STIMULATION OF NEW DISCIPLINES IN GENERAL PRACTICE BY TAPE- RECORDED TALKS

BY

JOHN GRAVES, M.R.C.S., L.R.C.P.

AND

VALERIE GRAVES, M.B., B.S.

Medical Recording Service, College of General Practitioners

Our fathers and grandfathers in general practice had many contacts with hospital life, and were able to keep in touch with new ideas as they developed. Unfortunately, the separation of general practice from hospital medicine coincided with an unprecedented increase in the number and rapidity of advances in treatment. The ennui with their job felt by many general practitioners to-day is often due to inability to absorb and remain interested in so many new ideas. There are those who believe that the true "family doctor" cannot and possibly even ought not to continue to exist, but others, like the College of General Practitioners, believe that what is needed is a fresh attitude to this problem of keeping up to date, by means of creative activity such as research and active as well as passive education. There are plenty of good formal courses, but the doctor is fortunate who can attend them more than biennially. Good general practitioners will do their best to go to courses, but many difficulties confront them, chiefly the problem of providing a deputy and the need to book a long time ahead. Of 1,000 members replying to a recent College questionnaire, 512 had attended a formal course in the last two years, but even the best course cannot keep a doctor aware of all the advances during that time.

The good general practitioner of the past could find an outlet in hospital work, but this is less easy for him now. He may well spend some years improving his practice and building better surgery premises, but he has little incentive to improve his standard of work and knowledge. It is very easy, once ten to fifteen years have passed by, to slip into complacent apathy, to continue to use the clichés of the past. Asher (1959) in his Lettsomian Lectures warns us against accepting current beliefs as facts merely because everyone believes them, and we in general practice must beware of going on believing things that once were "facts" but are now no longer accepted. Research can bring that new interest that leads us to want to find out more, and clinical assistantships may restore contact with hospital, but there remains the need for perpetual re-education.

Academic Isolation

In 1958 we wrote about the "academic isolation" of the general practitioner and its possible causes and cure (Graves and Graves, 1958). We felt that these general practitioners had lost their way among so many advances and that they had lost the capacity to keep up to date by means of reading alone; and we thought that the use of sound and of audio-visual methods, and group discussion of problems, would help them to find the way back. We wrote to 50 doctors in isolated country practices, asking if they would like to take part in an experiment in the use of talks recorded on tape and long-play disks. Twenty-seven of them agreed to take part, and the success of the experiment led us

to expand the scheme; and since April, 1958, the Medical Recording Service has sent out six recorded talks a year to its listeners, who now number over 300 in the United Kingdom and many more overseas. These talks (each lasting about 30 minutes) are sent round "circuits"—groups each of 10 doctors who pass the recordings from one to another, the last man returning them to us. The six circuit talks are supplemented by a library of other talks on loan on demand. Wherever possible the talks are illustrated by transparencies or diagrams.

Because we were interested in the idea of academic isolation and the need for contact with others, we urged listeners to collect others to discuss the talk with them if possible; but we had not expected the scheme to gather impetus in the way that it did and to develop firmly along its own lines.

Development of Discussion Groups

The first 27 listeners were *invited* to take part, but (with few exceptions) all the others were volunteers. The early listeners invented the circuit system and the discussion tapes on which listeners themselves record questions and comments, and they have suggested many other administrative ideas as well as subjects, titles, and speakers. From the beginning we have found listeners interested enough to want to help us to improve the service.

In June, 1959, we sent out a questionnaire to discover how many listeners were holding meetings, and how many were being encouraged to read more (Graves and Graves, 1959). 61% of the 161 listeners at that time were meeting more often than before, 51% had looked up subjects after the talks, and 40% had followed up subjects later in the journals. Another interesting finding was that, whereas *before* joining circuits 65% never held meetings with local colleagues, *after* joining only 8.5% still never did so. These figures showed that most circuit members were becoming aware of the advantages of listening in company. They were meeting, more or less regularly, to hear and discuss talks of which the titles were not previously disclosed except that they would be on subjects of general interest. Last year's titles were: "Cortisone," by Dr. R. I. S. Bayliss; "Advances in the Treatment of Burns," by Mr. D. N. Matthews; "Early Diagnosis of Deafness in Young Children," by Dr. Mary Sheridan; "Some Medical Emergencies," by Dr. C. Allan Birch; "How to Read Medical Journals," by Dr. Hugh Clegg; and "Are Colds Catching?" by Dr. R. E. Hope-Simpson. Copies of these have been sent to all circuit members and have now been heard by about a thousand doctors in this country. (We have no accurate figures about overseas listeners.)

The library titles cover many subjects, as varied as heart sounds, shingles, and psychiatry. During the 12 months from January 1 to December 31, 1960, 680 copies of talks were sent out on loan from the library, of which 280 were tapes, 333 disks, and 67 tapes or disks sent to overseas members.

In this way we hoped in the course of time to cover some of the advances in all the main subjects, and to discover for listeners their unsuspected gaps in knowledge. In the early days of the service we found that if we used the library rather than the circuit system few members would deliberately ask for subjects other than those in which they were particularly interested and so probably already fairly well informed,

and that they might often be unaware of advances in other subjects. Experience has suggested six as the optimum number of circuit recordings a year, which can be supplemented by more from the library if listeners want them.

Emergence of Different Kinds of Groups

Soon we noticed that we were getting inquiries from doctors in no sense isolated. One member from Edinburgh, one of the best places for postgraduate education, said that for him to go on a course meant leaving his young family every Sunday (his only real day off) for 12 weeks. Another, who was able to go to many courses, said that he liked the new approach of the recordings. There was now, it seemed, an air of apology about those who could *not* hold meetings.

Since the beginning of the service we had collected figures about the number of playings of each talk and the number of listeners at each playing, from which a rather arbitrary "listening index" could be worked out in each case. In the early days most indices were around 2, and this figure crept to 3.1 for both library and circuit talks, showing that by mid-1959 three doctors listened at each playing. Recent figures suggest a divergence between groups of a few partners or friends meeting casually when a recording arrives and listeners who have developed proper study groups, meeting specially for the purpose, sometimes on prearranged series of dates for which talks might be reserved in advance. Recordings are now no longer the sole *raison d'être* of these groups, as cases may also be discussed or local consultants be asked to speak. More figures are being collected about the composition of these groups.

An important new development is the "Journal Club" (Graves and Graves, 1960). Members of these clubs, as well as discussing recordings, each make a study of a particular journal, from which they prepare abstracts to read and discuss with one another at their monthly meetings. In such serious study groups we have the complete cycle of audio-visual education helping general practitioners to revive interest in the printed word. Two interesting aspects of these groups are that each member is necessary to the others—he cannot just sit and listen, but has a real part to play in his own and the others' education; and that they show that it is possible for general practitioners to find the time and enthusiasm for serious study of this kind.

Intrinsic Educational Value of Sound

It is probable that sound and audio-visual methods of education have many real advantages over the purely visual in some circumstances, but this should not be overemphasized. The spoken word may fix something in the mind and kindle interest in the reading that must still play the greater part. Joyce and Weatherall (1957) found that students (of pharmacology) learned better from auditory teaching than from reading alone; and it is possible very soon to become weary, like Alice, of a continuous diet of "books with no pictures and no conversations."

Some subjects, of course, lend themselves particularly well to auditory teaching, such as, for instance, heart sounds and conditions affecting the voice, and we are beginning to collect a reference library of medical sounds. Lloyd (1959), describing the voice in myxoedema in a written article, had to describe the

qualities of harshness at much greater length than in a talk he made for us, in which he played recordings of patients before and after treatment.

But, apart from subjects like these, sound has no special value, no special magic of its own—the magic lies in the voice of the speaker and what he has to say, and how he says it. There is certainly no virtue in reading aloud words and figures written for print—indeed, it is quicker to read from the page; nor is there now any novelty in recording, as there was in our experimental days. Talks written for recording, we find, should be quite different from those intended for the lecture hall, as well as from those written for the journals. After three years of recording and studying listening indices the picture of what the general practitioner wants is becoming clearer to us. Fine points of detail, and figures, are best given as diagrams, which can be studied again later. A speaker referring briefly to a general field of advance, with more detail about some aspect of it in which he is particularly concerned, is preferred to the speaker who tries to cover too much ground at once. The important thing is to draw attention to, and arouse interest in, new ideas, so that listeners may be stirred to read about them.

Illustrations are appreciated, as are speakers who can explain them well. We like to bring well-known speakers to talk of their own work to doctors who would have little chance to hear them in person (and, of course, one day to doctors not yet born). But the magic quality that a good speaker has of contact with his audience is by no means confined to the famous, and every effort should be made to search out the possessors of this most valuable gift. Perhaps we should add that our speakers are always named, and always read their own talks, which are usually specially commissioned for the purpose.

Conclusion

The interest aroused by the recording service does suggest that there was and still is a great need among general practitioners for active participation in some way in group education. Who are our listeners? The total audience in this country in December, 1960, was something over a thousand general practitioners, and an unknown number overseas. Branches of the service are thriving in New Zealand, South Africa, and Israel, and small groups in other places abroad. Other organizations, some of whom have studied our methods, are starting libraries and publications in sound.

We know a few facts about the 308 members of listening circuits in the U.K. at the present time: the average "age" is 16 years since qualification, and most are in the groups 5–10, 10–15, and 15–20 years since qualification. The average listener, then, has been in general practice for more than 10 years and has had time to settle down—but not into a rut. It is perhaps interesting that 86 of the 308 have higher qualifications, comprising 41 D.Obst.R.C.O.G., 22 M.D., 12 D.C.H., 7 M.R.C.P., 6 D.P.H., 3 F.R.F.P.S., 2 F.R.C.S., one D.I.H., one D.A., and one F.R.C.P., and 60 have written articles in medical journals.

Many of them will have entered general practice following a father's example, and some may be fortunate enough to have been inspired by a good general practitioner as student or trainee. Others have been registrars and know the discipline of academic competition. They have in common a desire to improve

their work as doctors and to maintain knowledge and interest in new ideas as they develop, so that they will not become bewildered as their hospital days recede into the past. Membership of a study group of any origin means that a searching light is turned on to one's own deficiencies, and the self-examination that results may be as valuable as the few crumbs of knowledge that linger from hearing the talks. Ideas for research, or for improvements in practice, often begin in friendly discussion, and the feeling of fellowship in a common problem must encourage friendly co-operation between neighbours who might have been nothing but rivals.

Summary

The work of the medical recording service of the College of General Practitioners since its experimental beginning in 1957 is discussed, and the development of different kinds of general-practitioner study groups is described. Suggestions are offered on the value of audio-visual methods in the postgraduate education of general practitioners.

We are grateful to Smith Kline and French Laboratories Ltd. for their appreciation of the value of recorded medical talks when we first experimented with them in 1957, and for their continuing generosity since that time in making a grant to the College to cover the expenses of the recording service. These recordings are now available to non-members.

REFERENCES

- Asher, R. (1959). *Lancet*, 2, 359.
 Graves, J. C., and Graves, V. (1958). *Brit. med. J.*, 2, 583.
 — (1959). *J. Coll. gen. Pract.*, 2, 386.
 — (1960). *Ibid.*, 3, 227.
 Joyce, C. R. B., and Weatherall, M. (1957). *Lancet*, 2, 402.
 Lloyd, W. H. (1959). *Brit. med. J.*, 1, 1208.

CLINICAL ASPECTS OF GENETICS

ROYAL COLLEGE OF PHYSICIANS OF LONDON

[FROM SPECIAL CORRESPONDENTS]

A two-day conference on Clinical Aspects of Genetics was held at the Royal College of Physicians of London on March 17 and 18. The conference was intended primarily for fellows and members of the College who are consultants in medicine or pathology.

First Principles

The President, Sir ROBERT PLATT, welcoming the participants, said that clinical genetics had been an abiding interest of his own throughout his career. Dr. J. A. FRASER ROBERTS (London) then reviewed the principles and methodology of human genetics. He described briefly the morphology of the 23 chromosome pairs in the normal cell nucleus and the process of somatic division. With the aid of illustrative pedigrees he defined dominance, recessiveness, and sex-linkage, pointing out the importance of consanguinity in recessive inheritance and describing methods by means of which heterozygous carriers of certain recessive genes could be identified. He also discussed degrees of penetrance of genes and multifactorial inheritance, and pointed out that, as occurs in deaf-mutism, different genes might have an identical clinical effect.

In the subsequent discussion the PRESIDENT and Professor J. MCMICHAEL (London) raised the question of the multifactorial inheritance of hypertension and pointed out several difficulties which arose in studying the genetic aspects of this condition. Dr. C. A. CLARKE (Liverpool) asked why detrimental genes remained dominant; Dr. FRASER ROBERTS replied that mutation seemed in many instances to replace genes lost when affected individuals failed to reproduce.

Dr. J. MARSHALL (London) raised the question of genetic counselling in first-cousin marriages, and Dr. FRASER ROBERTS replied that recent statistics from Japan showed clearly the risks of first-cousin marriages compared with controls.

Muscular Dystrophy

Dr. J. N. WALTON (Newcastle upon Tyne) then discussed the genetic aspects of muscular dystrophy and related disorders. He gave reasons for suggesting that in 90% of cases the Duchenne (pseudohypertrophic) variety of muscular dystrophy was due to a sex-linked recessive gene and in 10% to an autosomal recessive. Limb-girdle dystrophy was usually transmitted as an autosomal recessive, less often as a dominant and very rarely was it sex-linked, while facio-scapulo-humeral dystrophy was usually dominant but occasionally recessive. He then reviewed the inheritance and interrelationship of myotonia congenita, paramyotonia, and dystrophia myotonica, all of which were usually dominant traits. The same mode of inheritance usually obtained in the different varieties of periodic paralysis, but many of the less common metabolic myopathies (e.g., the McArdle syndrome) as well as some of the congenital non-progressive group of myopathies were usually recessive.

Schizophrenia

Dr. E. T. O. SLATER (London) considered the genetic aspects of mental disease and said that he would concentrate upon schizophrenia. He said that schizophrenia was found in 8% of the sibs of affected individuals, whereas the expected incidence in the general population was only 0.8%, but there was no clear evidence to suggest that the inheritance of the disease followed a simple Mendelian pattern. There was, however, a high degree of concordance in twin pairs. The genetic pattern did not appear to depend upon the clinical variety of the illness (catatonic, hebephrenic, paranoid). He went on to review carefully the evidence which seemed to exclude the possibility that the disease was due to a single recessive gene with incomplete penetrance; equally the statistics did not favour the possibility of incomplete penetrance of a single dominant gene. Everything seemed to indicate that the clinical condition was seen in some homozygotes and in some heterozygous individuals, so that the responsible gene was probably of intermediate character, midway between dominance and recessivity.

Congenital Malformations

Dr. C. O. CARTER (London) then considered congenital malformations, which appeared to be responsible for about one-quarter of all infant deaths, though statistics varied for different parts of the world. He carefully reviewed the evidence which suggested that pyloric stenosis in infancy was probably due to sex-linked dominant multifactorial inheritance. Whereas in the case of cleft palate both genetic and environmental factors were involved, in harelip the low incidence of the condition in second-degree relatives as well as other evidence suggested sex-modified multifactorial inheritance of the condition. He also considered in detail the interplay of genetic and environmental factors which were responsible for congenital dislocation of the hip. Acetabular hypoplasia (probably multifactorial) and generalized joint laxity (dominant) often occurred together to give hip dislocation, and the intrauterine posture of flexed hips and extended knees was an important contributory factor.

In the ensuing discussion, Dr. N. S. CLARK (Aberdeen) asked about the value of the serum aldolase in the diagnosis of muscular dystrophy and about the detection of carriers. Dr. WALTON replied that estimation of the activity of the serum aldolase was the most sensitive method of early diagnosis of the Duchenne-type dystrophy and could even be used to diagnose the disease in sibs of patients before clinical signs were apparent. However, an investigation of serum aldolase activity and of creatinuria in female carriers had been negative. Professor D. V. HUBBLE (Birmingham)