

# George Trevor Cupples Hamilton (1922–1983)

President of the Ulster Medical Society

1976–77

## Presidential Opening Address Ulster Medical Society

### DOCTOR AT WORK

TO BE elected President of this august Society is a very great honour. However it also carries certain responsibilities and duties. The first hurdle and probably the most daunting is the presentation of a presidential address. On examining the list of presidents who have held office since I first became a member of the Ulster Medical Society thirty-one years ago I discovered, as I anticipated, that they represented the main branches of our profession. There were nine surgeons, six physicians, six general practitioners, four obstetricians, three pathologists, two medical administrators and one medically qualified dentist. On reading through their presidential addresses I found that thirteen had dealt with historical subjects, seventeen had a medical subject matter of which the orator had special knowledge, and one enterprising general practitioner entertained his audience by having an evening of Gilbert and Sullivan opera during which he sang. I assure you I do not intend to sing, but instead I will talk about one of the smaller branches of the tree of medical knowledge. Though basically a general practitioner I spend a large proportion of my working week providing medical services for industrial organisations, and therefore my talk tonight is on some aspects of the practice of Occupational Medicine, hence the title “Doctor at Work”.

I am not by any means the first president to provide medical services to industrial organisations. John S. Morrow, President 1914–15, was Medical Referee to Messrs. Harland and Wolff Ltd. at a time when the shipyard was booming. “Johnnie” Morrow was also Lord Pirrie’s general practitioner, and travelled with him on his overseas journeys in a way now reserved for the personal physicians of American presidents and oil sheiks. Foster Coates, President 1935–36, as well as being a physician to the Royal Victoria Hospital, was Medical Officer for the Northern Ireland Road Transport Board and the Great Northern Railway. My very first step in occupational medicine was in the late 1940’s when I acted as Deputy Medical Officer for those companies while he was on holiday. William Dickie, President 1943–44, was Medical Officer to the old Midland Railway and the Belfast Om-



nibus Company. He was also of interest to me as he was the general practitioner who presided at my birth. Another general practitioner, Kirk Forsythe, President 1970–71, did medical examinations for the Electricity Board for Northern Ireland. None of these referred to occupational medicine in their presidential addresses, in fact only one president has done so. F. M. B. Allen, President 1955–56 and first Professor of Child Health at Queen’s University, Belfast, entitled his Address “The Tragedy of Man-made Disease” and referred briefly to the practice of medicine in an industrial setting.

Involvement of doctors with industry commenced late on in the Industrial Revolution when the conscience of enlightened employers was awakened by the high morbidity and mortality often suffered by their employees. Doctors were primarily concerned in those days with the treatment of the illnesses of workers, and only very much later came to deal with the medical dangers of industrial processes and of the industrial environment.

Companies with far flung interests have always been in the forefront of the provision of medical services for their workers. Thus the East India Company

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first provided medical care for its employees in the Indian sub-continent as long ago as 1764, and had quite a highly developed medical service at its London Establishment in the 1820's (Froggatt 1968). The doctors employed in India later formed the nucleus of the Indian Medical Service, the largest state-run medical organisation in the world prior to the British National Health Service.

Though the Industrial Revolution came later to Ireland than to England and its effects were mostly felt in the Province of Ulster, records exist quite early of doctors working for factories. Thus it is recorded in the evidence given to the Royal Commission on Employment of Children in Factories (1833), and I quote regarding Mulholland's Mills, Belfast, "This is a very favourable specimen of the lately erected mills in point of internal arrangement and ventilation and arrangements for cleanliness. A medical gentleman visits the works at the instance of the Proprietors twice a week". A Dr. Wilson was employed at Stevenson's Mill, Belfast, and a Mr. Shaw, the medical practitioner at Killyleagh was paid by the local company to give "Professional Services for all the workers, whatever their complaint". (Smiley 1971). In the latter half of the nineteenth and the first half of the twentieth century, central and local government showed little interest in the organisation of industry and even less in the health and safety of the worker. Legislation was introduced over the years to decrease gradually the average working hours throughout industry, and to improve working conditions, but enforcement was never rigorous. Successive Factory Acts (from 1844 onwards) did provide for a minimum of medical supervision mostly of young persons and of a few designated dangerous trades, but the scale of fees recommended for doctors was so meagre that it did not encourage these Appointed Factory Doctors to carry out their duties in other than a perfunctory manner.

In the United Kingdom in 1948 the advent of the National Health Service greatly changed the pattern of work done for industry by our profession. Because comprehensive general practitioner and hospital based consultant services were introduced, employers who had previously provided or subsidised medical care for their employees, and sometimes also for their employees' dependants, no longer had to do so. This provision of medical care for the whole population has meant that those doctors who were still employed by industry could concentrate more on the problems of health and safety in the working environment.

What then are the duties of an occupational health doctor in the United Kingdom in the 1970's? I can illustrate this best by describing to you briefly

what I did for two of the organisations which employ our partnership to provide them with an occupational health service.

The first is the passenger transport industry of Northern Ireland. This is a widely scattered organisation and consists of three main sections, Northern Ireland Railways, Citybus and Ulsterbus (Table I).

	Total Personnel	Drivers	Vehicles	Journeys (Millions) Per Annum
N.I. Railways	1,100	110	36 trains	6
Citybus	950	530	300 buses	58
Ulsterbuses	2,100	1,120	900 buses	85
	4,150	1,760	1,236	149

1. Northern Ireland Railways, who have just completed a modernisation scheme costing £4,000,000 with the opening of a new central station at May's Fields, and with the shut down of two stations at Great Victoria Street and Queen's Quay which had served travellers for more than a century. The railways have a staff of 1,100 of whom just over 100 are drivers. Thirty-six passenger trains are in daily operation. This service carried 6,000,000 passenger units in the year 1975.

2. Citybus. This Company was formerly the Belfast Corporation Transport Department, and employs a staff of 950 of whom 530 are drivers who operate a fleet of 300 red buses. It supplied 58,000,000 passenger journeys in the year 1975, in and close to the city of Belfast.

3. Ulsterbus, which provides passenger transport services to the Belfast suburbs and the rest of the Province outside Belfast, cross-border services to the Republic, some tours to Eire, Scotland and England and a bus service to London via Stranraer. There is a staff of 2,100 of whom 1,120 are drivers and a fleet of 900 blue buses which provided at the last count for 85,000,000 passenger journeys in a year.

In detailing the main duties which we undertake as medical officers for the transport companies, I will first deal with drivers who constitute more than 40 per cent of the work force and form a special category. Here the medical standards required on entry

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are higher than for the rest of those employed. There is a rejection rate of nearly 10 per cent among those applying to be drivers of public service vehicles. The main causes of failure to pass the pre-entry medical examination include poor vision, especially those with an amblyopic eye, poor colour discrimination, hearing defeats, gross obesity, a history of peptic ulceration, epilepsy or severe asthma. Here I would like to commend to interested members of the audience the book "Medical Aspects of Fitness to Drive" published by the Medical Commission on Accident Prevention, and edited by Dr. Andrew Raffle, Chief Medical Officer to London Transport. This book should be compulsory reading for all who give medical advice to those who drive or contemplate driving. Standards are higher for professional drivers than for those who only drive for pleasure or to get to and from work.

It is also part of my job to examine personnel after absence from work through sickness or accident. An absent driver can cost a bus company more than £50 per week in sickness benefit alone, and even more where his shifts have to be worked as overtime by other drivers. It is important to make every effort to ensure that staff are not away from work longer than is necessary for them to be restored to a reasonable state of fitness. Most transport staff are conscientious and do not attempt to stay off longer than is necessary, but our records show that a small minority do have excessive absences which seem not always to be of a legitimate nature. Absentees have been seen painting their houses, servicing cars, or looking after their families during their wives' hospitalisation or even when she has been on holiday. While on occasion there may be a valid reason for this type of absence, it is amazing how rapidly a return to work is made when paint under the finger nails or oil impregnated hands are observed, and are seen to be observed, during the course of a medical examination. On the other hand in quite a few instances discussion with an employee about the reason for his absence may bring to light circumstances which are not known to his employers or even to his own general practitioner. In such cases the examining occupational physician can frequently give advice to hasten recovery. In Belfast since 1969 when "The Troubles" began, a common reason for absence among drivers is what is labelled "Nervous Debility". On many occasions this is due to a driver having been hi-jacked. Usually when this happens he is robbed of his takings and occasionally he is also physically assaulted. A small number of drivers have even been forced at gunpoint to carry bombs in their buses to places where an explosion can cause maximum destruction. Such experiences are most traumatic mentally but it

is amazing how resilient people can be to such dreadful happenings. In Citybus it has been found that two-thirds of all drivers who are hi-jacked report for duty within the next day or two, and do not have a higher than normal accident or absence experience in ensuing months. The remaining one-third of drivers report sick and nearly always, as I have said, produce a medical certificate which gives the diagnosis as "Nervous Debility". It is essential that drivers off with this type of illness be examined as soon as possible and at the very latest within a couple of weeks of the incident which has caused their absence. They need time off to recover but not too long or they will never go back to the job.

Sympathetic handling of the medical situation combined with strong reassurance that they will quickly be fully restored to normal health works very well and I have found that more than 95 per cent of these drivers return to work within a month, and subsequently do not show an excessive absence experience. These men do well with reassurance and mild tranquillisers but they must, because of the nature of their work, be completely off tranquillisers before they can be allowed to resume professional driving. Only a very few fail to go back to their former job and investigation suggests that some of these have been political activists.

When examining drivers who are absent from work my normal objective is to encourage them to resume work as soon as they are fit, but in a few instances the nature of their incapacity can make this impossible. The Medical Commission on Accident Prevention has advised that no professional driver should resume this occupation if he has had a coronary thrombosis or if examination shows definite E.C.G. stigmata of coronary artery ischemic degeneration. A similar prohibition is necessary for those with progressive neurological disorders such as Parkinson's disease or multiple sclerosis.

Other absolute bars to professional driving include diabetes mellitus, requiring insulin for its control, severe deafness or the development of cataract. Within the limits of a transport organisation it can be difficult to get alternative employment for those who become medically unfit to drive. Many drivers are educationally unsuitable for clerical occupations. Some can be used for jobs such as token clerks, bus cleaners or security guards but a number unfortunately have to be prematurely retired. It is also part of our job to re-examine operational staff at regular intervals to make sure that their health has not deteriorated, even though they have had no sickness absence. The dropout among those not known to have had a serious illness when routinely re-examined is very small. Only

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about five a year, out of a driving staff of 1,760, fail in these circumstances to meet the standards required to continue to hold a Public Service Vehicle licence.

While up to now I have talked mainly about drivers, it must be remembered that these comprise fewer than half of the total number employed in the transport industry. All vehicles have to be serviced, bus depots and workshops are necessary and in the case of the railways, the track, and signalling system and the stations, have to be maintained. We undertake the medical oversight of a dozen workshops and an engineering organisation employing several hundred persons, and a maintenance section to keep the stations, bus depots and other buildings in repair.

The criteria for acceptance for those on clerical and administrative duties in the transport industry are that the candidate should have a normal expectation of living to retiring age without experiencing excessive sickness absence. Few candidates are rejected in these categories.

Some other grades of employee need special medical attributes. Railway signalmen and train conductors require good vision, colour discrimination and hearing. Those employed in precision engineering must have good binocular vision. It is also essential that workers who are at special risk of eye injury should have two good seeing eyes, for example, blacksmiths and those engaged in the cutting and buffing of metal. In addition to the examination of personnel before entry and during their careers, it is also necessary to give advice on such diverse subjects as the organisation of a first-aid service throughout the industry, to monitor and attempt to reduce the hazards to health and safety of the many different occupations, and to examine those at special risk, such as lead battery workers, those exposed to asbestos, to mineral oils and other hazards.

The physical and mental stresses of management have also to be taken into consideration and it is the policy of the transport industry to offer a comprehensive screening medical examination annually to senior managerial staff. The staff themselves are very keen on this facility and it has yielded some interesting medical facts. I feel also that the opportunity to talk to a doctor other than one's own general practitioner is quite a good thing where an industry can afford to make this service available. It is also a two-way traffic, not only from the medical facts which are gleaned, but also from the close personal contact made by me with senior management. This helps me greatly in my approach to the job of medical advisor as I get a better insight into the working of the organisation at top level and close co-operation with senior staff improves my efficiency as medical officer to the group.

The second industry with which I wish to deal and for which our medical partnership provides a service, is the textile machinery manufacturing firm of James Mackie & Sons Ltd., situated on the Springfield Road about half a mile from the Royal Victoria Hospital. This firm has been in existence for more than 100 years and is one of the largest privately owned businesses in the United Kingdom. There is a labour force of 4,500 of whom just fewer than 1,000 are administrative and clerical staff, while there are rather more than 3,500 persons engaged in machine manufacture. There are two separate main factory blocks, one where most of the components of the machines are made, and the other where they are assembled, tested and adjusted before being taken down, packed and despatched to the far ends of the earth. When they reach their destinations the machines are re-assembled by erectors sent out from Belfast by the firm. While some of the machines are relatively small others are large and complex and some single machines contain more than 20,000 individual parts.

The firm originally made machinery for the linen trade but later expanded into machines for jute spinning and weaving. Recently machines have been built for the extrusion of polypropylene and for the twisting and weaving of this nearly indestructible fibre. Machinery is also made for the weaving of other synthetics such as nylon, especially the fibres used in synthetic tufted carpet making. The processes involved in the manufacture of these machines are such that the workers are subject to fairly frequent minor and occasionally to major injuries. The average degree of severity of injury in Mackies is much less than in a shipyard where heavier components are used, but is rather more severe than is experienced in the aircraft manufacturing industry.

My first task as Occupational Health Doctor in Mackies is to organise an efficient casualty service. We have a medical centre at the main works and small first-aid departments in other subsidiary works units. We have an establishment of five Industrial Nursing Sisters (in industry all S.R.N.'s have the title of sister). They are normally the persons of first contact when any minor or major injury or illness occurs to an employee. The sisters quickly and efficiently cope with a heavy work load and exercise much judgement and skill in dealing with many of the medical problems of the work force. The annual attendance rate at the medical centre and first-aid rooms was 12.2 per employee per year in 1975. This is not as heavy a workload as might at first appear because a simple cut on a finger usually requires several attendances for re-dressing. If the nature of the injury or disease is more severe the nursing sister will refer the patient, usually

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to the works medical officer, or in his absence to the casualty service of a hospital, normally the Royal Victoria Hospital because of its nearness to the main works, or to the patient's own general practitioner if this is appropriate. If the nursing sister has found it necessary to refer a patient to hospital the works doctor always sees this patient at the firm's medical centre at a later date to ensure that treatment is continuing satisfactorily, and also as a check that the hospital is not being asked to undertake tasks within the firm's medical competence. This sorting operation carried out by our nursing sisters requires considerable skill and experience and we in Mackies have always been fortunate to have had dedicated nursing staff who have done this work exceptionally well.

Industrial nursing can at times be monotonous with only a series of minor cuts or headaches to treat but there always lurks the possibility of having to deal with a major emergency, e.g., we have had to send for the cardiac ambulance on average five times per year during the past seven years. Our nursing sisters do a variety of jobs. Among others they continue treatment ordered by the work's medical officers, by employees' general practitioners, or by hospitals. They also assist the doctors in history taking, urine and eyesight testing, and other preliminaries of medical examination. In addition we have a number of trained first-aiders who man first-aid posts in branches of the works where small numbers would not warrant the employment of a nursing sister.

As well as organising a casualty service we carry out pre-entry examinations, as in the transport industry, and examine employees after absence from work through illness or injury. We do not examine all prospective employees. This would not be a practical proposition because of the large numbers involved and the high rate of labour turnover in manufacturing industry. Prospective employees are interviewed at the Personnel Department. If considered suitably qualified from an engineering point of view they complete a medical questionnaire. If any history of serious illness or disabling accident is revealed they are referred to the medical department for a final decision as to their suitability for employment.

Certain special categories of employee are however routinely examined before acceptance for employment: —All young persons under the age of eighteen years. This is still a requirement of the Factory Acts, still the operative legislation in Northern Ireland, though we are awaiting the introduction of the Northern Ireland equivalent of the much more widely ranging "Health and Safety at Work, etc. Act of 1974" which became operative in the rest of the United Kingdom two years ago. The delay in the application

of this Act here is one of the casualties of direct rule and the lack of a Northern Ireland legislative assembly.

I have now been an Appointed Factory Doctor for nearly thirty years and as an aside may I say how much the general health of young people has improved in that time. This is in great measure due to the National Health Service and the Welfare State. In the early post-war years adolescents who presented themselves for employment showed much disease. Many had untreated squints, chronic otitis media or rheumatic heart disease, and the ravages of poliomyelitis and tuberculosis were not uncommonly found. There was also a much poorer standard of general nutrition than now. In the late forties and early fifties even though I then adopted lower standards for acceptance to industry more than 5 per cent of these young people had to be rejected on medical grounds. Now failure to pass the pre-entry medical examination is a rarity, the commonest cause still being the presence of an amblyopic eye. Precision engineers require adequate binocular vision as there is also still a potential danger of eye damage in manufacturing processes. If damage occurs to an amblyopic person's good eye it can make him virtually blind. This risk must never be run. We examine routinely those entering the firm in the salaried and clerical staff groups as a satisfactory medical examination is a condition of acceptance into the firm's pension scheme. We also examine those who are to be employed in jobs which carry a risk of industrially induced disease, e.g., all machinists who are constantly exposed to mineral oils, because of the risk of skin epitheliomata, and those in contact with lead and chromium.

A close eye is kept on those working with materials such as epoxy resin glues and nickel alloys, both well known causes of contact eczema, and such mechanical irritants as fibreglass and moulding sand. In several of these trades frequent reexaminations are performed. Examination and routine re-examination is necessary for all drivers, including crane drivers. Also, in co-operation with the firm's safety officer, we advise and co-ordinate the safety precautions necessary for those exposed to other physical hazards such as dust, heat and excessive noise. I spend a lot of time going around the works in company with the safety officer observing working conditions to try to decrease the actual and potential hazards of the many occupations of this complicated industry. Decisions have to be taken daily about such things as making available types of protective clothing, including asbestos gloves, protective aprons and footwear and other aids to safety such as unbreakable glasses and ear muffs.

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Efforts are continually being made to reduce risks of working situations by changing working methods, by enclosing potentially dangerous processes, by use of remote control or by substituting different and safer methods of working. It is necessary to monitor continually new processes for potential hazards, e.g., during the past few years Mackies have developed machines for the extrusion of polypropylene fibre, a material which is increasingly in use for such things as sack making where it is now in serious competition with jute. The material is extruded at a high temperature and is cut into thin tapes. This extrusion process causes the emission of a dense vapour. Though a very efficient system of exhaust ventilation has been developed to reduce human exposure to this vapour, it will be necessary for us to watch carefully the health of the workers involved for many years to make sure that the vapour has no ill effects. After all it took a long time for the detrimental effects of asbestos fibre on the lung to become known, and for bladder cancers to be recognised as a hazard of the rubber industry.

Another interesting field of activity is to give advice and medical prophylaxis for those who go abroad in the service of the firm. Several hundred are away from Belfast at any one time. Sales directors and more junior sales staff are continually travelling the five continents to get new orders, to maintain contact with purchasers and to provide a satisfactory after-sales service. A large number of men are constantly employed overseas erecting new machinery and servicing machines in foreign factories. It is necessary for these employees to have a high state of general fitness, and we examine them before they go abroad for the first time, and thereafter at intervals not exceeding three years or sooner, if they have any significant morbidity. If a firm's employee becomes ill when abroad, not only can it result in a loss of business, but it may be very dangerous to the sick man, especially when problems of communication arise through language difficulties. Medical treatment abroad is often expensive and can add to the company's costs. We always check the immunisation status of those travelling abroad and keep them up to date with inoculations for smallpox, typhoid, cholera, yellow fever and poliomyelitis. We supply malaria prophylactics to last throughout their stay abroad and we also give to each man a supply of drugs for the self-medication of traveller's diarrhoea.

Over the years we have gained much knowledge of the health hazards peculiar to different countries and we brief potential travellers on local situations. We continually get a feed-back of medical news from those who have returned from overseas. This can be

very useful. A few weeks ago the firm was sending three men to erect textile machines in South Korea. These men heard a rumour that there was an outbreak of bubonic plague in the capital. This made them very unwilling to travel. I was able to contact a member of our sales staff who had come home from Seoul three days previously and he was able to reassure the three erectors that the plague rumour was false.

It should also be mentioned that I keep in close touch with senior executives and the directors and do executive examinations for them from time to time.

Time has only permitted me to give you a very sketchy outline of the type of work my partners and I do in two branches of industry. Each job has differing medical problems and the details of a medical service will vary widely in the different sectors of industry. A new industry will often need a larger research content in its medical service than one using long established manufacturing processes, and the use of potentially hazardous materials and processes often necessitates continued sophisticated medical supervision.

How many doctors work for industry and what are their problems? Occupational medicine is a numerically small speciality as is illustrated by Table 11. In Great Britain in 1974 there were 26,000 general practitioner principals in the National Health Service and 8,800 surgeons (Owen 1976). Working for industry were 120 doctors employed full-time by the Employment Medical Advisory Service, while those employed full-time by industry numbered about 700, and this number was thought to have been slowly rising until recently. Thus there are in total just over 800 doctors working full-time in occupational medicine in Great Britain.

TABLE II

*Medical manpower in Great Britain 1974*

Principals in General Practice	26,000
Surgeons in N.H.S. (from S.H.O. up)	8,800
Full-time employment—Medical Advisory Service	120
Full-time in industry	700
Substantial part-time in industry	700 +
Minimal part-time in industry	5,000 +

Perhaps I should explain to you something about the Employment Medical Advisory Service (Gauvain 1975). It was established in Great Britain by the Employment Medical Advisory Service Act of 1972 and its doctors

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are attached to the Department of Employment. Thus its functions and personnel are not directly connected with the National Health Service. It is the medical arm of the Commission on Health and Safety set up by the Health and Safety at Work, etc. Act of 1974. Its main objectives have been stated as follows:

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- 1. To identify hazards related to employment.
- 2. To advise on the extent of the environmental control required to minimise the health hazards related to employment.
- 3. To monitor continuously the effects of the action taken to reduce the risks to workers.

The service has a scientific policy and a research function as well as field responsibilities which are an enlargement of the functions formerly provided by Medical Inspectors of Factories. Because of the small number employed, one hundred and twenty spread over the whole of Great Britain, the main objective of the service is to provide guidelines which should decrease the medically preventable hazards of industry. There is at present no equivalent service in Northern Ireland.

The 700 doctors who are directly employed full-time in industry are very unevenly spread (Duncan 1976). A disproportionately large number work in two sectors: —

- 1. The nationalised industries such as The Atomic Energy Commission, The British Steel Corporation, the National Coal Board, the Post Office and the Transport Industry.
- 2. Large industries with multinational interests, e.g. the car industry, Imperial Chemical Industries, the oil companies and Unilever.

In Northern Ireland there are only fifteen full-time jobs in occupational medicine, not all of which are filled at present.

In addition to the 700 doctors employed full-time by industry in Great Britain there are at least as many more who spend a substantial part of their working week dealing with occupational health problems. In Northern Ireland, to the best of my knowledge, the practice of which I am a partner has wider experience in this branch of medicine than any other group. It must be noted that in Great Britain there are also several thousand doctors, mostly general practitioners, who spend a small part of their time giving advice to industry, mainly by examining persons for their fitness for employment.

Up to now the mode of entry into occupational medicine has been unsatisfactory. Many doctors were, and are, appointed to full and part-time jobs without any previous industrial experience. Most learn the job while in post and it is obvious that stan-

dards of knowledge and practice vary widely. The facilities for academic postgraduate training are very sparse. Only about forty doctors a year take the Postgraduate Diploma in Industrial Health. Courses are held only in five cities, London, Manchester, Newcastle-on-Tyne, Glasgow and Dundee. The programme of study to qualify to sit for the Diploma of Industrial Health is one full academic year or its equivalent of part-time attendance spread over two or more years. Only a very few trainee posts are available, mostly within the nationalised industries. Thus it is almost impossible for those already employed full-time in industry to attend the course of training leading to the Diploma of Industrial Health, and there is even less incentive for those engaged part-time to gain a formal academic diploma in this speciality.

The Society of Occupational Medicine (membership 1,150) and especially its Council have been well aware of the vulnerability of their speciality and they, with others, have made efforts towards the establishment of an academic qualification which would be of wider appeal, and more possible of attainment, than the Diploma of Industrial Health. It was hoped that the Royal College of Physicians of London might set up a Faculty of Occupational Medicine on the same lines as their Faculty of Community Medicine. So far the London College has been less than lukewarm and there has been little positive action. However the Royal College of Physicians of Ireland has been more forward looking and in recent months has founded a Faculty of Occupational Medicine. It is hoped soon to get training courses under way. These will be designed to suit the special requirements of those already working in industry in Ireland as well as those wishing to gain an academic diploma before appointment to a job in industry. The need for a widely recognised academic base for occupational health practice is also of great importance for the future, as specialist registration to harmonise medical qualifications in the European Economic Community is likely within a year or two, and the Merrison Report has also advocated the setting up of specialist registers for the different branches of medicine. I regret to say that at the moment there is little incentive for anyone to enter the field of occupational medicine either on a full or on a substantial part-time basis. The crisis is not only of training, it is also economic.

Entrants to the hospital based specialities and to general practice now have in-service training with reasonable salaries, and what is also important during this time, they are acquiring pension rights. In this country where very high rates of taxation and the effects of inflation make it impossible for anyone to save, possession of a pension linked to the cost of liv-

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ing is essential if one is to try to provide adequately for retirement or even premature death. Industry does not in general provide these safeguards, and there is also the added danger that one may find employment in an industry which will not survive the working lifetime of the doctor who enters its service. In the past I have been offered a number of full-time jobs in industry, and two of those organisations who wished to employ me and which appeared to be very viable at the time it was suggested that I should join their staff, have now disappeared. What would my position be now had I taken up full-time employment with either?

Every occupational health physician knows that if he does his job adequately he pays for his keep many times over and this makes his firm more competitive, yet on the whole employers do not pay their medical personnel rates competitive with those which can be obtained in the Health Service. This is partly the fault of our own profession in that the scales of remuneration recommended by the British Medical Association for jobs in industry have always been too low. Unless drastic action is taken very soon a major crisis is looming up for industry, as I do not see how in present circumstances it can attract medical men of ability and knowledge to do the jobs which industry needs. Neither the Confederation of British Industry nor the unions are likely to be able or willing to take the necessary action to avert this impending manpower crisis. What is the solution to this dilemma?

A Government sponsored Industrial Health Service would appear to be the best answer. It should include an Occupational Health Nursing Service. Training posts must be established on the same lines as those for the National Health Service Trainee General Practitioner scheme, and could form an extension of the present general practitioner trainee course. Those wishing to practice Occupational Medicine should have an additional period of in-service training in industry as well as time for didactic courses in Occupational Medicine. Thus trainees could be adequately prepared to take the appropriate postgraduate qualification, either Membership of a Faculty of Occupational Medicine or the Diploma of Industrial Health. The scheme of postgraduate training I have just outlined is less rigorous than some senior occupational health physicians think to be necessary. Lee and Mills (1976) have recently detailed a proposed programme of study which extends for seven years after full registration: three years of general training in medicine, culminating in the trainee taking the M.R.C.P. examination and followed by four further years of specialist training. Such a scheme implies a minimum of thirteen years from entry to medical

school before one can think of applying for a permanent appointment in occupational medicine.

Next a large number of part-time posts in industry should be made available for those who have been trained, on a sessional basis, and these jobs should be within the framework of the National Health Service. Doctors doing these part-time jobs would spend the rest of their working week, normally in general practice, though a few might like to mix occupational medicine with a hospital based speciality. There would also be a smaller number of full-time posts in occupational medicine mostly in fields such as administration and where the job is largely non-clinical or has a large research content. It is not sufficiently realised that the doctor at work needs the knowledge of a good general practitioner as well as a specialised knowledge of the industrial scene. This is the reason why I advocate that an Occupational Health Service should be manned by doctors with a continued interest in general practice. Such a service would be of benefit not only to their patients but it would undoubtedly improve the productive capacity of the nation.

In conclusion I would like to say how much I have enjoyed my time spent working in industry. It has been stimulating and mentally rewarding and I can strongly commend it as a most challenging way to spend at least part of one's professional working week.