

# NEWS LETTER

**The  
SCOTTISH  
SOCIETY of  
ANAESTHETISTS**

*Founded  
20th February, 1914*

*December, 1971  
No. 12*

# THE SCOTTISH SOCIETY OF ANÆSTHETISTS

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## Office-Bearers for 1971-72

President	-	-	-	-	-	Dr. D. W. SHANNON
Vice-President	-	-	-	-	-	Dr. J. CRAWFORD
Past President	-	-	-	-	-	Dr. K. C. GRIGOR

## Members of Executive Council

Edinburgh	-	-	-	-	-	Dr. K. W. DODD Dr. I. A. DAVIDSON
Glasgow	-	-	-	-	-	Dr. K. B. HOLLOWAY Dr. I. SPIERS
Dundee	-	-	-	-	-	Dr. A. L. FORREST
Aberdeen	-	-	-	-	-	Dr. R. G. MILNE
Inverness	-	-	-	-	-	Dr. J. D. MUIR

## Honorary Secretary

Dr. W. R. MACRAE

4 Correnie Gardens, Edinburgh EH10 6 QR.

## Honorary Treasurer

Dr. D. J. GRUBB

37 Stirling Road, Edinburgh EH5 3 JA

## Editor of Newsletter

Dr. I. A. DAVIDSON

13 Comiston Drive, Edinburgh EH10 5 QR.

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“The objects of the Society will be to further the study of the science and practice of anæsthetics and the proper teaching thereof, and to conserve and advance the interests of anæsthetists.”

“Ordinary membership will be restricted to members of the medical profession practising the speciality of anæsthetics.”

—Extracts from the Constitution.

## Subscriptions

£1 per annum.

50p per annum for Senior House Officers and Registrars.

## Presidents of the Society since 1950

1950—Dr. John Gillies.	1961—Dr. J. W. L. Bain.
1951—Dr. H. H. Pinkerton.	1962—Dr. Margaret Muir.
1952—Dr. T. J. C. MacDonald.	1963—Dr. Alex. C. Forrester.
1953—Dr. W. M. Shearer.	1964—Dr. J. D. Robertson.
1954—Dr. I. M. C. Dewar.	1965—Dr. A. G. Miller.
1955—Dr. F. G. Gibb.	1966—Dr. J. A. Bolster.
1956—Dr. H. Bruce Wilson.	1967—Dr. A. W. Raffan.
1957—Dr. R. Lawrie.	1968—Dr. J. R. Kyles.
1958—Dr. R. N. Sinclair.	1969—Dr. Malcolm Shaw.
1959—Dr. Alison Ritchie.	1970—Dr. K. C. Grigor.
1960—Dr. A. Tindal.	1971—Dr. D. W. Shannon.

## Guest Speakers at Annual General Meeting

1951—Dr. W. W. Mushin.	1962—Prof. W. D. M. Paton.
1952—Dr. M. H. Armstrong Davison.	1963—Prof. E. A. Pask.
1953—Dr. Ivan Magill.	1964—Dr. Martin Holmdahl.
1954—Prof. R. R. Macintosh.	1965—Prof. J. G. Robson.
1955—Dr. T. Cecil Gray.	1966—Prof. A. Crampton Smith.
1956—Dr. M. D. Nosworthy.	1967—Dr. Sheila Kenny.
1957—Dr. J. Alfred Lee.	1968—Dr. R. B. Goudie.
1958—Dr. L. B. Wevill.	1969—Dr. R. P. W. Shackleton.
1959—Dr. Margaret Hawksley.	1970—Prof. J. W. Dundee.
1960—Sir Dugald Baird.	1971—Dr. A. R. Hunter.
1961—Dr. G. S. W. Organe.	

## Honorary Secretaries of the Society since 1950

1950-53—Dr. R. N. Sinclair, Glasgow.
1953-57—Dr. A. G. Miller, Glasgow
1957-63—Dr. M. Shaw, Glasgow.
1963-67—Dr. A. H. B. Masson, Edinburgh.
1967-71—Dr. D. Campbell, Glasgow.
1971- —Dr. W. R. Macrae, Edinburgh.

## Honorary Members

Dr. D. Keir Fisher, Glasgow.	Dr. H. H. Pinkerton, Glasgow.
Dr. John Gillies, Edinburgh.	Dr. Alison Ritchie, Edinburgh.
Dr. D. S. Middleton, Edinburgh.	Dr. J. W. L. Bain, Aberdeen.
Dr. Margaret C. Muir, Dundee.	Dr. I. M. C. Dewar, Glasgow.
Dr. W. B. Primrose, Glasgow.	Dr. Andrew Tindal.
Dr. Winifred Wood, Coll.	Dr. R. N. Sinclair.

## Senior Members

Dr. Ellen B. Cowan, Glasgow.	Dr. W. H. F. Boyd, Edinburgh.
Dr. Margot W. Goldsmith, Edinburgh.	Dr. R. G. Grieve, Glasgow.
Dr. A. McCallum Millar, Edinburgh.	Dr. Lillie S. Dummer, Edinburgh.
Dr. Elaine Stocquart, Glasgow.	Dr. Frances Redhead, Pencaitland.
Dr. Sheina Watters, Edinburgh.	Dr. Mary Richmond, Mauchline.
Dr. A. M. Brown, Glasgow.	Dr. W. M. Christie, Arbroath.
Dr. Mary Brown, Glasgow.	

# The Scottish Society of Anæsthetists

. . . Founded 20th FEBRUARY, 1914

## A. CONSTITUTION

- (1) The name of the Society will be "THE SCOTTISH SOCIETY OF ANÆSTHETISTS."
- (2) The objects of the Society will be to further the study of the science and practice of Anæsthetics, and the proper teaching thereof, and to conserve and advance the interests of Anæsthetists.
- (3) The Society will consist of Honorary Members, Senior Members, Ordinary Members, a President, a Vice-President, a Secretary, a Treasurer, and an Executive Council formed by the above Office-bearers, together with seven Ordinary Members, two from each of the regions centred on Edinburgh and Glasgow, and one from each of the regions centred on Aberdeen, Dundee and Inverness.
- (4) Ordinary Membership will be restricted to Members of the Medical Profession practising the speciality of Anæsthetics.
- (5) Senior Members may be elected from Ordinary Members who have retired from active practice.
- (6) Honorary Members may be elected on the recommendation of the Council and with the approval of the Society. Such Honorary Members would be elected from those who, either as Anæsthetists or in other spheres, have contributed in some special way to the advancement of Anæsthesia.
- (7) A meeting will be held every year, at a time and place to be appointed by the Executive Council.

## B. ELECTION

- (1) Ordinary Members may be elected by a two-thirds majority of those present, at any regular meeting, nominations by an existing Member to be sent to the Secretary one calendar month before the day of election.
- (2) Nominations for Vice-President, Secretary and Treasurer will be made annually by the Executive Council, and will be circulated to Members along with the notice of the Annual General Meeting. Any further nominations for these Offices may be submitted to the Secretary 14 days before the date of the Annual General Meeting.
- (3) Regional Representatives will serve on the Executive Council for a period not exceed-

ing three years, and on retiring from office will not be eligible for re-election to the Council within a period of one year.

- (4) Nominations for vacancies in the Executive Council created by retirement will be called for at the Annual General Meeting, and a ballot held if necessary.
- (5) The President who retires at the Annual Meeting will automatically become an additional member of the Executive Council for the ensuing year.

## C. DUTIES OF OFFICE-BEARERS AND MEMBERS OF EXECUTIVE

- (1) The President will preside at the Meetings both of the Society and Executive Council, and will have a casting as well as a deliberative vote. He will hold office for one year.
- (2) The Vice-President will act for the President when required to do so. He will automatically become President for the following year.
- (3) The Secretary will keep all the records of the Society, will notify all Members of the business of the Society, and send accounts of the Meeting to the Journals. The Treasurer will collect subscriptions, pay accounts and render a financial statement to the Annual Meeting.
- (4) The Executive Council will be consulted by the President upon all matters concerning the conduct and interests of the Society, and will be permitted to record their vote by post upon any question in dispute.

## D. SUBSCRIPTION

- (1) Ordinary Members will pay an annual subscription of £1; Registrars and House Officers will pay 50p.
- (2) Any Member who has not paid his subscription for the current year may, at the discretion of the Executive Council, cease to be a Member of the Society.

## E. GENERAL

- (1) No alteration of, or addition to, the rules may be made save at an Ordinary Meeting after one month's notice given to the Secretary, who will place the suggestion upon the Agenda.
- (2) Personal as well as official guests may be invited to the Meetings and Dinners of the Society.

# Activities of the Year 1970-71

**Visit to Poland — September 1970.** 35 members of the Society took part in this visit which is reported fully later.

## **Registrars' Meeting**

**Victoria Infirmary, Glasgow**

**23rd October, 1970**

Many junior anaesthetists from all the Scottish centres enjoyed this well organised meeting. There were demonstrations and papers of interest to all grades of anaesthetist in training with particular emphasis on items of interest to candidates for the two parts of the F.F.A.R.C.S. examination.

During the morning session one party visited the Cardio-thoracic unit at Mearns Kirk Hospital.

The remainder had an initial choice of a visit to the Pre-Anaesthetic Clinic with Dr. Grigor, demonstrations of caudal analgesia or various types of defibrillator, and an excellent film by Dr. Hendry showing techniques for arterial and venous pressure measurement including internal jugular vein catheterisation.

After coffee there was a choice from demonstrations on sterilisation of ventilators or bedside monitoring and an excellent lecture by Dr. MacDonald on factors affecting vaporisation of anaesthetic agents.

After lunch four papers were read. The first described a case of malignant hyperpyrexia and discussed the principles of management. Dr. Hendry discussed the uses and problems associated with C.V.P. measurement.

Dr. Shaw then described his experiences with Ketalar and assessed its place in anaesthetic practice. Finally Dr. MacDonald discussed some important problems of drug interaction associated with anaesthesia.

**The Annual General Meeting** was held in Dunblane Hydro on 23rd-25th April, 1971, and is reported fully later.

**The Scientific Meeting** was held in Edinburgh on 22nd May when an excellent symposium on "A Systematic Approach to Teaching" was given by Dr. Ruth Beard, Mr. Blich and Mr. Piper of the University Teaching Methods Unit of London University. Summaries of the papers kindly provided by the speakers are included in the Newsletter.

## **Neurosurgical Anaesthetists' Travel Group**

The Group met on 29th May, 1971, in the Institute of Neurological Sciences, Southern General Hospital, Glasgow, and was welcomed by Dr. A. H. Granat.

Papers were read during the morning on "Ketamine for Anaesthesia for Radiodiagnostic Procedures" by A. S. Brown, Edinburgh; "Effects of Analgesics on Ventricular Fluid Pressure" by J. Barker, Glasgow; and "Estimation of Blood Loss" by J. R. Donald, Glasgow. Each paper was discussed freely and at length.

After lunch the Group was taken on a conducted tour of the most impressive new unit.

## **Programme for 1971-72**

1. **Registrars' Meeting**—Aberdeen Royal Infirmary. Friday, 29th October, 1971.
2. **Neurosurgical Anaesthetists' Travel Group**—Details of future meetings can be obtained from Dr. A. H. Granat, Institute of Neurological Sciences, Southern General Hospital, Glasgow, or Dr. S. W. McGowan, Royal Infirmary, Dundee.
3. **Registrars' Prize**—Entries to be in by the end of February, 1972.
4. **Annual General Meeting**—The Post House, Aviemore. 28th-30th April, 1972. Guest Speaker—Professor J. P. Payne.
5. **Scientific Meeting**—Western Infirmary, Glasgow. May, 1972.

# President's Newsletter

There is a current and wholly admirable trend for the governing bodies of societies to take pains to explain, inform and share with their members their deliberations and decisions. The Newsletters of the Faculty and the Association are well known but it might appear at first sight that a society as small and informal as ours had no need of such formal methods of communication. However, I feel that there is a virtue in instituting such a President's Newsletter which I hope will inform and involve the members.

Up to the present time, Scottish Anaesthetists have had no avenue of communication along which to express their views on matters affecting education, teaching and research to the Secretary of State. In England, a direct approach by the Faculty to the Minister of Social Services is possible. This year, however, has seen the coming to fruition of the attempts by the Scottish Society of Anaesthetists to encourage the Faculty to set up a Standing Committee (Scotland) thereby allowing such representations to be made. Much of the credit for this must go to our former Secretary, Dr. Donald Campbell and Professor J. D. Robertson whose joint efforts on behalf of Scottish Anaesthetists have resulted in a successful conclusion.

In line with other Standing Committees of the Faculty, the composition of such a committee would be the Dean or Vice-Dean, a number of Board Members and additional members co-opted by the Faculty. Your Council felt strongly that if such additional members were to be appointed from nominations made by the Society—the only corporate body of anaesthetists in Scotland—it would improve the channelling of information and the ability of anaesthetists in Scotland to have a corporate voice in such a committee. The Council felt that such nominees should represent Scottish rather than regional views.

The Faculty has accepted this point of view and has asked the Society to make three nomi-

nations for co-option to the committee. Your Council has proceeded with obtaining nominations for these Committee Members, who will serve until the next AGM and a ballot is being held. At its AGM the Society will have to decide the term of office of such representatives and their method of election for the future.

A number of the council's deliberations during the year have brought into focus the political side of the Society's activities. Some members have expressed the view point that the Society should have a purely social and educational function but the Council feels that if it is to observe the constitutional objects of the Society—"to conserve and advance the interests of anaesthetists"—it is bound to have some political involvement. The extent to which the Society feels it should involve itself in such activities is another proper area for discussion at the AGM.

In the past year the council have also considered the appointment of a representative to the SCHMS and Dr. James Crawford has been nominated. It seems appropriate that while the Standing Committee (Scotland) should nominate the anaesthetic representative to the JCC Scotland that the Society should continue to nominate to the SCHMS.

The council considered a letter from a member concerning the lifting of patients. The council, while sympathetic to the problem, felt that there was little the Society could do. This is a (British) national problem and at present is being pursued by the CCHMS.

The council have also looked into the distribution of distinction awards to anaesthetists in Scotland compared with those South of the Border. In fact, no glaring inequality is apparent but the council intends to keep the situation under review.

It is hoped that this brief review of the council's activities in the past year will help to keep the members aware of what is happening and increase their interest in their Society.

# Annual General Meeting — Dunblane

23rd - 25th APRIL, 1971

THE Society continued its habit of moving the venue of the Annual General Meeting around Scotland by returning, after a lapse of eight years, to Dunblane. The new arrangements for the meeting, with business on Saturday morning and papers in the afternoon, were tried out for the first time. Although not universally acclaimed, this seems to be the only way to avoid undue haste in the afternoon session.

The Friday afternoon golf outing was blessed with an opening of the heavens, so much so that it is not clear from the sodden records how many returned to the Club House, far less how many completed the course. Thriving in such inclement weather, Professor Robertson appeared to carry off all the main prizes, but with true generosity a golf ball was donated to all those who ventured forth. The Society's funds have not suffered, however, as a result of this impulsive generosity. The Treasurer reports a healthy state of affairs, with our Society able to sign the C.B.I.'s undertaking not to increase prices, for this year at least.

For Friday evening there was a showing of the film "High Society," and the evening was capped with the now almost traditional showing of slides by Dr. Bannatyne.

On Saturday morning a downdraught of cold air in the conference room did not accelerate events, but at least the afternoon papers were given adequate time. Dr. Shannon, Dr. Hunter and Dr. Forrest did full justice to their subjects, making the afternoon session a real pleasure to attend. The Trade Exhibition, housed in more comfortable surroundings than in recent years, was both stimulating and well patronised.

The Dinner Dance was very well attended, the highlight of the evening being a brief cabaret spot which entertained and enthralled all ages, especially some small fry in hot pants who were no doubt thought to be abed.

Sunday morning brought forth the sun and we were shown what the weather might have been. All this as we struggled home to face the Monday list.

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## Payment of Annual Subscription by Banker's Order

FROM time to time, members have requested that they be allowed to pay the annual subscription to the Society by Banker's Order. It was realised that this would be of benefit to the member and to the Society alike, but with successive secretaries operating through different banking accounts it was not considered workable to inaugurate such a scheme.

Arrangements have now been made whereby those members who prefer to pay the annual subscription by Banker's Order may do so through the Head Office of the Bank of

Scotland, The Mound, Edinburgh. The Society's financial year ends 31st March, and payment by Banker's Order may therefore begin with the subscription for the ensuing year, payable 1st April. The scheme is commended to members for their own convenience, for the Society's financial situation, and for the facilitation of the Hon. Treasurer's duties.

A form suitable for use is available on application to the Hon. Treasurer.

## “SUFFER THE LITTLE CHILDREN”

THE Hippocratic Tradition and the Christian Tradition of moral theology with their emphasis on the sanctity of life, the dignity of man and the need to care for the sick and comfort the dying have provided a basis upon which the medical profession has been able to find general agreement on matters pertaining to the patient-doctor relationship.

Breath-taking advances in science and technology have, however, in recent times, given to man the power to subject to himself the material world to a degree that would have been unthinkable in the past. Man's health has benefited from these advances; indeed, all aspects of human life have benefited, but with these benefits new dangers have appeared. These dangers are inherent not in matter but in man himself. He is becoming a slave to the material world, the supernatural being forcibly suppressed. Man has lost his religious outlook and the benefit this gave him when judging problems. As a result, the western world is changing over from a community based more or less firmly on the Christian Ethic to one based on humanist and socio'logical principles.

A doctor, however, cannot apply the impersonal objectivity of a scientist to a therapeutic relationship with an individual patient. In this relationship, he is concerned with the rights as well as the needs of his patient. Medical Ethics define this relationship.

Ethics are “concern for the value of man.” If this be so, then the decline in religious belief that has accompanied our material progress has not been marked by any advance in moral enlightenment. To-day, the trend is to devalue and degrade man as evidenced by the bombing of Hiroshima, the concentration camps of Nazi Germany, the subordination of the will to the “Pill,” the prevalence of abortion, and the advocacy of euthanasia.

The conscience of society may be disturbed by social injustice and recognise its duty to provide the weak with security in life but society's regard for the moral law is steadily diminishing. We have allowed sentimentality to become confused with compassion and become more conscious of the comforts of life, less conscious of the sanctity of life itself.

Doctors are necessarily affected by the morality that pervades the society in which they work and to-day in medical practice as in society

the trend is to devalue and depersonalise man, as evidenced by the introduction of group practices and a centralised emergency call system; by superspecialisation and the nature of the investigations to which some patients are subjected. The patient-doctor relationship is one of the great traditions of medicine and while the skills of yester-years were not what they are to-day, the doctor's dedication allowed him to command the trust of his patients and the confidence of the public over whom he exercised considerable influence. If doctors are to regain the standing and influence they once held in society, they must give evidence of concern for the whole man and they must combine an awareness, interest and concern for his spirit with the wisdom, skill, sympathy, and patience that they bring to his material ills.

Traditional ethical values fail to deal adequately with the sophisticated issues that concern doctors to-day. Because of this lack of teaching from British Medical Schools and guidance from the Ethical Committee of the G.M.C., decisions as to conduct have to be taken afresh in each individual case by each individual practitioner. It is important therefore that conscience should be informed on these matters.

Conscience is the faculty that allows man to distinguish that which is right from that which is wrong. It is a special sense concerned with the principle of action and the effects that action will have on others. Like other senses, it is developed by seeking information and reflection on moral problems.

Medical Ethics provide guidance to a practitioner on the therapeutic relationship that he has with an individual patient. They define the collective conscience of the profession and the essence of professional freedom is the right of the practitioner to act in professional matters uninfluenced by any consideration other than the judgment of his fellows. Medical Ethics, however, are concerned solely with a doctor-patient relationship and fail to deal adequately with problems outside this sphere. The doctor's social conscience is given no direct guidance when his duty to his patient conflicts with his duty to society:—

A patient suffering from a physical handicap who persists in driving vehicles to the danger of the public is protected by



the confidential nature of the doctor-patient relationship. A doctor may, of course, demand sacrifices of his patient in order that many might benefit but, if this is refused, his position remains uncertain.

Termination of pregnancy, sterilisation, or the use of the pill may involve the marital rights of another. Should the patient demand confidentiality, the doctor may find himself in a difficult situation if a legal action is raised by the spouse.

Our professional code gives guidance on problems arising when a doctor's duty to his patient conflicts with his duty to the National Health Service. The profession is rightly jealous of interference by the paymaster in their professional decisions. But as costs soar, a doctor may find his obligations as a citizen in conflict with his duty to his patient.

The "social clause" of the Abortion Act of 1967 has led to such an attenuation of the therapeutic element that the British Medical Council opposed and continues to oppose this clause. It commits doctors to acts which the collective conscience of the profession consider unethical and supports doctors acting in a manner that their colleagues consider reprehensible.

The removal of organs from healthy donors and unnecessary investigations performed on patients for research purposes are non-therapeutic in essence and lay the doctor open to a charge of causing "grievous bodily harm" if he has neglected to ensure the understanding and full consent of his patient.

In many of these situations views may differ as to the morality of action. But the doctor alone has knowledge of the medical aspects of the case and only he can ultimately decide if the correct moral principles are to be applied to treatment.

There are too, an increasing number of social problems that can concern not only the practitioner or social medicine but affect to some degree all who are engaged in the produce of medicine. Problems such as those which relate to the advocacy or the condemnation of contraception, the promotion or resistance of abortion, the softening or hardening of the attitude towards drugs, or the banning of advertisements for cigarettes. In such circumstances, doctors have an obligation not to pre-empt one line or another, but to bear witness

to truth particularly so in view of the influence and authority that medical advice exercises in such matters.

A doctor to-day is being forced to consider clinical situations with grave moral implications, often without guidance from his colleagues or the support of the law. In such circumstances, he has a duty to follow conscience and an obligation to ensure that his conscience is adequately informed on the rights and wrongs of any proposed course of action. It is at this point perhaps that the individual doctor may justly feel that though he must judge for himself he cannot judge by himself.

In recent years, a new morality has been advocated. It seeks to throw off what it regards as the fetters of traditional morality. Followers regard their own, completely personal decision as the final and real determinant of the morality of their actions.

Judgment based on this morality is all too often warped by prejudice, social pressures, compassion and expediency. Human wisdom, therefore, is not enough in construing moral doctrine. In this matter, we do not make our own law. It is our duty, therefore, to search for objective truth no matter whether it be revealed by meditation on the immutable laws or traditions of the Christian Ethic, or through careful observation of the material order that governs things, or whether it is obtained through well defined and executed research so long as it is true. To reflect upon the importance of truth is a pressing necessity as at the present time truth is undergoing a considerable devaluation.

Doctors naturally resist rules and moral laws that govern, pre-ordain, and oblige them to act in a certain way. Theological premises are rarely appealed to when we discuss moral decisions. But a body of knowledge such as the Christian tradition of moral theology cannot reasonably be ignored in any discussion of medical ethics since this tradition has become part of the culture and social fabric of our society.

A doctor's resistance to ecclesiastical authority is based on the assumption that authority limits his freedom of action—the less you have of one, the more you have of the other. This precept is certainly true of power and freedom. Power is exercised by the Law and the General Medical Council most certainly limits the area in which freedom can operate, the authority of the Christian Ethic, however, does not limit but pre-supposes freedom. The authority of the Church makes its appeal to the responsible

freedom of the mature conscience and has failed in its purpose if it does not meet a free and responsible reaction from that conscience. This responsibility, however, demands the fullest enquiry into matters with moral implication. Moral ethics are concerned with truth.

Conscience is the faculty that allows man to distinguish between right and wrong in conduct and puts him under an obligation to do the right and abstain from doing the wrong. Man's reason considers the facts of a particular situation and decides on a particular course of action. It is his conscience that judges this decision.

Unfortunately, moral conscience does not provide the individual enquirer with a complete series of immediately clear and objective rules covering every situation. But those moral truths, which are not beyond the reach of reason, should be known. They should be understood and applied when necessary to a particular situation.

Absolute truth is hard to reach in matters related to our fellow creatures; even with the best trained conscience, error in judgment must occur as we attempt to balance probabilities. But if this be accepted, and mistakes acknowledged or regretted, then instead of a slow progress of self deception with an ever increasing inability to recognise the truth, we can draw from errors lessons that will avoid repetitions.

It may be that traditional moral theology is ill-fitted to guide us on the sophisticated issues that we are encountering to-day; issues concerning:—a declaration that a patient is dead, transplant surgery and decisions posed by other surgical advances, genetic engineering, clinical experiments.

There are wide differences of opinion on how to deal with these new problems and their resolution will need all the skill not only of doctors but also lawyers, philosophers, theologians, and others if the dignity of human life is to be maintained. There have been disturbing indications that some members of the profession are disposed to resolve these problems by abdication, but in the last analysis the decision must inevitably remain with the practitioner, acting in good conscience.

Conscience is probably the most important instrument we use in our professional work. It can become blunted and inefficient if we ignore it, or it can be a driving force which enables us to strive for better standards of practice. Decisions of conscience are not comfortable decisions, nor are they always easy to implement involving as they so often do

oneself or others in unpleasant and sometimes frightening situations:—

A general practitioner was asked to appear before the Disciplinary Committee of the General Medical Council for betraying — in good conscience — the confidence of a daughter to her parents.

Bourne's conscientious decision to abort a 14 year old girl, who was pregnant as a result of rape, resulted in the legislation permitting abortion and ultimately the Act of 1967. This law permits abortion for social reasons, or if there is a substantial risk of the child being seriously handicapped. The social clause denies a primary principle of morality, and of common law, that innocent human life may not be destroyed. The second clause could well be society's first step towards the legalisation of euthanasia. The permissiveness of this Act places on doctors a moral obligation to immunise young girls entering the child-bearing period: to give counsel on the transmission of inherited conditions and ensure that only essential drugs are used during pregnancy.

The ethics of certain operations for the correction and alleviation of specific congenital abnormalities was discussed to illustrate how subjectivity can blur moral principle. Though not obliged to go to extraordinary lengths, it is a doctor's duty to safeguard life and any treatment that can contribute to a fuller participation of life is worthwhile even though participation cannot be complete. If a doctor wishes to employ extraordinary means to preserve life, he may do so, but he cannot force them on his patient.

When considering children, particularly newborn babies with concurrent mental and physical disabilities, social pressure and subjective forces at work may cause conscience to err. It is important that moral principles be applied as objectively to these patients as to others and it is the judgment of the informed conscience that must guide individual action.

A doctor to-day is involved more and more in matters that concern his social conscience: the medical care of those injured on the road and in the home; the mentally ill and the physically handicapped, have saddled society with a distressing and particularly formidable problem of welfare in exchange for questionable benefits to these patients and their families.

Professor Miller, Head of the British Medical Association Planning Committee suggests that in the absence of unlimited funds, a system of priorities be established that would yield the quickest good—for example, a nationwide acci-

dent service of high standard would take priority over renal dialysis, organ transplantation and even the care of the elderly.

The withholding of treatment on socio-economic grounds is a decision to be rightly made in good faith by society, and a doctor is obliged to accept this decision. He has, however, a moral obligation to inform the public on the natural needs of the sick, for whom he is responsible and fight for the means to satisfy these needs. In return for such co-operation, the State has an obligation not to demand of the profession action that offends our code of practice.

To-day, doctors are confronted with a society that rejects the fundamental principles of a morality upon which our professional ethic is based. The new morality that prevails, and is most vocal, in society to-day, claims that human conscience is a law to itself—subject to no other law—and according to the moral fashion of the times, or perhaps the company kept, judge some issues with severity and others with indulgence. Those opposed to abortion and euthanasia are often unperturbed by the

immorality of mass murder in war, while nuclear disarmers may self-righteously advocate slaughter of the unborn and aged for social reasons. Shifting moral principles resulting in inconsistencies of this nature are not compatible with medical practice. It was this section of society expressing itself, through Parliament, that violated our Professional Code and will violate it again, if it has its way with the passage of a Bill sanctioning Euthanasia.

Our Professional Code allows us to maintain a satisfactory relationship with individual patients but unfortunately we have not yet achieved a mature relationship between our profession and the State, who provide the facilities necessary to practice and thereby exercise considerable control over our actions.

It is essential that we establish the fundamental principles that govern our action, and one point that must be made clear to our employers is that in recognising an obligation not to force our ethical views on our patients so a doctor retains the right not to have his own personal actions compelled by the ethical views of his patient or the State.

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## The Registrar's Prize

THE Society awards annually a prize of £50 for the best original paper submitted by an anaesthetist in Scotland, holding the grade of Senior Registrar or under. A second prize of £20 or a third of £10 may be awarded for other papers of particular merit at the discretion of the assessors. It is not necessary that the Registrar be a member of the Society.

The conditions attaching to the award are as follows:—

1. The paper must be original, i.e., it should not have been read previously at any meeting or published in any journal. The winning of the prize is in no way a bar to the subsequent publication of the paper.

2. It is desirable that papers submitted show evidence of personal work, but papers consisting of surveys of the literature are eligible for consideration. The Council of the Society wishes to stress that intending competitors should not be discouraged through fear of their efforts being judged elementary. It is fully realised that junior anaesthetists in some peripheral hospitals may not have opportunities to deal with special types of cases or to employ advanced anaesthetic techniques.

3. Papers for adjudication *must* reach the Secretary by the *end of February* at the latest.

4. The winner of the prize will be required to give a digest of the paper at the Annual General Meeting of the Society towards the end of April.

The Secretary places all entries in the hands of the Award Committee which consists of the President, Vice-President and Past President. The members of this Committee have expressed the desire to be able to adjudicate without knowing the name or hospital of the writer: it is requested therefore that the name, address, etc., of the entrant be submitted on a separate covering page. This will be retained by the Secretary, but otherwise the essay itself should give no indication as to its source: acknowledgment to colleagues, etc., should not be included.

"The prize for 1971 was awarded to Dr. J. B. Forrest of the Western Infirmary, Glasgow, for a paper entitled 'The Effect of Hyperventilation on Pulmonary Surface Activity' and a summary of the paper is included in the Newsletter. Additional awards were made to Dr. Graham Smith of the University Department of Anaesthesia, Western Infirmary, Glasgow, and to Dr. D. Miller of the Royal Infirmary, Glasgow."

## "IDLE THOUGHTS OF AN IDLE FELLOW"

Dr. A. R. HUNTER

I HAVE called this talk "Idle Thoughts of an Idle Fellow" because it is essentially a series of ramblings related to the earlier days of anaesthesia for intracranial surgery. When I began to do this work the neuro-surgical anaesthetist did indeed appear to be idle unless, of course, he was very busy trying to replace the blood which the surgeon had shed. His essential duties then were, in fact, to keep the patient immobile for a long period, preferably with a non-explosive anaesthetic and in the hope that the patient might wake up not too long after its withdrawal.

The then fashionable anaesthesia was with nitrous oxide, oxygen and trichloroethylene, given with the aid of a Magill circuit and an endotracheal tube. If to that you add the fact that many of the patients had air ventriculography immediately before induction of anaesthesia (and at that time we knew nothing whatever about the passage of nitrous oxide from the blood of a patient into the air containing cavities in the body) you will realise that intracranial pressures were often astronomical. It was little wonder, then, that the surgeons preferred anaesthetists to use a technique of giving intravenous anaesthetics like hexobarbitone or thiopentone to supplement local anaesthesia which they themselves had produced. The injection of the local anaesthetic was usually performed before the patient was put to sleep and a thoroughly unpleasant and painful procedure it was. The intravenous supplement was given only when the initial infiltration proved insufficient—as it invariably did during the actual turning of the bone flap.

The essential difficulty with this type of anaesthesia was, of course, the maintenance of a clear airway. With the head in the lateral position there was little difficulty, for in this position the airway tends to stay clear naturally. With the patient's nose pointing to the ceiling, respiratory obstruction was very frequent, with its accompanying disastrous effects on intracranial tension. A partial solution to this problem was obtained by applying a running extension to the tongue.

In the prone position used for cerebellar and similar operations the danger to the airway with this form of anaesthesia was very considerable indeed, because of the extreme flexion of the head required by the surgeon to open up the atlanto-occipital space.

The inevitable result of all this was a return to endotracheal anaesthesia. Because it seemed that there was something inherent in the design of the Magill circuit which somehow made the patient overbreathe—it might well have been a reflex response to the load imposed on expiration by the Heidbrink respiratory valve—I avoided the use of this particular contrivance by placing a Schimmelbusch frame over the open end of the endotracheal tube, and I blew nitrous oxide with oxygen from an ordinary piece of rubber tubing into the space under the Schimmelbusch frame.

I also utilised topical anaesthesia to minimise the patient's response to the presence of the endotracheal tube. Unfortunately local anaesthetics, even modern ones, don't last all that long and the duration of the ordinary neurosurgical operation invariably outlasts their effect. The result was that, even though patients might initially have been breathing quietly without straining, as the operation progressed expiratory straining developed and the intracranial pressure rose.

For these reasons I sought drugs which would diminish the amount of straining on an endotracheal tube. The use of heroin as premedication to some extent achieved its end. But this drug could not be used in patients with posterior fossa tumours, for it was too liable to produce central respiratory depression. The phenothiazines were valuable for this purpose and premedication with promethazine, or better still with a now discontinued drug called pecazine, seemed very effective in preventing expiratory straining during anaesthesia. Pecazine had the additional advantage that it could be given intravenously if straining did occur. Unfortunately pecazine for some reason tended to raise the intracranial pressure and its use had to be abandoned.

(It also proved to cause a granulocytosis on long continued administration in psychiatric cases.)

The arrival of halothane on the scene seemed as if it would solve the neurosurgical anaesthetist's problems. It was non-inflammable; it rapidly induced anaesthesia and recovery from it was nearly equally rapid. In adequate doses it certainly prevented straining on endotracheal tubes. Unfortunately it presently became apparent that halothane raised the intracranial pressure, and an unpleasantly large number of patients under nitrous oxide, oxygen and halothane anaesthesia had to be sent back to bed with their operations uncompleted because their intracranial pressure was too high at the time at which the bone flap had been turned. (It is appreciated that these difficulties associated with the use of halothane can be to some extent overcome by the use of controlled respiration, hyperventilation and the deliberate production of a hypotensive state in which auto-regulation is no longer effective and the cerebral blood flow is blood pressure dependent.)

The most satisfactory method of controlling expiratory straining during anaesthesia for intracranial surgery is in fact curarization, for the paralysis of the abdominal walls which goes with this phenomenon totally prevents any straining on an endotracheal tube and thus ensures that the venous return to the right heart is kept at a minimum pressure. The return of blood flow from the upper part of the body can therefore occur without let or hindrance.

A tremendous amount of work has been done on cerebral blood flow of late years and the effects of anaesthetics on it. Perhaps the most important fact which has emerged from this is the discovery that the rise in intracranial pressure produced by drugs like halothane in patients who already have an intracranial space-occupying lesion, is much greater than the rise in pressure which occurs in a normal individual, and it is this observation perhaps more than any other which tends to discourage the use of halothane for neurosurgical work, especially for angiography in patients with raised intracranial pressures.

Yet another step forward has been made in neurosurgical anaesthesia with the introduction of drugs which reduce cerebral blood flow. Two groups of such agents are known at the moment. The first of these is the droperidol and fentanyl combination. An even more

marked reduction in cerebral blood flow is obtained following the administration of narcotic doses of barbiturate, and for this reason I have tended of late years to use a thiopentone drip to supplement nitrous oxide and oxygen for anaesthesia.

Such, then, has been the evolution of my current technique of anaesthesia for intracranial operations.

FACULTY OF ANÆSTHETISTS  
in Collaboration with  
THE DEPARTMENT OF CLINICAL  
MEASUREMENT  
WESTMINSTER HOSPITAL  
and  
THE DEPARTMENT OF ANÆSTHETICS  
THE ROYAL INFIRMARY  
EDINBURGH  
CLINICAL MEASUREMENT  
FOR ANÆSTHETISTS

A one-day demonstration/tutorial course will be held on the above subject at

**The Faculty of Medicine Committee Room,  
University of Edinburgh Medical School,  
Edinburgh, 8**

on

Tuesday, February 8, 1972—

9.30 a.m. - 12.30 p.m. and 2 - 4.30 p.m.

Wednesday, February 9, 1972—

2 - 5 p.m. and 6.30 - 9 p.m.

Thursday, February 10, 1972—

9.30 a.m. - 12.30 p.m. and 2 - 4.30 p.m.

The demonstration/tutorials are designed to cover the needs of anaesthetists in training, but both the principles described and the instruments demonstrated would be of interest in other branches of medicine, including cardiology, respiratory physiology, intensive care, general medicine and surgery.

The fee for the one-day course is £1.30. The numbers attending on any one day must be limited.

Applications to—Dr. W. R. MacRae, Department of Anaesthetics, The Royal Infirmary, Edinburgh EH3 9YW.

# The Effect of Hyperventilation on Pulmonary Surface Activity

Dr. J. B. FORREST, Western Infirmary, Glasgow

THE value of mechanical ventilation during anaesthesia has been the subject of much argument and controversy for over twenty years. Artificial ventilation, by any of the known methods, involves a disturbance to normal cardiovascular and respiratory function. Schultz (1959) has suggested that mechanical stress of the alveolar lining might alter its surface properties. He found that over-inflation of the lungs caused cytoplasmic degeneration of the alveolar cells. Lung compliance, as measured from pressure-volume relationships, has been shown to be reduced following prolonged I.P.P.V., hyperventilation, and surgical anaesthesia. The stability of bubbles expressed from the lungs has been used as an index of pulmonary surface activity since they were first described by Pattle in 1958. There is now ample evidence that expressed lung bubbles represent suspensions of pulmonary surfactant.

The suggestion has been made that hyperventilation causes a reduction in the amount of effective pulmonary surfactant (McClenahan, 1966). This paper reports the results of a study of pulmonary surface activity following hyperventilation in living anaesthetised guinea pigs.

## METHODS

Thirteen guinea pigs were anaesthetised with intraperitoneal pentobarbitone in divided doses up to a maximum of 50 mg./Kg. A tracheostomy was performed and the trachea cannulated with a 'Y' tube. Each animal was assigned to one of four ventilation groups. These were a control group in which there was no artificial ventilation and three other groups in which the animals were hyperventilated for 5 minutes, 10 minutes or 15 minutes. The animals were ventilated at a constant 32 respirations per minute (i.e. the normal resting frequency for the guinea pig) and with a tidal volume equal to  $\frac{1}{3}$  of the calculated vital capacity. At the end of the ventilation period, which in the control group was immediately following tracheal cannulation, the side arms of the 'Y' tube were clamped and a sternum splitting incision

quickly made. The lungs were removed intact and checked for air leaks under saline.

**Pressure-volume manœuvres** were done on the lungs by connecting one side arm of the 'Y' tube cannula to an electromanometer and the other to a calibrated syringe, from which successive slow injections of 1 ml. of air were made. One minute was allowed between each volume increment for equilibration of the static recoil pressure within the lungs. Pressure was measured by the electromanometer and recorded on a pen recorder. Deflation was effected by an exactly reversed procedure. Three P-V manœuvres were done on each set of lungs and the paired values of volume and pressure plotted to give P-V curves.

**Lung compliance** was calculated from the deflation part of the P-V curves by computing the mean ratio of volume to pressure from six sets of values taken from each of the three curves obtained for each animal at pressures of 5, 10, 15, 20, 25 and 30 cms. H<sub>2</sub>O.

**Opening pressure** was taken as that pressure at which during inflation there was a sudden large volume change, i.e., it is the pressure required before the lungs begin to inflate significantly.

**Pressure at Total lung volume** was the pressure required to maximally inflate the lungs.

**Total volume of the lungs** was taken as that lung volume during inflation at which there was a large pressure rise for a small volume increment; this corresponds to the maximum inflation volume.

**Lung Stability Index.** An index of the stability of the lungs can be obtained from the deflation part of the P-V curve (Gruenwald, 1963). This index allows for variations in the sigmoid shape of this curve and is therefore a more constant numerical value than lung compliance.

The lung stability index (L) for human is given by

$$L = \frac{2V_5 + V_{10} - 3V_0}{2V_{\max} - 2V_0} \text{ where,}$$

$V_0, V_5, V_{10}, V_{\max}$  are the lung volumes at 0, 5, 10 cms. H<sub>2</sub>O and when maximally

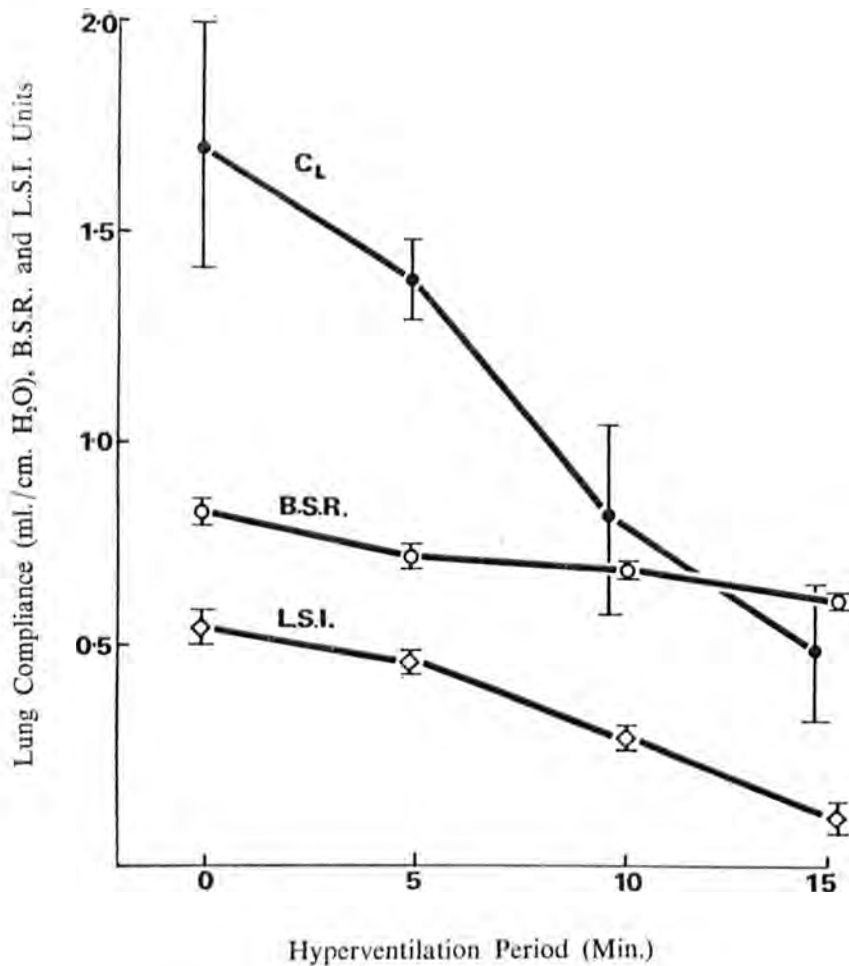


Fig. 1

Effect of Hyperventilation on—  
 Lung Compliance (C<sub>L</sub>)  
 Bubble Stability Ratio (B.S.R.)  
 Lung Stability Index (L.S.I.)

The curves are drawn through the mean values  
 ( $\pm$  1 S.D.) for each Ventilation Group.

inflated. Since small animals characteristically have relatively large lung volumes at zero pressure, this volume is omitted so that the expression for small animals becomes

$$L = \frac{2V_5 + V_{10}}{2V_{\max}}$$

**Bubble stability ratio** is the ratio of the surface areas of a group of bubbles 20 minutes after preparation to their initial surface areas. Stable lung bubbles are prepared by squeezing a piece of lung into aerated water and making a hanging drop slide. This is viewed with a microscope and the diameters ( $d_1$ ) of a suitable group measured. After exactly 20 minutes the measurement of the diameters ( $d_2$ ) of the same group of bubbles is repeated. The bubble stability-ratio (R) is given by

$$R = \frac{\sum (d_2^2)}{\sum (d_1^2)}$$

## RESULTS

**Pressure volume relationships** were similar for each animal within the individual ventilation groups. The differences between ventilation groups were significant. In the control group the hysteresis of the P-V curves were of similar magnitude, the opening pressures ranged from 6-8 cms. H<sub>2</sub>O, the pressure at total lung volume ranged from 25-30 cms. H<sub>2</sub>O, and the total lung volume ranged from 32-36 ml. Following hyperventilation hysteresis increased, the opening pressures increased and the total lung volume decreased progressively with duration of hyperventilation (Table I).

**Lung compliance** was reduced after hyperventilation from a mean control value of 1.17 ml./cm. H<sub>2</sub>O, to 1.39 after 5 minutes, to 0.84 after 10 minutes and to 0.52 after 15 minutes. This is a reduction of 60% after 15 minutes.

**Lung stability index** was reduced following hyperventilation from a mean control value of 0.57, to 0.49 after 5 minutes, to 0.31 after 10 minutes and to 0.12 after 15 minutes. This is an 83% reduction after 15 minutes.

**Bubble stability ratio.** There were highly significant differences between the mean bubble stability ratios between each of the ventilation groups. Hyperventilation caused a reduction in the ratio from a mean control value of 0.84 to 0.74 after 5 minutes, to 0.71 after 10 minutes and to 0.6 after 15 minutes. This is a 23% reduction after 15 minutes.

Fig. 1 shows the effect of hyperventilation on bubble stability ratio, lung compliance and lung stability index. The curves shown are drawn through the mean values ( $\pm$  I.S.D.) for each ventilation group.

## DISCUSSION

Hyperventilation has been shown to reduce lung compliance, lung stability index and the total lung volume to a degree which depended on the duration of hyperventilation. It also increased the opening pressures and the pressure at total lung volume. Thus indicating that the factors maintaining the normal P-V relationship have been progressively altered following hyperventilation.

These factors are generally considered to be of two types—

- (1) those tissue elastic forces which are not altered by hyperventilation (McClenahan & Urtnowski, 1967) and
- (2) surface tension forces.

One can conclude, therefore, that surface tension forces have changed following hyperventilation in such a way that they maintain higher than normal tensions within the lungs, with the consequent tendency to premature emptying of alveoli. A recently published morphometric study (Forrest, 1970) has shown that following hyperventilation both the alveolar volume and the alveolar surface area are significantly reduced but not the alveolar duct volume. Since pulmonary surfactant is effective only at the alveolar surface, one suggests that hyperventilation causes a steady degradation of the alveolar lining.

The finding that the bubble stability ratio is reduced following hyperventilation, implying higher than normal surface tensions within the lung bubbles, is in keeping with this hypothesis.

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### Acknowledgments

The above experiments were performed in the Institute of Physiology at Glasgow University and the Wellcome Laboratory, Garscube Estate, Glasgow. I am indebted to Dr. Sheila Jennett for her considerable advice and guidance, and to Professor R. C. Garry and Professor I. A. Boyd for having had the opportunity of working in their Department. Miss Sylvia Chadwick provided valuable secretarial assistance.

	Opening Pressure ( $\pm$ 1 SD)	Pressure at Total Lung Volume ( $\pm$ 1 SD)	Total Volume of Lungs ( $\pm$ 1 SD)
Controls ... ..	7.2 $\pm$ 0.3	27.4 $\pm$ 0.6	34.3 $\pm$ 0.2
5 min. Hyperventilated ...	11.5 $\pm$ 0.2	36.2 $\pm$ 0.4	28.5 $\pm$ 0.1
10 min. Hyperventilated ...	15.4 $\pm$ 0.2	42.0 $\pm$ 0.3	26.0 $\pm$ 0.2
15 min. Hyperventilated ...	24.6 $\pm$ 0.4	44.0 $\pm$ 0.3	23.1 $\pm$ 0.2

**TABLE 1**

The mean opening pressure in Cms. H<sub>2</sub>O, the mean pressure at total lung volume in Cms. H<sub>2</sub>O and the mean total lung volume for each of the four ventilation groups.

# Poland 1970

THE ten-day visit of members of this Society to Poland in September, 1970, was in fact the Society's second overseas venture, a successful expedition to Scandinavia having taken place in 1965. The Polish visit was prompted by an invitation from the Polish Society of Anaesthetists to attend their annual National Meeting in Cracow. The long and complicated arrangements were successfully completed largely due to the untiring efforts of Dr. Bogdan Kaminski, Head of the Department of Anaesthesia of the Warsaw School of Medicine, who had spent twelve months of his specialist training in Glasgow some years previously.

A party of thirty-five anaesthetists and members of their families finally left Glasgow on 5th September for Warsaw. On arrival the usual Customs and Immigration procedure was accomplished without loss of a single member of the group and, following a brief welcome from the Polish anaesthetists, the visit proper began.

Sight-seeing in Warsaw was combined with visits to various teaching and district hospitals with emphasis on the departments of anaesthetics. Here and throughout the subsequent tour in Poland the visitors were overwhelmed by the enthusiasm and warmth of their reception, this being the first visit by representatives of a National Society of Anaesthetists to Poland. While anaesthetists in that country had many unique difficulties to overcome and were extremely modest in speaking of their achievements, the Scottish anaesthetists were continually impressed with their dedication and with the high standards of practice already achieved. Visits to Chopin's birthplace and to the National Ballet Theatre followed which were delightful and quite unforgettable, and the business side of the Warsaw visit concluded with a meeting with the local Society. At this meeting the President, Dr. K. Grigor, Professor J. D. Robertson and Dr. W. L. M. Baird delivered papers which were much appreciated by the Polish anaesthetists.

Following a long and not uneventful coach trip the party arrived in Cracow for the Congress. By this time all were seasoned campaigners and expert in everything from the peculiarities of local money changing to the varying properties of the national beverage. A strenuous programme followed in Cracow

which commenced with an official welcome to the President and members of the Scottish Society at the official opening ceremony. As well as participation by members of the Society in various symposia during the Congress, papers were read by Dr. K. Grigor and Dr. D. Campbell. Sight-seeing was again a feature of the stay in Cracow including a visit to Auschwitz, now a National Memorial, and another to the former Imperial Palace.

Following the Congress, the stamina of the party was further tested by a long but extremely interesting and lively coach journey to Poznan where a three-day stay included further visits to departments of anaesthetics and intensive care units in various hospitals. Again the hosts were quite overwhelming with their welcome and formidable hospitality, and no one present will ever forget the farewell lunch in Poznan.

The visit to Poland concluded with the return to Warsaw and a memorable dinner held in the hotel once owned by Paderewski, the musician and President of Poland. Formal speeches were kept to a minimum, but Dr. Grigor, in replying to the toast of the Scottish Society, spoke for everyone when he assured the Polish anaesthetists of the deep appreciation felt for all their efforts, and of the sincere hope that this valuable interchange of views and friendship so well begun would be maintained in the future.

## STANDING COMMITTEE (SCOTLAND)

The result of the recently held ballot for three nominations to the Standing Committee (Scotland) of the Faculty of Anaesthetists is as follows:—

Dr. Campbell	-	-	-	94
Dr. MacRae	-	-	-	69
Dr. Raffan	-	-	-	61

Dr. Lawson	-	-	-	51
Dr. Lawrie	-	-	-	25
Dr. Mackenzie	-	-	-	21
Dr. MacNab	-	-	-	12

Enumerators—Dr. A. H. B. Masson and  
Dr. A. C. Milne.

The names of the three successful candidates have been put forward to the Faculty to serve until the A.G.M. of the Society in April, 1972.

# News from the Regions

## Western Region

Dr. H. H. Pinkerton has been made an Honorary Member of the Association of Anaesthetists.

The Medical Research Council have awarded Dr. Graham Smith a Travelling Fellowship—an honour rare, if not unique, in anaesthesia. His travels will extend as far as Seattle where he will work with Professor Peter Winter on pulmonary oxygen toxicity.

An Anaesthetic Research Club has been formed in Glasgow and meets regularly to discuss the latest projects and results.

Hospital building proceeds in a number of places but only rarely seems to yield a finished product.

Exceptions are the new obstetric unit at the Vale of Leven Hospital and the rebuilt and considerably extended Royal Hospital for Sick Children at Yorkhill.

This last will allow the children to move from Oakbank, where they will be replaced by the ophthalmologists who have been in the wilderness since the Eye Infirmary was destroyed by fire.

The Ibrox disaster in January was dealt with mainly by anaesthetists from the Southern General Hospital and Victoria Infirmary. The enormous problems encountered triggered off a number of symposia, and at least one conference, and resulted in some reappraisal and reorganisation of accident services in the region.

We were saddened by the death of Dr. J. R. Gallie in August after a long period of ill health.

## South-East Region

There have been few staffing changes in the South-East during the past year. Two of our Senior Registrars have gained Consultant status, Dr. Ivor Davie has gone to the Western General Hospital and Dr. Robin Park has been appointed to the Southern Group, City and Princess Margaret Rose Hospitals. Dr. Peter Jebson has been appointed Senior Lecturer at Sheffield. We wish him well and know that he will be a great asset to the academic and clinical staff in his new department. He has played a great part in the organisation of the Fellowship Courses here and will be missed.

Dr. Margaret Riddoch has acquired yet another unusual appointment, this time to set up a Department of Anaesthesia at Bandung in

Java. We know that she will be as successful there as she was in India.

Professor Robertson has again been on his travels, this time to the Continent of Africa, where he visited Nigeria and Ghana under the auspices of the British Council. He was the guest speaker at the Association of Surgeons of West Africa at their meeting in Ibadan and was made an Honorary Fellow of their Association.

The Department was honoured by a visit from the Dean of the Faculty, Dr. Cyril Scurr on the morning of 22nd May, and he attended the Scientific Meeting in the afternoon. During the year many anaesthetists from overseas have visited the Department, the majority coming from the under-developed countries.

Numerous research projects have been carried out by various members of the Department. These range from studies on the Sterilisation of Ventilators, the clinical assessment of Ketamine as an intravenous agent, to an investigation of  $\beta$  Adrenergic blocking drugs. All these projects are closely watched by the Research Committee, who view them from different angles including ethics, feasibility and finance.

The Postgraduate Board for Medicine are now running two courses for the Primary F.F.A. in February and June, whilst the Final F.F.A. course is in May and December. Both these courses are in great demand, and applications to attend are being received from many parts of the world.

While the above courses serve those living and working outside the Region, there are "In-Service" training courses for Registrars working in the Region who attend on their study days. The Primary course runs for about 28 weeks and the Final course lasts 32 weeks. Instruction is given by the Lecturers and Registrars attached to the Department with additional help in special subjects by members of the Speciality involved.

Seven of the ten candidates sitting the Primary F.F.A. were successful in March. The results in the Final examination were even better, six of the seven candidates passed in January and four of the five in July. We are proud of this record and feel that it is mainly due to the excellent courses of teaching which has been provided over the past few years.

The Annual Scientific Meeting was held in Edinburgh on Saturday, 22nd May, and took the form of a "Systematic Approach to Teaching"

conducted by Dr. Ruth Beard and colleagues from the University of London Institute of Education. The meeting was well attended and we were especially fortunate in having the Dean of the Faculty, Dr. Cyril Scurr, as a special guest.

The golf outing was held as usual in June and attracted a large turn-out of golfers. The competition was won this year by Dr. Wallace, who comes from Australia.

The picnic at Tantallon has always been blessed with perfect weather, for which we owe our thanks entirely to Miss Taylor. This year the unspeakable happened—the picnic was rained off! It was later reported in the Department that Miss Taylor's private line to the Almighty had been found faulty. To make amends a Christmas Party to beat all Christmas Parties is promised for Saturday, 11th December at the Masonic Lodge in Hill Street.

### **Northern Region**

There have been few staff changes in the Northern Region this year. Dr. Ann Hodson has left for the greener pastures of general practice and Dr. Paul Jennings has joined us in Inverness from Exeter.

We are still waiting in Inverness for a start to be made to the main block of our new hospital, but the building of this seems again to have been postponed—presumably for financial reasons, so we will continue to use Raigmore Hospital and the Royal Northern Infirmary for some time.

At last we have succeeded in organising a separate Coronary Care Unit which should considerably reduce the pressure on our small Intensive Care Unit and incidentally has allowed us to upgrade the equipment and improve the services of our existing Unit.

We now have the use of a good Medical Library and excellent teaching facilities which have become available with the building of the School of Nursing.

Improvements have continued to be made in the accommodation for junior staff and perhaps this is why we have the pleasant experience of having a waiting list of junior staff.

### **North-East Region**

As we mentioned in the last News Letter, Phases II and III of the hospital development on the Forresterhill site had been given the go-ahead. We are pleased to report that building started on schedule, and that the foundation

work is proceeding rapidly. The five ward floors will have about 350 beds and the various departments will include an Accident and Emergency Centre and an Intensive Therapy Unit.

We congratulate Dr. Dennis Reid, one of our registrars, on his appointment in October, 1971 as senior registrar to the Birmingham Group of Teaching Hospitals, and wish him every success in his new appointment.

On the examination front, during the past year, we note with satisfaction that two of our SHOs were successful in obtaining the D.A., four of our registrars passed the Primary FFARCS, and two of our registrars passed the Final FFARCS. This we feel must be very encouraging, not only to the junior staff, but also to their mentors.

It is with great regret that we have to record the tragic death of one of our young SHOs, Dr. Fay Austin, who at the start of her specialist career was killed in a motor accident in December, 1970.

Finally, we welcome Dr. J. McG. Imray on his appointment as consultant to the staff of the Aberdeen Hospital.

### **Eastern Region**

The past year has been marked by several new ventures on the Academic front.

We are pleased to welcome Professor E. A. Cooper from the University of Newcastle as visiting lecturer to the Eastern Region for a two-week period in November. Professor Cooper's lucid lectures were much appreciated by junior and senior staff alike. In addition, he lectured to Senior Medical Students and concluded his visit with an open Post-Graduate lecture entitled "Breaths of Change."

The teaching programme for junior staff under Dr. Bisset's guidance has produced encouraging results. A combined Medical Sciences course for junior staff of all disciplines begins this autumn on each Wednesday. The format will be morning lectures and ward rounds, a lunch-time symposium, followed by vocational training in the afternoon. We have opted to run our afternoon programme on the previous day.

The first year of the Operating Theatre Attendant's Course has been completed successfully and Dundee is now a recognised training centre.

Teachers of Dental Anaesthesia from most of the undergraduate teaching centres in Britain and Ireland attended a symposium on the

"Teaching of Dental Anæsthesia" in the Dundee Dental Hospital. Their conclusion was that undergraduate teaching should continue for the time being, but that it would be undesirable to perpetuate the present state of affairs. Meanwhile, the Post-Graduate courses on I.V. Dental Anæsthesia, continue to flourish.

We welcome the return of Dr. Ian Gray, one

of our Senior Registrars, from the Sick Children's Hospital, Toronto, where he has been investigating the influence of anæsthetic agents on cerebrovascular responses to hypoxia in dogs.

The "delayed labour" of Ninewells Hospital prevents an opening date being given, but at least we have walked through the bare plaster areas of the Theatre Suite and dreamed dreams!

## Editorial Notes . . .

Dr. I. A. DAVIDSON

THIS year sees a change in editor and my first task is to pay tribute to Dr. Walter Norris who produced such a readable Newsletter over the past three years. His oft expressed aim was to get information across to the members and this will continue to be the policy. It is hoped that the President's Newsletter will be a useful addition in this direction. A publication such as this is entirely dependent on the contributors without whom there would be no Newsletter and to each of them I express my thanks.

As noted elsewhere in the Newsletter this year has seen the coming into being of the Scottish Standing Committee of the Faculty; an event acclaimed by Prof. Forrester at the A.G.M. as the greatest advance in anæsthesia in Scotland since the introduction of curare. It is to be hoped that once the reasons for its composition are understood it will receive the support it deserves. It would be unfortunate if, in its dealings with the powers

that be, its authority were diminished by internal strife.

In the wider sphere of British anæsthesia changes are also taking place. As most members will be aware the Faculty is looking into its position within the College of Surgeons. On the other hand, the Association of Anæsthetists at its recent A.G.M. unanimously passed a motion asking its Council to look into the practicalities of establishing an independent College of Anæsthetists. It is apparent that south of the border there is a considerable body of anæsthetists who see the continued association of the Faculty with the College as being visible evidence of the subservience of anæsthesia to surgery. Most arguments for remaining within the College of Surgeons appear finally to rest on the cost involved in establishing an independent college. One is left with the strong feeling that until anæsthetists are prepared to pay for their independence they will neither be seen to be nor feel themselves independent.

## A SYSTEMATIC PLANNING OF EDUCATIONAL COURSES

Mr. D. WARREN PIPER

The work of our unit is based on a systematic approach to the planning and execution of educational courses. That is not to say that we regard the process of teaching as mechanical, teaching is very much an art involving flexible responses to students efforts, rather we seek to help teachers provide themselves with (1) a theoretical model with which they can relate educational decisions, and (2) the means of monitoring their own and their students progress.

The setting up of a course implies that learning is not to be left to chance. On most courses there is some specific knowledge the student is expected to gain or some skills he is expected to perfect, but even on those courses which have no such hard objectives, some outcomes are more preferable than others.

Our purpose is to help people define teaching objectives in such a way that the teacher knows when his students have succeeded in attaining them. This is not to say that every course activity must be justified in terms of the eventual performance it affects on the students, some activities are worthwhile in themselves with no thought for the future, but I suspect that on a course for anaesthetists the main burden is on the student achieving an acceptable level of professional competence by the time he finishes the course.

A basic approach that we suggest is that, once objectives are recognised, the appropriate means by which his performance may be gauged are decided for each. This is a creative task; the proper teaching method does not inevitably flow from the nature of

the objective, neither does the appropriate means of assessment. But relating teaching and assessment method to each objective is the first step in the teacher getting to a position where he can check on the effectiveness of the procedure he adopts. Thus the detailing of objectives can give flexibility and thus lead to a course being more adaptable to changing circumstance or unforeseen delays or bursts of speed in student progress.

Objectives, then, need to be written in terms which describe student performance, only in this way can their attainment be recognised and agreed between staff and with students. It is of great help to construct some taxonomy of educational objectives, in the end it is best to create your own because the very taxonomy itself is often the meat of, at least, the academic parts of a course. There are some generalised taxonomies, the best known of which is Blooms.\* (Here some examples of course objective were shown but not discussed.)

Once a course has been analysed in terms of its objectives and the appropriate teaching methods it may be administered in the usual way. However, it is possible to take the more radical approach of time-tabling objectives only instead of course activities, and leaving the staff and students the maximum latitude in the adoption of the means by which they are to pursue the agreed objectives.

The accompanying hand-out suggests a model for relating the main decision areas in an educational system.

\* Bloom B.S. et al. 1956 "Taxonomy of Educational Objectives." Longmans.

## FEED-BACK ON LEARNING AND TEACHING

Dr. RUTH M. BEARD

There are a number of principles which should be borne in mind when teaching: the student must be motivated, that is to say he must be sufficiently interested to work independently; he should be actively involved in his learning because passive listening is less effective than intelligent activity; content must be structured so that it is meaningful to

him, and, finally, he needs feed-back on his learning and reinforcement of it. It is the last of these, i.e., feed-back and reinforcement, with which I am concerned now. Feed-back consists in ensuring that the student knows how he is getting on (preferably immediately) and the learning is then reinforced by knowledge of success.

A number of studies show that early rehearsal of learning with knowledge of results is an effective aid to memory. The success of programmed learning is partly due to immediate feed-back to the student as he fills in missing words in successive "frames"; since the answer is below, or overleaf, he knows at once whether he was successful. Recently a number of variations have been introduced in lectures which involve students in some activity which provides evidence of their success in acquiring information, knowledge of applications, or skill in problem solving.

One experiment will serve to show how effective prompt rehearsal and feed-back can be. A class was divided into five matched groups before being given a lecture. At the end of the lecture group A remained behind to answer a number of questions on the lecture content. They remembered about 50% of the points. On the next day groups A and B were tested. A had forgotten a little, but B remembered considerably less, i.e. about 30%. On the 7th day groups B and C were tested and scored about 25% and 20% respectively. On the 14th day groups C and D were tested, and so on until finally, on the 63rd day, all five groups were tested. They had all forgotten some of what they originally recalled, but success was greater the earlier they had first been tested, group A recalling more than 30%.

One experiment alone does not prove that testing of this kind would be effective in all circumstances or with all groups of students. But it is perhaps significant that a number of lecturers now use multiple choice questions during lectures and report that this is beneficial. An American psychologist (Mosél) had tried giving a short well-structured lecture (25 mins.) with a few applications, setting

questions for students to answer during 10 mins., allowing discussion with neighbours for 15 mins., and finally any remaining questions are put to the lecturer. This has proved highly effective.

Davies, at St. George's Hospital, London, uses short answer questions in teaching anaesthetics. The hand-out describes how the answers are immediately discussed in the theatre and how this work is integrated with practical activities. The course now proves so easy that additional topics have been added. At B.M.A., Mr. Engel has developed a method to teach about cardiac arrest with tape, a book of diagrams and a question book. The student first listens to the commentary and then tests himself; for instance, he lists, in order, what he would do if a nurse reported to him that a patient had apparently had a heart attack.

Tape-slide sequences are being developed in Glasgow for individual work. But at the Royal Veterinary College taped commentaries include questions so that students find out whether they have understood. Veterinary scientists at refresher courses are said to enjoy the method and to find it so useful that they work until late into the evening.

The session this afternoon also provides feed-back during the periods of discussion interspersed between talks.

So much for learning. You will appreciate that, in addition, these methods supply feed-back to the teacher on his prowess. He finds out whether he has made his points in such a way that the audience has understood him. An additional method we advocate is to invite students early in a course to fill in a questionnaire commenting on the lecturer's voice, tempo, rapport, the content of lectures, use of visual aids and so on. This feed-back enables the lecturer to improve his communications in later sessions.

## METHODS OF LEARNING AND TEACHING

Mr. D. A. BLIGH

Mr. Piper has shown how the choice of objectives influences the selection of teaching and assessment techniques. I shall proceed on the assumption that **different objectives require different teaching methods**: It may seem a rather obvious point that different jobs require different tools, but it is frequently not observed in Higher Education. The lecture

method is frequently required to achieve a wide variety of objectives to which it is unsuited.

The task I am now faced with is to decide what kind of objectives are possessed by teachers of anaesthesia and to prescribe appropriate teaching methods. However, I am no anaesthetist, so I must ask you to amend my provisional list appropriately.

## **INFORMATION**

It is already clear from discussion that you wish students to acquire information and, since discovery by trial and error would be dangerous, presentation methods must be used. Experiments have shown that lectures, tape-recordings and reading are equally economic, available, self-paced, or easily kept up-dated. These are primarily verbal methods, but in a visual subject overhead projector, transparencies, photographic slides, film-loops and other visual equipment are essential; they are not visual-aids in the sense of an optional extra.

## **REASONING AND DECISION MAKING**

It seems as if the anaesthetist has to make a range of decisions varying from everyday judgments of how much of a drug should be injected, to rapid complex decisions in an emergency. With experience, the first kind are made according to principles the student must be taught **and** taught to apply. Individual decisions of the latter kind cannot be taught because they are too complex and variable; what must be taught is the capacity to take decisions.

These cognitive skills may be taught if the students are faced with decision making problems. These may be answered individually, in buzz groups (groups of 2-6 members formed for a short while in a lecture situation), problem centred groups (6-12 members meeting for up to half-an-hour with a less simple problem), case discussion, seminars with a tutor, or in individual tutorials.

## **EMPATHY AND ETHICS**

Under this heading I mean to include not only the sympathetic handling of children, but the whole area of personality, attitudes, values and the doctor-patient relationship. The difficulty with this kind of teaching is that these objectives are achieved by modification of existing emotions and motives within the

student, not by a process of input. By the use of discussion in which there is no pre-determined topic, and in which students are "free" to express their feelings of the moment, their motives become more overt. They are, therefore, open to consideration and modification within a group situation. This method, known as "free group discussion," cannot easily be planned in advance and usually has to be used as an opportunity arises.

The use of techniques in which students act the role of an anaesthetist (role playing) not only makes their attitudes to patients more overt, particularly when feed-back is provided by video-tape recordings, but permits practice in the expression of empathy in an appropriate situation even though there are limits to how far the real situation can be simulated.

## **MOTOR SKILLS**

Simulation and role playing are also appropriate for the practice of motor skills. Indeed it is difficult to see how manual skills can be learned except through practice and it seems doubtful whether all practice should be on patients. Therefore some kind of practical classes seem to be necessary if manual skills are important for anaesthetists.

## **FINDING OUT**

In most branches of medicine it is important to keep up-to-date after qualifying and I am sure this is true in your field. Students therefore need training in the use of available literature in their subject. After initial instruction, practice in the use of library techniques may be obtained when preparing small projects or theses. Case studies may also be designed with this end in mind. In syndicate method a group of 3-6 students are given a problem or topic on which they must write agreed **joint** report after consulting precisely specified interdisciplinary references. This can be used to practice teamwork and to teach an appreciation of the relation of anaesthesia to the work of other specialists, but it requires careful preparation if the group's work is to be a corporate effort.



# EDINBURGH AND EAST OF SCOTLAND SOCIETY OF ANÆSTHETISTS

## Syllabus 1971-72

1971

Saturday, October 30

Combined Meeting with Glasgow and West of Scotland Society of Anæsthetists will be held at the Western Infirmary, Glasgow.

"Technology and Medicine—Prospects and Pitfalls." Dr. J. M. A. Lenihan, Director of the Western Regional Hospital Board Bio-Engineering Department.

A Buffet Supper will follow the meeting.

Tuesday, November 9

Surgeon Commander E. E. P. Barnard, R.N. Royal Naval Physiological Laboratory.

Tuesday, December 14

Presidential Address. "Anæsthesia à la Reine"—Dr. K. W. Dodd.

1972

Tuesday, January 11

"Developments in the Diagnosis of Thromboembolic Episodes." Dr. J. D. Cash and Mr. C. V. Ruckley.

Tuesday, February 8

Members' Short Papers.

Friday, February 25

Informal Dinner at University Staff Club.

Tuesday, March 14

"The Extent of the Anæsthetic Explosion Risk." Dr. M. D. Vickers, Dudley Road Hospital, Birmingham.

Tuesday, April 25

Annual General Meeting.

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Meetings will be held in the Royal College of Surgeons, Nicholson Street, on the **second Tuesday** of each month unless specified otherwise. Tea at 7.45 p.m. for 8 p.m. Telephone 031-556 6207.

# GLASGOW AND WEST OF SCOTLAND SOCIETY OF ANÆSTHETISTS

## Syllabus 1971-72

Saturday, October 30, at 5.30 p.m.

Combined Meeting with Edinburgh and East of Scotland Society.

"Technology and Medicine—Prospects and Pitfalls"—Dr. J. M. A. Lenihan, Regional Physicist, Western Regional Hospital Board.

Integrated Lecture Theatre, Western Infirmary, Glasgow.

A Buffet Supper will follow the meeting.

Thursday, December 2

Members' Night.

Dr. Isobel Speirs—"Nurse Anæsthetists in Africa."

Dr. T. Fraser—"The Problem of Anæsthetic Practice in District Hospitals."

Dr. R. Young—"Newer Drugs in Anæsthesia for Endoscopies."

1972

Wednesday, January 19

"Aerospace Medicine: the Problem of Weightlessness and Gravity"—Wing Commander A. N. Nicolson, R.A.F. Institute of Aviation Medicine, Farnborough.

Tuesday, February 15

"Anæsthetic Practice in the European Community"—Dr. T. W. Baillie, Red Cross Hospital, The Hague.

Tuesday, March 14

Presidential Address—Dr. A. K. Brown.

Thursday, April 20

Annual General Meeting.

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Unless otherwise notified, Meetings will be held in the Integrated Lecture Theatre, Western Infirmary, Glasgow, at 8.15 p.m. Tea will be served at 7.45 p.m.

Notice of each meeting will be sent to members.

# NORTH-EAST OF SCOTLAND SOCIETY OF ANÆSTHETISTS

## Syllabus 1971-72

1971

Thursday, October 7—Stracathro

Registrars' Papers.

Thursday, November 18—Aberdeen

"Random Thoughts of a Sometime Anæsthetist"—Dr. H. G. Pledger.

1972

Thursday, April 6—Dundee.

"Obstetric Analgesia—'Up to Perth and back in a day'"—Dr. M. Rosen.

Thursday, May 18—Stracathro

Presidential Address—Dr. D. D. Hart.  
Annual General Meeting.

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Meetings are held at 8 p.m. in Aberdeen Royal Infirmary, Dundee Royal Infirmary, or in Stracathro Hospital, Brechin, unless notified otherwise.