the cost of the structure; the plans cannot be used again without an additional fee. (Legislation can work wonders!)

4) Licensing boards: legislation must call for creation of licensing boards, backed by law, charged with the responsibility and authority for issuing and revoking licenses. These boards would be the key to making the legislation work. The boards would be composed of chemists and elected by chemists and would exist at local, state and national levels. If someone has a complaint against a chemist, or a chemist a complaint against his management, the board would hear the evidence from both sides and render a decision. In the most extreme cases, the board could revoke the license, thereby making it illegal for the offender to work as a chemist, supervise or manage chemists. The mere existence of such a board and the right to a hearing would act as a deterrent to arbitrary judgments by anyone, because

Senate hearings, we learn that the average length of employment for employed engineers and scientists is 6 years; our average is 15 years.

Within the last three years, there has been a marked increase by the professional community in establishing new organizations. My office receives at least one call a week from an individual or a committee seeking assistance or guidance in how to establish a union at their place of employment. In some cases, the individual is not able to create a committee of his fellow employees and a program is not initiated; in some cases, a committee is formed but does not reach a point of sufficient interest to allow the group to file for an election. This is the case, for example, at the Allied Chemical facilities in Morristown, New Jersey. Other groups file for an election and do not receive a majority vote as was our experience at Lockheed Electronic Company in Plainfield, New Jersey. Other groups vote in the majority as did the Worthington CEI in Buffalo, New York, a professional and technical community, and they are now in the process of negotiating a contract.

If the employed chemist is interested in solving problems such as, salary, merit review, problem of professional reduction in staff, pension, hospitalization, and is interested in establishing effective two way communication with his employer, he or she will participate in an organization similar to ASPEP which I have briefly described. Don't look for others to solve your problems. At a recent Senate hearing, Senator Jacob Javits said to the professional community, "Do not sit around doing your knitting, waiting for us, use your bargaining power; don't rely solely on government to solve the pension problem."

My answer to your question, "What lies ahead for the chemist?" can only be determined by chemists. We have had many chemists as well as other employed professionals seriously and adversely affected in the past few years. Will the chemist continue to be affected by the law of supply and demand? Today we see a major effort to fill the schools with freshmen to take care of a projected shortage in the late 70's. Few are interested in those factors which have caused thousands to leave their profession. I can only encourage a complete investigation of the various options open to employed professionals.

Will we learn from the past — only the future will tell.

now both the chemist and the manager have some fear of loss.

Thus, we are brought to the conclusion that licensing can work for us by giving us control: control of the standards required to be called a chemist; control of the rewards we receive for our efforts; control over the number of chemists; control of our public image; control to act in the public interest; control of the future of chemistry; control over the future of chemists. With this control, we can build a more productive and rewarding profession.

Now it is time for us to make a hard decision regarding our own future. Are we ready to assume the authority and responsibility for ourselves as bona-fide professionals? Do we want to continue to be employees, or do we want to be professionals who are employed?

Only when chemistry, the public interest and our own unshakable loyalty to fellow chemists are our most important considerations, can we find the will to demand and push through legislation which will grant us a meaningful system of licensing, the cornerstone of a profession.

British Chemists (cont'd.)—

ship is now open to all qualified scientists — and, indeed, to non-graduate scientists “who have gained professional status through experience and seniority.” There is a parallel body for professional engineers — the United Kingdom Association of Professional Engineers (UKAPE) — and the two Associations frequently collaborate.

The struggle of APST for viability is an uphill one, particularly in the face of competition from those established manual unions with ambitions to recruit at professional level, and its membership is still only about 1000. (UKAPE, which was formed in 1969, has about 8000 members.) It is too early to say whether it will, in fact, become viable and a force in the affairs of chemists in the U.K. but it is certainly striving very hard and it has had some notable successes already — including the signing of recognition agreements with a number of large companies and the negotiating of considerably improved severance terms for members made redundant. Its main competitor, however, claims a membership of 250,000 and, while many of us do not believe that a large heterogeneous body of this kind can in the long term properly represent the interests of professional scientists, it is results that chemists want and they are not inclined to be patient while the present low level of employment persists.

Canadian Chemists (cont'd.)—

plans (where these do not exist) and the upgrading of existing plans are both likely to be very expensive⁶. The CIC Director of Membership and Services has addressed himself to the problem of how to obtain improved pensions rights for Institute members in ways that are both reasonable and practicable.

Recent legislation controlling private pension plans has been enacted in several of the provinces — Ontario (1965), Quebec (1966), Alberta (1967), Saskatchewan (1968). The principles are essentially uniform in the four provincial acts and in the Federal Government's Pension Benefits Standards Act (1967) which applies to Government of Canada employees. It is expected that the other provinces will follow this trend. Provincial supervision is commendable but there are deficiencies in vesting and portability which the CIC would like to have reduced. At present, it is generally required in provincial rules that a pension plan member who leaves employment after attaining age 45 and completing 10 years of service shall be entitled to a deferred pension which includes both employee and employer contributions. Such a requirement does not provide adequate protection for those who choose to or are forced to change employers after less than ten years of continuous service.

The Pension Commission of Ontario recently asked for comments from interested parties on the suggestion that the Ontario Pension Benefits Act be amended to require preservation of an employee's earned pension at age 40 subject to 5 years of service. On behalf of the Institute, the CIC Director of Membership and Services responded in support of the proposed amendment⁷. He pointed out to the Commission, however, that the significance of this improvement in vesting requirements could vary from plan to plan because the provincial act does not regulate the magnitude or rate of the employer contributions relative to those of the employee. It remains to be seen what changes will be made in the Ontario regulations.

Even if improvements eventually accrue to CIC members employed in Ontario, the Institute is most anxious to help obtain equivalent benefits for its members in the other provinces. Thus, the Director of Membership and Services has obtained CIC Board

approval of a submission on pension rights to be sent to all provincial governments. In summary, the CIC urges all governments to recognize the need for better vesting requirements of pensions (as discussed above) but, in addition, the need for true portability.

The CIC is conscious of its limitations in persuading governments to make significant changes in legislation, which are likely to require complex inter-governmental arrangements, solely at the request of 6500 chemists and chemical engineers. We have therefore solicited the support of the societies affiliated with SCITEC, the Association of the Scientific, Engineering and Technological Community of Canada. It is obvious that the likelihood of favorable governmental response would be greatly enhanced if the 45,000 members of SCITEC were to endorse the CIC brief on pension rights.

References

1. Copies of the CIC Charter and By-Laws, the Guideline discussed in this article, and other information relevant to Institute operations may be obtained by writing to Mr. T. H. G. Michael, FCIC, General Manager, The Chemical Institute of Canada, 151 Slater Street, Suite 906, Ottawa, Ontario, K1P 5H3.
2. *C & EN*, May 10, p. 79 (1971).
3. *Chemistry in Canada*, 24, 11 (1972).
4. “Legislation for Professionals in Ontario”, D. W. Emmerson, *Chemistry in Canada*, 25, 23, January (1973).
5. “Legislation for Professionals in Quebec”, D. W. Emmerson, *Chemistry in Canada*, 24, 28, December (1972).
6. “That Ever Expanding Pension Balloon”, *Fortune*, 100 October (1971).
7. *Chemistry in Canada*, 25, 19, February (1973).

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APPLICATION FORM — DPR-ACS

I am a member of the American Chemical Society. Please enroll me as a member of the Division of Professional Relations. Enclosed is \$5* to cover dues through December 31, 1973.

*Make checks payable to DPR-ACS.

Signature _____

Printed Name _____
Last First

Address _____

Mail to: DR. N. J. PINKOWSKI, Sec'y.
Division of Professional Relations
American Chemical Society
P. O. Box 286
Rahway, New Jersey 07065

Summary of DPR Membership Questionnaire Results

1a. Are you familiar with the ACS Guidelines for Employers?

Yes: 89% No: 9%

1b. If yes, do you think they are useful?

Yes: 67% No: 20%

1c. The Council Committee on Professional Relations occasionally publishes a list of companies whose layoffs they investigated, along with a simple ruling of "compliance" or "non-compliance" with the Guidelines in each case. Are you satisfied with this procedure?

Yes: 9% No: 77%

1d. If not, what other information should be published?

58% wanted all the details, "the truth," full particulars. Other: degree of compliance; opinions of laid off employees; regular review of companies

1e. Should the companies be rated on a percentage compliance basis?

Yes: 59% No: 34%

1f. DPR is working on revised Guidelines. What would you like to see in them that is missing in the present set?

Enforcement, "teeth" (most common)
Right of recall before new hiring
Earlier vesting
Maternity leave, women's rights
Forced early retirement
"Take out weasel words: consistent with organizational needs"
Minimum Standards
No termination after 5 years

2a. Current thinking at C&EN is to regard it as primarily a news magazine, reporting on the chemical world at large. Do you think this is the proper policy for C&EN?

Yes: 44% No: 51%

2b. What should be the major editorial emphasis?

45% indicated "member concerns; professional status; professionalism; wel-

fare, concerns and status of chemists" Another 11% indicated "Society news; official ACS organ; official ACS spokesman and advocate"

3a. Should DPR take official stands on the above issues?

Yes: 88% No: 5%

3b. Should the Division endorse national ACS candidates?

Yes: 49% No: 47%

3c. Should form letters in support of government legislation affecting chemists be made available to ACS members?

Yes: 72% No: 25%

Note: Many of those that answered "no" indicated that they favored providing information and guidance to the membership in these areas, but felt that form letters, *per se*, were not very effective.

Total return, two months after mailing: 27%.

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