ROYAL VICTORIA HOSPITAL
RESEARCH FELLOWSHIPS

D.A.D. MONTGOMERY, M.D., F.R.C.P.,
Physician-in-Charge, Metabolic Unit

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FOR NEARLY one hundred and fifty years a member of staff of the Royal Victoria Hospital has been asked to give an address to mark the commencement of the hospital year, and to welcome new students to their clinical work. Today it is my turn to be so honoured and I am aware, not only of the privilege conferred on me by my colleagues in entrusting me with this duty, but also of the responsibilities and difficulties that the task imposes. It is made no easier by my recollection of many past speakers and the qualities of learning, wisdom and wit which they displayed. Some were truly vintage performances, but alas, I fear, that through my own inadequacies 1972 will definitely be a non-vintage year.

My first duty, and a very pleasant one, is to welcome those of you who have just arrived at hospital and are commencing your third year in medicine. We give you a special word of greeting and encouragement as you enter this strange new world of hospital medicine. You have shed the sheltered academic life, but I hope you have retained the knowledge which diligent teachers have imparted to you in preparation for this transformation. Now you will come into direct contact with your fellow human beings, many of whom will be sick, suffering pain or dying. In a short space of time you will experience man's whole life-span from birth to death and the tribulations, sorrows, fears, despair, joys and triumphs that face him between these events. You will learn to treat diseases and how to give hope and encouragement to those that have them. In all this you must realise that you are heavily handicapped in your process of learning and understanding. As healthy young men and women it is difficult for you to step into other men's shoes unless you have had a close or personal experience of illness and pain and the emotions that go with them. Only by a very conscious and determined exercise of your imagination can you hope to overcome it. I urge you to cultivate this assiduously if you are to become good doctors. And by good I don't necessarily mean successful.

Perhaps at no time in its history has medicine been subjected to greater changes or stresses than in recent years. Similar changes are taking place throughout the Western world and this is especially true in our own community. Old values are being challenged. The worth of new values is uncertain. Standards of behaviour, of individual freedom and the acceptance of authority are all under scrutiny and these affect your generation with particular urgency. The doctor now has to work in an atmosphere of constant questioning and publicity. In the near future you will have a health-service commissioner or medical ombudsman leaning over your shoulder.

Nowadays more, much more, is demanded of the medical and nursing professions than ever before. More scientific knowledge, more heroic surgery, more sophisticated medicine, entail higher standards of qualification and specialist training. In our concern for these worthy objectives we may be in danger of forgetting the essential welfare of the patient. This is the ever-continuing dilemma. Technical knowledge
is not enough, nor will pity compensate for lack of knowledge or professional skill. At present there is a greater tendency to regard the patient as a complicated piece of machinery that needs repair and for us to approach him as skilled mechanics or chemists instead of real healers concerned with the whole man. If we are not careful, and I say this to my colleagues, a generation may grow up who do not know or appreciate that an essential part of medicine is in danger of being lost. Recently I came across a book which had for its title “Love Needs Care”. If you turn the words round to read “care needs love” then you will have an ethic for dealing with your patients’ needs that will help towards a solution of these difficulties. Caring for our patients demands the highest level of professional competence guided by a spirit of love or compassion. Unless you have this inspiration your patients will fare poorly and you will be unhappy in your chosen career. If you do possess it, you will have a motive for existence and a guide to action for the rest of your life.

You are starting your hospital work at a time when an earthquake of administrative upheaval is about to convulse the health service of the nation. Many of us wonder at the wisdom of some of the proposals. We ask is it really necessary to alter, so drastically, a service, which apart from some notable defects, works reasonably well? Nevertheless, changes there will be, and in the near future it will be your task to see that it works properly, or else you will have to pick up the pieces and start again. In this new system where organisation and managerial activity are to play such a large part, an ugly commercial attitude is creeping into medicine and the trust between doctor and patient is being eroded. In a recent editorial in the New England Journal of Medicine, Dr. Inflefinger writes:

“If trust, and particularly trust in the professional integrity and competence of the physician is fading away, who cares? Is such a trust of any consequence? Is the doctor on whom the patient places confidence any more effective than a completely impersonal dispenser of health care who gives the same advice? The answer, except when the doctor performs some technical manipulation must be an insistent ‘Yes’.”

If you and I believe we can give better care to our patients on a professional basis rather than on a commercial basis, then we must make exceptional efforts to sustain this professional attitude and trust. Our words and actions must constantly emphasise the difference between our standards and those of the politician, the industrial court or the market place. Already some of the selfishness, or what Peregrine Worsthorne calls “the general bloodmindedness” that increasingly affects the community, is brushing off on to us too. Sectional interests are beginning to predominate when we should be thinking of the good name of the profession as a whole. The desire to work less for more money seems to be a national characteristic from which none of us is immune. Such continuing great expectations or, if you prefer, simple greed, cannot conceivably be satisfied without the nation becoming bankrupt and we, as a learned profession, must revise our attitudes and return to the old standards. It is to you newcomers, fresh and uncontaminated, with your ideals intact, that we must look to maintain our true values.

During your training in hospital you will receive a great deal of instruction but
approach it with a critical mind. Be prepared to think, reason and question for yourselves. Try to make your own observations and judgements. The attitude that allows you to concentrate only on what is required to pass examinations is restricting. You should allow your mind to range freely and read widely around your subject. If you do this early, habits of thought, observation and curiosity will become so established that you will eventually want to add to the store of medical knowledge and participate in research. It is with this theme of research in hospital that I wish to devote the rest of my address. In particular, I would like to describe the work connected with the Royal Victoria Hospital Research Fellowships.

The function of a teaching hospital is to sustain and develop three interconnecting aspects of medicine. These are, treating patients or the practice of the art, teaching students and pursuing research. Each is essential and dependent on the other (Fig. 1). Good care of patients requires the active participation of those
involved to increase knowledge and to scrutinize critically the results achieved by their methods. Teaching students should compel the teacher to aim at the highest standards in communicating knowledge and in the treatment of the patients under his care. The questions of students and the teachers' inability, at times, to answer them should be an added stimulus to further study and investigation. The balance between these aspects of medicine, however, has not always been correctly apportioned in our hospital. Before the last war, practice and teaching were prominent but research was weak. There were many reasons for this. The consultants were busy men who gave their services to the hospital voluntarily and earned their living by private practice. This entailed long hours in the consulting room and in travelling throughout the province, which left little time for original work. Many exceptions, few engaged in clinical research. Facilities too, for research within the hospital, were virtually non-existent and money was too scarce to be spent on what some might have considered to be the icing on the medical cake. Since the war, however, the amount of research carried out in the Royal Victoria Hospital and the publication of the results has increased enormously. This upsurge has been due to a number of causes. For example, the number of consultant staff and registrars has increased considerably. Under the National Health Service the consultants devote the vast majority of their time to their hospital practice and some work full-time. Other facts include the stimulus of the post-war full-time professorial units and the facilities for research provided in the Institute of Clinical Science; the training and teaching of research methods to our postgraduates in other centres in the United Kingdom and abroad; the importance placed on research and the publication of papers as a measure of an applicant's professional attainments by appointment panels; and, in considerable part, to the work carried out by holders of the Royal Victoria Hospital Research Fellowships.

**Historical Background**

Now, I pause for a moment to sketch in the historical background of these fellowships and to show how the idea took root and developed. Research requires financial support and the money for the fellowships comes from the hospital endowments or free funds. These investments were frozen under the National Health Services Act in 1948 but were liberated for use by the Management Committee in 1950. By 1948, the Royal Victoria Hospital had considerable assets in bequests and donations received since the stirring days, a hundred years or so ago, when the affairs of the hospital were guided by men like James Girdwood and Adam McCrory. These two, and others subsequently, provided the bones and sinews for the hospital's development. Later the creation of the Working Men's Committee in 1892 ensured that the bulk of the day-to-day expenses of the hospital could be covered by small regular contributions from work people in the city. This was the inheritance received from the past.

After 1948 when public funds provided most of the money needed for capital development and running costs, members of the Royal Victoria Hospital Committee, among whom Victor Clarendon and Herbert Quinn were leading figures, had to consider how best to utilize the substantial interest that flowed in annually from
these investments. In the first place it was decided to allocate a yearly sum of money to assist members of staff to attend conferences of especial value and to give papers at medical meetings. The committee realized early the importance of this support and the effect it would have on the development of the hospital services of the province.

It was from this farsighted concession that the concept of hospital scholarships arose. A committee of the medical staff was set up to investigate and make recommendations for financial assistance for travel. From their work stemmed the idea of providing a sum of money from free funds for hospital scholarships. The purpose was to encourage young graduates to undertake research within the field of clinical and experimental medicine and surgery. These were normally to be tenable for one year but could be renewed for a further year if thought necessary. A hospital research committee was set up to make plans for the project and entrusted with the task of examining proposals and submitting recommendations to the medical staff before seeking the approval of the Board of Management who, over the years, have given the project their generous and enthusiastic support. Men like Austen Boyd, Victor Clarendon, Albert Grant, Professor Newark and Herbert Quinn deserve our warm thanks for the way in which the scheme developed under their guidance. I am doubtful, however, if the plan would have achieved the success that it has without the wholehearted advocacy and assistance, first of Brigadier T. W. Davidson and then of Mr. R. T. Spence. Their understanding of the problems involved and the financial backing required has proved to be invaluable over the years.

From the beginning the Research Committee, under its chairmen, Dr. R. S. Allison and then Mr. J. A. Corkey, has been responsible for implementing the scheme and for supervising the work of those involved. Dr. J. A. Weaver was appointed the first Fellow in August 1955 and from then until 1972, sixty-five fellowships, nine of which have been held by women, have been awarded and almost £180,000 has been expended. When this year's budget is included the overall sum will reach £215,000. A further four new fellows have been appointed from August 1972 and six fellows in post have had their grants renewed for another year. The achievements and results of those who have completed their fellowships will be described later.

In 1957, shortly after the scheme was launched, all of us were greatly saddened by the tragic death of our friend and colleague Cecil Calvert. The medical staff recommended that an appropriate memorial would be the establishment of one of the hospital scholarships which would thenceforth be known as the Cecil Calvert Fellowship. This fellowship was intended to encourage research in the neurological sciences, a subject in which Cecil Calvert had played a leading role. In June 1957 the staff recommended that Dr. George Edelstyn be appointed to the first Calvert Fellowship. In the following year Mr. J. S. Loughridge suggested that the late G. R. B. Purce, who had been a pioneer in thoracic surgery, should be similarly commemorated. This was warmly supported by the staff and, in May 1958, they recommended that one of the Research Fellowships should be named the G. R. B. Purce Fellowship. Mr. J. B. Lowry was nominated the first Purce Fellow in 1959.
At the completion of these named fellowships the holder is expected to give a lecture, in which he not only pays a brief tribute to the man whose work is being commemorated, but also gives a dissertation on his own research before the assembled members of the hospital staff. At the conclusion the lecturer is presented with the Calvert or Purce Medal, to commemorate the occasion, by the chairman of the medical staff committee. The names of the Calvert and Purce Fellows are shown in Table I.

| Table 1. Calvert and Purce Fellowships 1957–71 |
|-----------------------------------------------|
| **Calvert (12)** | **Purce (8)** |
| Dr. G. A. Edelystyn | Mr. J. B. Lowry |
| Dr. Betty Nicholl | Dr. J. A. Lyttle |
| Mr. A. McCalister | Dr. I. D. Ramsay |
| Dr. R. C. Gray | Dr. P. B. Halmos |
| Mr. G. P. Burns | Mr. J. E. Black |
| Dr. J. A. Dickson | Dr. M. Scott |
| Dr. S. S. A. Fenton | Dr. A. A. Jennifer Adgey |
| Mr. J. D. George | |
| Mr. S. T. D. McKelvey | |
| Mr. A. G. Gurd | |
| Dr. J. D. Allen | |
| Mr. A. A. Crockard | Dr. R. W. Stout |

Over the past 17 years the scheme has developed and grown into the important place that it now occupies in the postgraduate education of some of our best young doctors. Usually about six fellowships are awarded annually. When the projects are particularly promising the Board of Management has provided extra funds to support more candidates. Their generosity in increasing the total amount of money allocated has enabled us to stay abreast of inflation. Otherwise, the scheme would have foundered long ago from lack of resources, for the sum of money originally set aside would now only support one or two fellows at the most. For the current year the management committee have provided almost £36,000 – a record amount! We trust that similar sums of money (preferably with a built-in inflationary clause) will be forthcoming from the Area Health Board who will take over the management of our affairs. I hope they will prove equally dedicated to the principle of research in hospital as the present Belfast Hospital Management Committee whom they are to replace. I would make this plea very strongly for it would be tragic if financial support of this nature is withdrawn.

Over the years the work of the hospital research committee has evolved and, for those of you who do not know, I must mention briefly how this is carried out (Fig 2).
In the early part of the year applications for the fellowship are invited. These are open to graduates of all approved schools of medicine or universities. Each applicant is asked to submit his or her project, suitably written up, through a sponsor or head of department who is a member of the consultant staff and under whose guidance the fellow will work. The sponsor may or may not be responsible for originating the topic. Sometimes the applicant has the idea and approaches a member of staff to act as his or her sponsor. However, the sponsors have an important part to play in the practical management of the scheme and, without their help, it would be difficult for the committee to provide the necessary day-to-day assistance and advice that many fellows require.

When the applications are received the projects are reviewed by the committee
and the sponsor attends a meeting at which the various submissions are discussed and questions raised and answered. Only when the committee is satisfied with the feasibility of the study, that there are no ethical problems involved and that the project is intrinsically worthwhile, is a final recommendation made to the medical staff. The research committee may co-opt members of staff with special experience to obtain their advice on projects of a specialized nature or they may submit the application to an outside assessor. After their acceptance the applications are passed to the Board of Management for approval.

The financial implications of the fellowship are complicated. Since the holder of a scholarship is, for tax purposes, considered to be a full-time student, he is exempt from paying income tax. Thus, if he were paid according to his grade within the Health Service there would be a distinct financial advantage in the holding of a fellowship. Since this extra incentive was thought to be undesirable, a number of arbitrary stipends were selected so that the holder receives a sum of money roughly commensurate with the salary of his grade within the Health Service after deduction of tax. Each pay increase for junior staff has imposed a strain on the financial resources of the free funds but the Management Committee, greatly to their credit, has honoured each of them in full. Money for technical assistance when required, equipment, travel and the cost of reprints of publications are provided on a generous scale as well.

In 1971, the Royal Victoria Hospital research committee was dissolved when the present so-called cogwheel system of medical committee structure came into being. A new committee was set up to cover the research needs of the group as a whole. It functions as a sub-committee of the medical executive committee and includes a nucleus of members of the old Royal Victoria Hospital committee strengthened by representatives of the other hospitals in the group and the dental staff. When the new committee took over responsibility for the group they recommended that the Management Committee should make additional funds available to meet the research needs of the other hospitals and that monies, previously set aside for the Royal Victoria Hospital, should remain committed to that hospital. This was accepted by the Management Committee as a guiding principle for the future allocation of funds.

Now to return to the work of the fellows. Six months after commencing their research they submit a written report of their progress and are interviewed by members of the committee. The objectives are to ascertain how the work is proceeding, to try and resolve difficulties that may have arisen and to ensure that the fellows are pursuing their work diligently. Similarly, a written report and interview is required at the completion of the fellow's tenure of the post. The research committee meets at other times to conduct business arising from the administration of the research scheme, to recommend the award of the Calvert or Purce fellowships and to arrange the lectures associated with them.

This, then, is the way the research scheme has developed over the last 17 years. Like so many institutions it has evolved gradually and pragmatically. No single person has been responsible for sitting down and planning the scheme as we find it in operation today. Much of the credit of getting it under way must go to Dr. R. S. Allison and Professor M. G. Nelson. Little, however, would have been
accomplished without the enthusiastic support of the members of the hospital committee and Board of Management, and the altered financial standing of the hospital. The times were ripe for this forward step.

Having sketched in the background history of the hospital fellowships, I now propose describing in greater detail the achievements of the fellows themselves. When you hear these you will be in a better position to judge the worth of what has been done. Has the experiment proved successful?

The purpose of my investigation was to obtain information from the fellows about their experiences and their assessment of the value of the fellowships. In particular, I tried to obtain information on the following aspects:

1. Their views on the facilities provided for the research project.
2. The adequacy of the supervision provided by the sponsor.
3. Satisfaction or otherwise with the fellowship as
   (a) an experience in postgraduate training and introduction to research methods;
   (b) a stimulus for further research in their subsequent careers.
4. The effect, if any, that the fellowship had on their career prospects.

Questionnaires covering these and other aspects were sent to the 64 fellows alive at the time of writing. Sixty-two replies were received – a 97 per cent response. Many of you will be aware how difficult it is to draw correct conclusions from answers to a questionnaire no matter how it is worded. But from the replies and my experience on the committee over many years, I think the following views are probably warranted (Table II).

| Aspect of Fellowship Investigated                                      | Satisfied % | Dissatisfied % |
|------------------------------------------------------------------------|-------------|----------------|
| Physical facilities for the research project                           | 46 (74)     | 16 (26)        |
| Supervision by sponsor                                                 | 52 (84)     | 10 (16)        |
| Experience of fellowship as postgraduate training and introduction to research (Excluding 6 fellows in post) | 50 (89)     | 6 (11)         |

Forty-six (or 74 per cent) fellows were satisfied with the physical facilities provided for their research. This included space for work, laboratory bench space, animal facilities, equipment, clinical access to patients, technical assistance and statistical help. Sixteen (or 26 per cent) fellows expressed dissatisfaction or had reservation. These were as varied as the fellows themselves. Some complained that accommodation was provided on a grace and favour basis. One fellow wrote that accommodation was provided only by bartering co-authorship of possible publications. By implication they were critical that there is very little space available for research purposes within the hospital. Five fellows, four of whom were carrying out surgical research, while satisfied with the accommodation provided, found their
work hampered by lack of technical assistance or had problems with their equipment. One remarked that technical assistance is often provided at a very junior level and that help of this nature is often a hinderance instead of an asset.

Granted that research accommodation is very limited, how has space been provided for those who expressed their satisfaction? In part, University departments with clinical responsibilities have come to the rescue. The closeness of the Institute of Clinical Science to the hospital has been invaluable and we owe the University a debt of gratitude for their help. The close liaison between the hospital and University has been further strengthened by including several clinical professors on the research committee. Of course, the debt is not one-sided, for University departments have found it useful to sponsor young graduates in a line of research that complements or extends their own work. Hence the scholarship scheme has been of great value in providing funds for research for holders of joint University and hospital appointments. Some fellows have found shelter in laboratory areas, especially in biochemistry and haematology, or have been accommodated within their sponsor’s department as in cardiology, metabolism and neurosurgery. However, it is clear that space for research within the present hospital premises is grossly inadequate. I hope those responsible for the replanning of the new Royal Victoria Hospital will remember this need and give it priority when they draw up their plans for rebuilding.

I have already spoken of the important part played by the sponsors in the fellowship scheme. Certainly some of the success that has been achieved has been due to the generous guidance and help that they have given to fellows under their supervision. Fifty-two (or 84 per cent) of the 62 fellows expressed their satisfaction with the help they received from their sponsor. Most answered the question with a simple “Yes” but others were more specific. One wrote: “Most helpful and more than adequate”; another: “Absolutely first class” “My sponsor’s interest and encouragement was a tremendous help to me” was the comment of a third.

Five, while expressing approval, qualified their remarks. For example, one wrote: “Plenty of encouragement but not enough expert informed criticism.” Others were less specific and were perhaps too polite to express themselves more freely. Ten fellows (or 16 per cent) were dissatisfied with help received from the sponsor. Four answered the question in the negative but gave no reasons. The others were more explicit. The main cause for criticism was that the project was outside the experience of the sponsor and hence proper supervision and advice could not be given. Two fellows felt that their sponsor did not have sufficient time to see them at regular intervals and felt isolated.

The vast majority of fellows were satisfied and happy with the fellowship as an experience in their postgraduate training and as an introduction to research and the problems connected with it. Fifty (or 89 per cent) of those who had completed their fellowship expressed unqualified satisfaction with the experience and this, too, appears to be the attitude of those in post. Many were warm in their praise but I can only give a few examples:

A non-Belfast graduate, now a consultant in England, wrote: “I was given magnificent equipment and allowed to travel in order to learn how to use it. This alone saved me six or nine months of work. I have been disappointed subsequently by the facilities for research offered to me and
feel that none of my work has been of the same quality as that done in
Belfast."

Another, writing from America, said: "You will see I am enthusiastic
about the R.V.H. Fellowship — indeed, I would not be here if I had not
the good fortune to obtain a fellowship to start my research. I know that
junior doctors in many other British teaching hospitals do not have the
same opportunity and are envious of the facilities offered by the R.V.H."

A third wrote: "I believe that these fellowships contribute greatly to the
postgraduate education of doctors in the province and I would be dismayed
if any move was made to abolish them."

Another qualified his support by remarking that candidates for a research grant
should have obtained their Membership or Fellowship first. In his own case he
became involved in research before obtaining a higher qualification and found
himself divorced from clinical work, while at the same time still feeling the necessity
to read for the examination. This view is generally supported by the research
committee.

Six fellows (or 11 per cent) found their fellowship unrewarding and counted
the experience a failure. Their reasons are interesting. One was given support for
a short stop-gap period early on for what seems to have been an inadequately
prepared project. The fault was primarily the responsibility of the research com-
mittee and not that of the individual. As he said: "I should probably not have
had a research fellowship". Fortunately, the experience did not prevent him
from subsequently leading an active and productive career in a combined clinical
and academic post.

In three others the selection of the subject was unwise and inadequate prepara-
tion and supervision meant that no useful purpose was achieved. One of these
fellows found it to be a complete waste of time and wrote: "My project was not
prepared adequately to be productive". For these the blame can be apportioned
equally between the applicant, the sponsor and the research committee. The latter
bears a heavy responsibility for ensuring the viability of every project recom-
manded for approval. A fifth fellow was unable to complete his work because of
personal circumstances. The critical views of the remaining fellow are too long to
quote in full. He questioned the whole ethos of the scheme pointing out that
medical research seems to have become a sine qua non to hospital career advance-
ment, despite the fact that many doctors (as he put it) are neither suited for this
type of work nor happy doing it. Certainly these are valid criticisms but the fact
that most fellows enjoyed the experience and found it valuable suggests that the
committee, on the whole, chose the applicants wisely. Nevertheless, we must be on
our guard against forcing individuals into medical research who are unsuited for it
or unwilling to embark on it. Some of this pressure might be relieved if selection
panels attached less importance to the candidate's publications when selecting a
man for a consultant post.

The assessment of aptitude for research in those who have had no previous
experience of it has exercised the research committee over the years and we have
not found a reliable yardstick to measure this intangible quality. The individual who
comes with a well thought out idea shows the greatest promise. On the other
hand, the person who needs the stimulus of an idea from his sponsor is not necessarily suspect. Some are extremely good in doing the necessary spade work but the man who knows where to dig the first sod is rare and should be given every encouragement. Some further qualifications and opinions expressed by those who found their fellowship useful deserve attention. Several thought it was important to chose a subject which was within the established research pattern of the hospital or University department. Great difficulties could be experienced when a fellow tried to break new ground. Some fellows felt isolated from other colleagues working on Authority or Medical Research Council scholarships or University research, and said they were often unaware of what was being done elsewhere in the region. In some instances they could have received advice or help from others who were working in allied fields. To some extent this isolation may be minimized by the recent introduction of research seminars to provide a forum for the exchange of ideas and presentation of current research within the hospital group and associated University departments. Several research fellows have participated in this way and I hope it will continue to enjoy the support, not only of the Research Committee but of all members of staff and senior students.

Recording and writing-up the results of clinical investigation forms an important part of the discipline of medical research and provides valuable training for the postgraduate student. Royal Victoria Hospital fellows have made an impressive contribution to the medical literature. Forty-four (out of the 62 who replied) published 124 papers connected with the subject of their study. Six who are still in post are not ready to report their results, and 12 fellows at the time of analysis have not written anything, although some are preparing papers. Thus, the number not publishing results is unlikely to exceed seven in all. It is impossible to say whether the projects which resulted in the publication of papers were superior to those which were less fruitful in terms of medical writing. Some individuals have greater facility for writing than others. It is noticeable that the fellows appointed recently have been more productive in this respect than their colleagues who obtained their scholarship earlier. The advantage to the fellow of working in collaboration with a sponsor who is contributing regularly to the literature can be clearly seen.

Thirty-five fellows were awarded higher academic degrees as the result of work carried out during their fellowship. These included 22 M.D.’s, 9 M.Ch.’s and 4 Ph.D.’s. Six theses are in course of preparation or have been submitted to a university for acceptance. When allowance is made for the fellows in post and two who already had doctorates, 61 per cent of the fellows obtained a higher degree. This figure will rise to 72 per cent if all the theses presently being prepared are successful.

Thirty-nine fellows who published papers or obtained a higher degree have continued to carry out research and write during their subsequent careers. If we exclude the fellows in post and four others who have just recently completed their work, there are eleven fellows who have not continued with any form of clinical or academic research. Of those maintaining an interest in research, six have each published over 20 papers; four of these over 50. A further six have produced between 10 and 19 papers, and 27 an average of four papers each. Many of those replying to the questionnaire attribute their continuing interest in research to the
stimulus gained while holding the fellowship. There is little doubt that the experience creates habits of observation and thought and a dedication to medical research that probably lasts for a lifetime. The views of one fellow sum this up succinctly. He writes: "The fellowship provided me with my first opportunity to engage in full-time research. As a result of this I have continued to devote a major portion of my efforts in this direction". Two fellows have made a career in full-time research and one is at present holding a research fellowship in America.

Many fellows considered that their fellowship had contributed materially to their career prospects. Table III shows their present posts. The nine fellows in academic teaching posts include two associate and one assistant professor in America. There are two senior lecturers with consultant grading and two lecturers in Northern Ireland, a senior lecturer in New Zealand, and a first assistant in a surgical professorial unit in England. The views of the fellows in this respect varied. A number felt that the attainment of a higher academic degree, for which the fellowship provides an opportunity, is a help in obtaining a post in a teaching hospital. Other views were more individual. One wrote that the fellowship had helped him to create and pursue a career in academic medicine. Another remarked that he had become known in this special field through writing papers and giving lectures connected with his research. A third considered that the opportunities to learn basic research techniques, the design of experiments and the statistical approach to analysing results added greatly to his postgraduate training and subsequent career.

Finally, three other comments are worthy of attention. One fellow in post considers that the number of doctors who would have left the hospital to do their research elsewhere is greatly reduced because of the facilities provided by the fellowship. The present scheme is a strong incentive for them to stay at home.

| Table III. Careers of 65* R.V.H. fellows |
|----------------------------------------|
| Consultants    | 29 |
| Physicians     | 13 |
| Surgeons       | 9  |
| Anaesthetists  | 2  |
| Pathologists   | 2  |
| Radiologists   | 2  |
| Radiotherapist | 1  |
| Full-time Research | 3 |
| Academic Teaching Posts | 9 |
| Senior Registrars or Equivalent | 16 |
| Fellows in Post | 6 |
| General Practitioner | 1 |
| Not Working (Housewife) | 1 |

*One fellow deceased
One is reminded of Charles Colton’s truism that “Imitation is the sincerest of flattery”, when one fellow wrote: “Two years ago a similar fellowship was instituted in our hospital and is proving very productive”. A third with probably the same idea in mind said: “These fellowships represent money well spent. The lack of similar facilities is a serious handicap in the development of my present hospital.”

These then are the views of the fellows themselves. I think we can justifiably conclude that for them the experience has been of immense value, not only as a feature of their postgraduate training but also as an introduction to research methods and the creation of new ways of thought and interest for the majority in their future careers.

On the other side, I would like to examine the contribution made by the fellows and their research to the hospital and community in general. For those who have to provide funds the question “Have we had value for money?” must often arise. I think I can reassure them that solid achievements have resulted, though the dividends of medical research are not always immediately obvious. Sometimes we do not receive the benefits directly because fellows may leave and take their experience and skills elsewhere. This exchange of talent, however, is of considerable value to the total sum of medical research. If we gain from research performed elsewhere we must be equally generous and prepared to give part of our contribution to others without stint.

Now, I propose to mention some of the benefits that the hospital and patients have received from the scheme. Times does not permit me to mention all and my selection is necessarily arbitrary and not in order of merit. Indeed, the latter would be quite beyond my powers, for the value of any research cannot be assessed properly over the brief period of my review.

The present Respiratory Failure Unit stems largely from work carried out by a fellow on the management of respiratory failure. By a happy chain of circumstances the need for a respiratory failure unit was recognized as the work was completed, the man was ready and trained for the post, and support was forthcoming from the management committee. This department has proved to be of great value to the clinical work of the hospital and most of you will know what an important part it is playing in caring for many of our seriously wounded and injured fellow citizens.

In other fields, research fellows have carried out work or established new techniques of investigation or treatment which now form part of the standard practice of the hospital. For example, all of us are proud of the reputation of the Department of Cardiology, and over the years a group of young and gifted fellows have been fostered and trained in this specialty. Some of the present cardiological practice in the Province stems from research which they have carried out in this sphere. Mention, too, should be made of neurosurgical methods of investigation and treatment carried out by Calvert fellows. These have included pituitary ablation in the management of breast cancer, the use of ultrasound and radio-isotopes in the investigation of cerebral function, and recently, research into new techniques for studying cerebral biochemistry and vascular dynamics in severe head injury. All these have added materially to the safety of the patient and the ability of the neurosurgeon to practise his craft.

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Many standard biochemical, haematological and radioisotope tests, now performed regularly, originated from investigations carried out by research fellows. For example, some of the routine radioimmunoassay tests for polypeptide hormones developed out of the original work on growth hormone carried out by a fellow. Other radioisotope tests in biochemistry and haematology were established by fellows. For most of you the term "breathalyser" has an ominous ring. A similar kind of test, although performed without the assistance of the Law, has been adapted for estimating the excretion of fat in the stools. The method, which avoids unpleasant and tedious work in the laboratory, was established by a fellow working in collaboration with the Medical Physics Department.

The first electromyogram performed in this hospital was done by a research fellow working on the muscle disorder of thyroid disease. On completion of his work the equipment was handed over to the late Dr. L. J. Hurwitz. He, together with several fellows, used it for the investigation of various muscle diseases and nerve conduction studies. From such small beginnings the neurological EMG service of the hospital developed.

Parallel with these, a series of excellent studies in surgical gastroenterology have continued over the whole term of the fellowship scheme. Some of the methods that have been evolved, such as the measurement of gastric emptying, have become part of the routine investigation of patients with gastrointestinal disorders.

Because of these and many other examples which I could mention, I think you will realise that the Royal Victoria Hospital fellows have produced work of importance and worth and that they have helped to keep this hospital in the forefront of medical research. The money, you can see, has been well spent.

This, then, is the fellowship scheme as it has developed since 1955. What more can we do to assist it to a greater level of excellence? Some aspects need attention and I hope the necessary support will be forthcoming from the Area Health Board to enable them to be met. Without adequate finance and facilities the scheme will wither.

1. Firstly, then, we must make provision for research facilities and laboratories within the hospital area. These need to be properly equipped and staffed to provide adequate technical assistance when needed. Facilities for animal experiments must be available and the requirements of the research fellows should be remembered by the committee of the Faculty of Medicine which is investigating this subject.

2. Secondly, within our own sphere of responsibility, the Research Committee, in association with the sponsor must be prepared to spend more time in guiding the choice of project and in selecting and advising on the methods of study. The sponsors must have a detailed interest in and knowledge of the projected study so that they can guide the work properly. It is a privilege and responsibility in which we all can share, but no one should undertake it without considering the cost in time and energy. The applicants themselves need to spend greater thought and time in working out the details of their project and choose their sponsor wisely. It is a mistake to allow an individual to launch out into a specialised and solitary channel of research. It is better for him to work as part of a team which has an interest or experience in the field to be studied. Completely new projects, which fall outside the research experience of the hospital, are most likely to founder because of inadequate help and guidance.
3. Thirdly, we must all endeavour to create a climate within the hospital which attracts young doctors into research because it is an interesting and exciting thing to do and likely to benefit their patients, rather than being a dutiful chore to get through in order to advance their career.

4. After completion of their project, fellows should receive active encouragement to engage in further research. This will require additional funds from public sources. This year the Northern Ireland Hospitals Authority is spending £50,000 on research for the whole province. When one considers this sum in relation to what is being spent in our own hospital and the overall cost of the health services, it is obvious that more money must be provided. In fact, it forms 0.15 per cent of all the money spent on running the hospitals in Northern Ireland. Even if you add to it the money spent on the Royal Victoria Hospital fellows and Medical Research Council money spent in Northern Ireland the percentage rises to only 0.45. The equivalent amount provided from public funds for the rest of the United Kingdom (viz. from the Medical Research Council and the Department of Health and Social Services) is six times more, approximately 2.7 per cent of the cost of the hospital services. Medical research in Northern Ireland needs to get the support it deserves; it has been and remains the Cinderella of the Health Service.

These then are some of the ways we can improve the scheme. Medical research is rather like making a Byzantine mosaic. Most of us, if we are fortunate, may add a chip or two to the unimportant background. A few gifted people are able to fill in some of the intricate design but it is only a creative master, like a Pasteur or Fleming, who can put in the face with all its subtleties of design and colour. The best that most of us can do is to make some modest contribution to medical knowledge within the degree of our own competence, but at least we should do that. The art of medical research requires patience and dedication, but the rewards of diligence are great. It is like gazing into a deep well because the longer you look the brighter shine the stars in reflection.

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