

AUGUST 1961

The NOVA SCOTIA MEDICAL BULLETIN**EDITOR-IN-CHIEF**

Dr. E. H. Evans

MANAGING EDITOR

Dr. C. J. W. Beckwith

ASSOCIATE EDITORS

Dr. J. H. Quigley

Dr. W. A. Taylor

Dr. L. C. Steeves

Dr. J. W. Reid

Dr. W. E. Pollett

Dr. P. C. Gordon

CORRESPONDING MEMBERS—SECRETARIES OF BRANCH SOCIETIES

EDITORIAL**DOCTORS' WIVES**

O Woman! in our hours of ease,
Uncertain, coy and hard to please.

An alternative title for this editorial might be "Thoughts on contemplating the scene at the Annual Dinner of The Nova Scotia Medical Society".

The first and most obvious thought which strikes one is that there must be a special department of Providence which ensures that doctors secure wives much better than they merit. The poorest observer could not fail to note how highly these feminine partners are endowed with comeliness of face and form, nor would more than a glance be required to confirm for him that they are as kindly as they are fair. We know that their duties are many and arduous, and as varied as coping with a busy general practice on their own offspring to acting as golfing partner when no one else is available.

It may be that the committee of Providence to which we referred is connected with the one which tempers the wind to the shorn lamb, but we are grateful to it nonetheless. And while our observations were necessarily limited to the wives of fully paid up members of The Nova Scotia Medical Society, there is reason to believe that this same Providential beneficence extends to our confreres far beyond these narrow confines.

We might well ask at this stage how Sir Walter became involved in all this, and the answer is only that he might be refuted. Even he must have been terrified after writing his well known lines because he spent the rest of the poem trying to square himself with the fair sex. It is true that at times our wives are uncertain as to our whereabouts and possibly a bit coy about finding us for some of our patients. But to really silence Sir Walter forever, it would only be necessary to suggest that he look about the assemblage at the Lord Nelson, to survey the motley collection of hard featured characters at the sides of these same wives and ask him if they are hard to please. And if any male reader asks us (in the editorial sense) to speak for ourself, we shall tell the hard featured character that we do and and for him as well.

Finally how shall we thank these paragons? Should we hide our emotion and do it casually in the form of a toast such as the old regimental "To our wives and sweethearts. May they never meet!" We do not think so. Rather shall we say to each of them, "Well done, good and faithful servant". And when we say servant, I'm afraid that's exactly what we mean.

W.E.P.

THE MEDICAL SOCIETY OF NOVA SCOTIA

NOVA SCOTIA DIVISION
OF
THE CANADIAN MEDICAL ASSOCIATION

MEMBERS OF EXECUTIVE COMMITTEES

OFFICERS

PRESIDENT - - - - -	R. F. Ross
PRESIDENT-ELECT - - - - -	D. F. Macdonald
IMMEDIATE PAST PRESIDENT - - - - -	F. J. Granville
CHAIRMAN EXECUTIVE COMMITTEE - - - - -	L. C. Steeves
HONORARY TREASURER - - - - -	J. F. Boudreau
EXECUTIVE SECRETARY - - - - -	C. J. W. Beckwith

BRANCH SOCIETY REPRESENTATIVES

ANTIGONISH-GUYSBOROUGH - - - - -	T. W. Gorman
CAPE BRETON - - - - -	H. F. Sutherland & J. R. Macneil
COLCHESTER-EAST HANTS - - - - -	H. R. McKean
CUMBERLAND - - - - -	J. C. Murray
HALIFAX - - - - -	D. M. MacRae, F. J. Barton & K. M. Grant
LUNENBURG-QUEENS - - - - -	S. B. Bird
PICTOU COUNTY - - - - -	M. F. Fitzgerald
VALLEY - - - - -	D. MacK. Archibald
WESTERN COUNTIES - - - - -	C. K. Fuller

OBSERVERS

REPRESENTATIVE TO CMA EXECUTIVE COMMITTEE - - - - -	R. O. Jones
CHAIRMAN PUBLIC RELATIONS COMMITTEE - - - - -	S. C. Robinson
CHAIRMAN MEDICAL ECONOMICS COMMITTEE - - - - -	H. E. Christie

CHAIRMEN OF STANDING COMMITTEES

COMMITTEE	CHAIRMAN	COMMITTEE	CHAIRMAN
ARCHIVES - - - - -	C. M. Bethune	MATERNAL & PERINATAL	
BY-LAWS - - - - -	H. J. Devereux	HEALTH - - - - -	M. G. Tompkins, Jr.
CANCER - - - - -	J. E. Stapleton	MEDICAL ECONOMICS - - - - -	H. E. Christie
CHILD HEALTH - - - - -	R. S. Grant	MEMBERSHIP - - - - -	D. M. MacRae
CIVIL DISASTER - - - - -	S. B. Bird	NUTRITION - - - - -	W. A. Cochrane
EDITORIAL BOARD - - - - -	E. H. Evans	PHARMACY - - - - -	R. M. MacDonald
FEES - - - - -	C. H. Young	POST-GRADUATE	
HEALTH INSURANCE - N. K. MacLennan		EDUCATION - - - - -	D. C. P. Cantelope
LEGISLATION & ETHICS - D. F. Smith		PUBLIC HEALTH - - - - -	S. Dunn
		PUBLIC RELATIONS - - - - -	S. C. Robinson
		REHABILITATION - - - - -	G. J. H. Colwell
		TRAFFIC ACCIDENTS - - - - -	A. L. Murphy

BRANCH SOCIETIES

	PRESIDENT	SECRETARY
ANTIGONISH-GUYSBOROUGH - - - - -	J. E. MacDonell	C. N. MacIntosh
CAPE BRETON - - - - -	T. J. McKeough	A. F. Govoni
COLCHESTER-EAST HANTS - - - - -	R. F. Ross	H. R. McKean
CUMBERLAND - - - - -	R. E. Price	R. A. Burden
HALIFAX - - - - -	F. J. Barton	J. A. Myrden
LUNENBURG-QUEENS - - - - -	D. C. P. Cantelope	G. D. Donaldson
PICTOU COUNTY - - - - -	J. A. F. Young	J. H. Fraser
VALLEY MEDICAL - - - - -	J. P. McGrath	H. R. Roby
WESTERN COUNTIES - - - - -	D. F. MacDonald	G. D. Belliveau

AFFILIATE SOCIETIES

	PRESIDENTS
NOVA SCOTIA ASSOCIATION OF RADIOLOGISTS - - - - -	A. J. M. Griffiths
NOVA SCOTIA SOCIETY OF OPHTHALMOLOGY & OTOLARYNGOLOGY - - - - -	H. J. Davidson
NOVA SCOTIA SOCIETY OF GENERAL PRACTITIONERS - - - - -	A. G. MacLeod
NOVA SCOTIA CHAPTER OF COLLEGE OF GENERAL PRACTICE - - - - -	F. J. Granville
NOVA SCOTIA DIVISION OF CANADIAN ANAESTHETISTS' SOCIETY - - - - -	C. H. L. Baker
NOVA SCOTIA ASSOCIATION OF PATHOLOGISTS - - - - -	J. H. Cooper

AN ORDER IN COUNCIL ESTABLISHING A ROYAL COMMISSION ON HEALTH CARE

The Committee of the Privy Council have had before them a report from the Right Honourable John G. Diefenbaker submitting that, while recognizing that the power to make laws relating to health services is, except in limited fields, within the jurisdiction of Provincial Legislatures, it is considered to be in the public interest to have a comprehensive and independent study made of the needs of the Canadian people for health services and the resources available to meet such needs with a view to recommending methods of ensuring that the best possible health care is available to all Canadians.

The Committee, therefore, on the recommendation of the Prime Minister, advise that:

Chief Justice E. M. Hall, Saskatoon (Chairman)

Mr. M. Wallace McCutcheon, Toronto, Ont.

Mr. O. J. Firestone, Ottawa, Ont.

Dr. C. L. Strachan, London, Ont.

Dr. Arthur F. VanWart, Fredericton, N. B.

Dr. David M. Baltzan, Saskatoon, Sask.

Miss Alice Girard, Montreal

be appointed Commissioners under Part I of the Inquiries Act to inquire into and report upon the existing facilities and the future need for health services for the people of Canada and the resources to provide such services, and to recommend such measures, consistent with the constitutional division of legislative powers in Canada, as the Commissions believe will ensure that the best possible health care is available to all Canadians and, in particular, without restricting the generality of the foregoing, the said Commissioners shall inquire into and report upon:

- (a) The existing facilities and methods for providing personal health services including prevention, diagnosis, treatment and rehabilitation.
- (b) Methods of improving such existing health services.
- (c) The correlation of any new or improved programme with existing services with a view to providing improved health services.
- (d) The present and future requirements of personnel to provide health services.
- (e) Methods of providing adequate personnel with the best possible training and qualifications for such services.
- (f) The present physical facilities and the future requirements for the provision of adequate health services.
- (g) The estimated cost of health services now being rendered to Canadians, with projected costs of any changes that may be recommended for the extension of existing programmes or for any new programme suggested.
- (h) The methods of financing health care services as presently sponsored by management, labour, professional associations, insurance companies or in any other manner.
- (i) The methods of financing any new or extended programmes which may be recommended.
- (j) The relationship of existing and any recommended health care programmes with medical research and the means of encouraging a high rate of scientific development in the field of medicine in Canada.
- (k) The feasibility and desirability of priorities in the development of health care services.
- (l) Such other matters as the Commissioners deem appropriate for the improvement of health services to all Canadians.

TUBERCULOSIS - AN UNSOLVED PROBLEM*

J. E. HILTZ, M.D.**

Kentville, N. S.

It has been said that the practice of medicine is both a Science and an Art. In no segment of professional care is this statement more accurate than in regard to tuberculosis.

There are many things about which we are certain in respect to this disease and in our application of this knowledge we can be quite scientific. There are many other matters concerning it that we merely "think we know" and here we must bring to bear all our careful observations and well considered opinions in order to apply properly the Art of medical practice. Indeed this Art, in many cases is a matter of using good common sense based upon personal experience and the careful calculations of many observant clinicians over the years.

No one disputes the fact that tuberculosis is caused by the entrance of mycobacteria tuberculosis into the body tissue. What contributing part is played by bad housing, overcrowding, malnutrition, intercurrent illness, poor living habits and the genes of our forefathers is less well understood.

However, improvement in the standards of living during the past century has no doubt done much to alleviate not only the "people's misery" but also the ravages of tuberculosis. The death rates from this disease were falling before sanatorium treatment even entered the picture but these rates have fallen more precipitously since then, and the rate of fall has increased in keeping with the intensiveness and effectiveness of our means of therapy and the measures used to prevent the spread of the causative agent.

Sometimes, there are things which one knows so well that they may fade from one's conscious thinking. For this reason, they bear restating from time to time.

The germs of tuberculosis always originate in some animal vector, human or otherwise, outside the body of the newly infected person. In Nova Scotia, the bovine form of the disease has been essentially eliminated by the Health of Animals Division of the Department of Agriculture so that we may now focus our attention upon the human vector, the patient with tubercle bacilli in his secretions who may spread his disease to others.

Isolation of this infected person always was imperative and it continues to be an essential factor in the control of the spread of tuberculosis.

Lest we become too sanguine about our successes in regard to the elimination of tuberculosis in cattle, it may be well to quote John Francis, Dean of the Veterinary School of the University of Queensland as follows:¹ "Tubercle-free herds of cattle are readily infected from cases of phthisis in man caused by bovine type infection." This may well account for some of the positive tuberculin reactors which may unexpectedly occur among cattle in a previously tuberculosis free accredited herd. Cattle then become a vector of tuberculous disease once more and those who consume the milk in an unpasteurized state are in turn endangered.

Let us return now to a consideration of the human patient infected by another human who had coughed tubercle bacilli into the air. These germs

*Presented at "A Week in Infection and Infectious Diseases" of the Post Graduate Division of the Faculty of Medicine, Dalhousie University—February 27, 1961.

**Administrator, Tuberculosis Control Services, Nova Scotia Sanatorium, Kentville, N. S.

are breathed into the lungs and usually lodge just beneath the pleura. Here they set up business and enjoy a period of unfettered prosperity, multiplying freely and travelling via the lymphatic channels to the glands at the root of the lung and then frequently from one gland to another and finally to the thoracic duct and thence into the venous system and so may reach distant parts of the body. This is the story of primary infection tuberculosis and one of the causes of dissemination of the disease within the body. Indeed how else can tubercle bacilli reach distant organs such as the kidney, the spine, the hip or the meninges other than by transportation by way of the blood stream, the lymphatic system or both. This is important. Tuberculosis of organs other than the lungs is a sequel of tuberculous bacillaemia frequently with resulting multiple foci of disease. Indeed, about 20 per cent of persons with tuberculosis of the spine, upon careful examination, will be found to have genito-urinary tuberculosis as well.

Non-pulmonary tuberculosis, therefore, is almost always a local manifestation of a general disease and merits consideration on this basis.

To return now to the primary infection lesion in the lung where the bacilli are multiplying just beneath the pleura and gaining entrance to the lymphatic vessels and glands, these tubercle bacilli are manufacturing and the blood stream is carrying throughout all parts of the body a specific protein known as tuberculin. After a variable period of time, but on the average five weeks, *all* the body tissues develop a sensitivity or allergy to this protein. If now, a minute amount of tuberculin is injected into *any* tissue of the body it will cause a local reaction evidenced by odema due to an outpouring of exudate around the offending foreign protein. This is the positive tuberculin test. It means infection by tubercle bacilli either at the time of the test or previously and it means absolutely nothing else—unless, of course, a person has been vaccinated with B.C.G. vaccine which will cause a similar tissue reaction to tuberculin.

Every person, child or adult, who has never been vaccinated with B.C.G. vaccine, but who has a positive tuberculin reaction has or has had an active tuberculous lesion. This is a scientific fact.

This primary lesion of the lung may heal completely and yet lesions in distant organs may slowly progress or remain dormant for years only to reactivate much later.

So, too, the lung lesion may remain healed throughout the patient's lifetime or it may reactivate months to many years later. The average interval before reactivation will be in the nature of fifteen years. The more adequately the primary infection is treated the less likely is endogenous reinfection or reactivation to occur.

Bearing in mind these things, then, we know the following principles of treatment of a case of primary infection tuberculosis to be rational:

1. Find the source case and place that person under active treatment in a tuberculosis hospital so that further spread of disease may thereby be eliminated.
2. If the home conditions are good and if the primary disease is not so advanced that it hazards the health of home contacts the patient may be treated there with at least two and preferably three anti-tuberculosis drugs. Very frequent X-ray examinations are indicated to assure that satisfactory progress ensues.
3. Any child under five years of age with a positive tuberculin test but without any demonstrable or suspicious tuberculous lesion may be treated with isoniazid alone. This should be at home and should continue for a period of one year.

4. Any person, child or adult, whose tuberculin test has converted from negative to positive within the previous twelve months should be treated in a like manner.

So much for primary infection tuberculosis. Let us now turn our thoughts to the reinfection type of the disease which is the form generally encountered in tuberculosis hospitals.

It is a sobering thought that no case of reinfection tuberculosis occurs without at some time having had a previous primary infection. Therefore, if we could prevent primary infection we could eliminate all tuberculosis, but we shall never prevent primary infection as long as we allow persons with open and active tuberculosis to go around spreading their bacilli to other unsuspecting individuals. This is our justification for institutional care of the tuberculous, even though occasionally legal measures may be required to protect the rights of others. Freedom from disease is one of the Rights of Man.

And what is meant by an open and active tuberculous lesion.

If the lesion can be shown to be changing either for the better or for the worse, it is still active and without proper care an improving lesion may quite readily reverse its direction and extend.

When we come to discuss an open or infectious lesion, however, we must call upon the Art of medicine because science can only take us so far. It has been proved that if a patient's sputum is examined and tubercle bacilli are demonstrated by direct smear there must be at least 100,000 of these bacilli present in each cubic centimeter of the sputum; if only a concentrate is positive, there must be at least 500 bacilli present; whereas a culture is positive only if at least 50 bacilli are present per c.c. of sputum. Below a population of 50 bacilli per ml., it is unlikely that a culture or even a guinea pig inoculation will yield positive results.

Therefore, when we state that a certain specimen of sputum is negative for tubercle bacilli we are being unscientific. We should say "no tubercle bacilli demonstrated". It does not mean that they are not present. We cannot demonstrate them because they exist in too few numbers in the body secretions or because their growth potential has been inhibited by the administration of drugs. If one stopped the administration of antimicrobial drugs, the bacilli, in many cases, then would begin to grow on artificial media once more.

If we cannot demonstrate them because they exist in too few numbers, they may soon become plentiful enough once more to demonstrate quite readily if we discontinue treatment too soon.

Sometimes, sputum which has become negative under treatment with the antituberculosis drugs may become positive again even though treatment has not been interrupted. This usually means that the mycobacteria have become resistant to the drugs being used and so can now grow again, even in the presence of these drugs.

It should be stressed that the usual antituberculous drugs, streptomycin, paraminosalicylic acid and isoniazid are not bacteriocidal to the tubercle bacilli. They are bacteriostatic. They interfere with the reproductive or multiplication process of the bacteria and so permit the normal body defences to destroy the bacilli more efficiently and more completely. They therefore must be supported by general treatment measures.

In 1947, streptomycin was the only one of these drugs available for use. It was soon found that the tubercle bacilli became resistant to it in six weeks to six months and it was then no longer effective. When PAS, the second

drug, became available, it was not very effective against the tubercle bacilli but when given in combination with streptomycin, each drug prolonged the effective period of the other and so resistance might be delayed for one, two or more years. This happy state occurred, however, only when the drugs were given always in combination and always without interruption. Those patients who tired of taking pills and injections or who had them discontinued because they developed toxic manifestations soon found themselves in trouble with drug resistant bacilli.

Isoniazid was the next important treatment agent to be discovered. It could replace one or other of streptomycin or PAS if the bacilli were sensitive, but if the patient's bacilli were resistant to both of these they soon became resistant to isoniazid as well.

Not only did this become a great problem for the patient concerned but if he became discouraged and returned home he could infect others with his drug resistant bacilli and they would have to start their treatment without the benefit of any effective drug therapy.

This may well represent our biggest problem in the years ahead. Doctor James Rawleigh, Medical Director of the American Thoracic Society, has stated,²

"It is certain, therefore, that the incidence of bacilli resistant to streptomycin, isoniazid and PAS in tuberculosis patients with no history of previous treatment is already on the increase. If the eight per cent incidence is correct for the nation as a whole, and if we have 75,000 new active cases reported annually in the United States for the next few years, we must face the fact that each year 6000 of them will yield bacilli resistant to one or more of the three major drugs; roughly 2500 resistant to isoniazid, 2500 to streptomycin and the remainder to PAS. What, too, does this reflect in the way of individuals infected by drug resistant bacilli (positive tuberculin reactors) but not yet clinically ill with tuberculosis?"

Time alone will tell. As the population of Canada is roughly one-tenth that of the United States, Dr. Rawleigh's figures can be extrapolated to present quite a frightening Canadian picture in the years ahead.

At the Nova Scotia Sanatorium we have been recording drug resistance for tubercle bacilli for over three years. An impressive number of our patients have become drug resistant under treatment and a distressing though still relatively small number of previously untreated cases are being admitted with drug resistant bacilli demonstrated in their admission sputum specimens.

What is the solution to this problem? We must:

1. Intensify our case finding programs so that new cases are found as early as possible when they will respond most readily to treatment. The fewer the bacilli present in the lesion when the drug treatment is initiated, the less likely the patient is to develop drug resistant bacilli.

2. Treat primary infection cases, including recent tuberculin converters, in the manner mentioned earlier, in order to eliminate as many as possible of the tubercle bacilli from the body so that reactivation of disease may not occur in the years ahead.

3. Insist that all known cases of active reinfection type tuberculosis remain under treatment in a tuberculosis hospital away from associates long enough so that their disease heals and will remain healed. Every case needs eighteen months to two years drug treatment as a minimum. Frequently, the final year of treatment may be continued safely at home.

4. Now that we know that up to ten per cent of persons beginning treatment may have tubercle bacilli resistant to one or more of the three main antimicrobial drugs, we must start treatment with all three of the main drugs in the hope that the patient's bacilli will be sensitive to at least two of them in order to be able to maintain required prolonged treatment without developing drug resistance.

5. Test all positive sputums for drug resistance in order to be prepared to add to the treatment routine in resistant cases those more dangerous and somewhat less effective but very useful drugs such as pyrazinamide, cycloserine or thioamide (TH1314) or even viomycin, thiosemicarbazone, or kanamycin.

6. Be prepared to treat intensively all new cases of tuberculosis by means of drugs and bed rest in order to obtain the maximum effect in the shortest possible time before the bacilli have time to become drug resistant. This frequently involves the administration of streptomycin daily for the first three to six months if it is well tolerated.

7. Remove residual caseous lesions surgically after maximum medical improvement has been brought about. These residual lesions are potential areas of reactivation at a later date and probably contain drug resistant tubercle bacilli.

8. Be prepared to provide modified but adequate bed rest treatment both in the early stages of therapy in order to get the quickest possible maximum effect from treatment and also later to help assure the patient a good prognosis in case the bacilli may become partially or wholly drug resistant and so the drugs not as effective as they should be.

To those who feel that tuberculosis is no longer a problem, the following facts may be of interest in altering this misconception.

Mortality statistics are no longer a good indication of the size of the tuberculosis problem in any community but they do give some idea of the effectiveness of treatment procedures and the degree of advancement of the tuberculous process when first detected. Table I indicates a very creditable improvement in the situation in Nova Scotia over the years. It was somewhat disconcerting, however, to note a slight upward trend during 1960.

As over 50 per cent of the deaths occurred in persons sixty years of age or older this increased rate may have been in part a reflection of a normal mortality trend in this age group. Moreover, as 30 per cent of all newly discovered cases of active tuberculosis of the lungs in 1960 were fifty years of age and over and 17 per cent were sixty years of age or older, we may expect this trend to continue.

During 1960, preliminary figures indicate that there were 231 newly discovered cases of active tuberculosis, all forms, and 109 reactivations of cases previously considered to have reached an inactive or healed stage of their tuberculous disease. (Table II).

The newly discovered cases are made up of primary infections of which there were 31 out of the total of 231 mentioned above. The other 200 were persons with a small healed primary lesion or only a positive tuberculin reaction as the sole evidence of their *previous* infection. Two hundred such persons in Nova Scotia demonstrated active clinical tuberculous disease during the year.

The importance of the tuberculin test and the repeated follow-up of positive reactors is amply demonstrated by this figure. It has been shown that 3 to 5 per cent of persons with healed primary infection tuberculosis will break down with clinical disease at a later date. At the moment, we have

Table I MORTALITY FROM TUBERCULOSIS IN NOVA SCOTIA

Year	Population (estimated)	Deaths (number)	Death Rate per 100,000 pop.
1911	500,000	1100	207.6
1947	615,000	382	62.6
1958	710,000	36	5.1
1959	716,000	28	3.9
1960	723,000	33*	4.6*

Table II MORBIDITY FROM TUBERCULOSIS IN NOVA SCOTIA

Year	Newly Discovered Active Cases	Reactivations	Requiring Treatment (new or repeat)
1957	282	79	361
1958	268	105	373
1959	287	136	423
1960	231*	109*	340*

*Preliminary figures

Table III**ESTIMATED FUTURE MORBIDITY FROM TUBERCULOSIS IN NOVA SCOTIA**

a)	Estimated population of Nova Scotia 1960 (all ages).....	723,000
	Estimated number with positive tuberculin reaction (30%)....	220,000
	Estimated number who will break down during lifetime (4%)...	8,800
	Estimated number expected to break down next year (1/35th**)	250
b)	Known cases of tuberculosis on Case Register of Nova Scotia	
	1959.....	12,000
	Average yearly rate of reactivations (1%).....	
	Expected yearly reactivations.....	120

**Life expectancy is approximately 70 years at birth and nil at death, so average for all those living is about 35 years.

approximately 220,000 persons in Nova Scotia with a positive tuberculin reaction. Almost 9,000 of them may be expected to develop clinical tuberculous disease during their lifetimes, (Table III), or approximately 250 each year.

This conception will be modified somewhat during each decade as the older population echelons pass away in the natural course of events. These older groups reflect the tuberculinization experience of the population in the early years of the century when tuberculous disease was rampant. As these older citizens pass to their reward, those left behind should be less highly infected by tubercle bacilli. The percentage of positive tuberculin reactors will then lessen and, on a proportionate basis (3 to 5%) they will contribute fewer new clinical cases of the disease each year.

This reduced contribution of new cases, of course, is only provided we do not become complacent and allow patients with positive sputum to remain outside tuberculosis hospitals and thereby increase the present rate of dissemination of tubercle bacilli among the unsuspecting citizens of our Province. This would increase the numbers of potential new cases of clinical tuberculosis in the years ahead. It is provided, too, that we do not permit ineffective treatment of known cases of tuberculosis to increase the population of drug resistant bacilli among our citizens who then will not respond in a satisfactory manner to drug treatment; and provided that we make sure that approved treatment procedures are followed long enough and convalescence conscientiously and sufficiently continued so that fewer, rather than more, of the present presumably healed cases of clinical tuberculosis reactivate their disease each year.

At the present time, almost 350 to 400 Nova Scotians need to undertake treatment either for the first time or as a repeat performance each year. (Table II). The reactivations from healed disease occur at a rate of approximately one percent per annum of those cases on our tuberculosis case registers (Table III). They are a discouraged group, some of whom have lost faith in their medical advisers because of the relapse of their disease. This did not occur because adequate treatment was not available to them but only because it was not applied effectively perhaps due to a false sense of optimism engendered by reports in the popular press suggesting that a cure for tuberculosis is now easy and quick; perhaps due to an unwillingness on the part of the patient to make the necessary sacrifices of time and effort to accept adequate treatment for a sufficiently long period of time; or perhaps due to a lack of appreciation of the fact that adequate modern therapy programs have become more complex rather than less so since the advent of specific drugs for the treatment of tuberculosis. These have brought with them problems arising from bacilli developing drug resistance and patients developing toxic and hypersensitivity reactions to them making it necessary to provide therapy always in the form of bed rest augmented by varying combinations of two or more antituberculosis drugs. It is necessary, also, frequently to assess and reassess the patient to observe possible developing drug resistance or drug toxicity which may make it imperative to change treatment schedules from the older safer drugs to the newer more toxic ones. The opportune time for resectional surgery, when indicated, must be chosen with care in order to ensure the best possible immediate and long range results.

SUMMARY

An adequate tuberculosis control program involves both the Art and the Science of medicine.

The prevention of primary infection tuberculosis would eliminate tuberculous entirely when the present positive tuberculin reactors disappear from our midst.

To develop a positive tuberculin test due to the entrance of the myobacteria tuberculosis into the tissues is discouraging enough at any time but it presents a very serious problem indeed when these bacilli are already resistant to the antimicrobial drugs at the time of their spread to the unsuspecting victim. From among such people will develop the treatment problems of the years ahead.

REFERENCES

1. "Symposium of Tuberculosis" edited by F. R. G. Heaf: Cassell and Company Limited, London, 1957: page 299.
2. Rawleigh, J. W.: Bulletin, National Tuberculosis Association (January), 1961, 47, 6-8.

BERTSEN, C. A.; FREYBERG, R. H. Rheumatoid Patients After Five or More Years of Clinical Steroid Treatment—A Comparative Analysis of One Hundred Eighty-three Cases: *Annals of Internal Medicine*, 54: Pages 938, to 953, May 1961.

The authors report on a large series of cases followed for an average of ten years, and compared with two other series in which cortico steroids were not used. There is much detail and many graphs are presented which serve to emphasize the variability of the disease and of its response to treatment in the individual. Cortico Steroids improved functional capacity and provided interim relief of pain but there was no indication that the course of the disease was altered.

Information presented regarding complications is sobering. Gastro-Intestinal ulceration occurred in 19%, pathological fractures of osteoporatic bone in 15%. Potentially serious complications included mental aberration, hypertension, severe edema, vascular changes, and severe infections, whereas twelve deaths were believed to have been entirely or partly due to corticosteroid treatment. In contrast the complications of conservative therapy were negligible.

This article authoritatively documents the advisability of reserving corticosteroid therapy in rheumatoid arthritis for carefully selected patients with severely impaired function and restricted activities or with markedly active illness unresponsive to other treatment.

L.C.S.

MEDICAL GENETICS

*PAUL L. LANDRIGAN, M.D.

Toronto, Ont.

Medical genetics may be defined as the study of disease through heredity. The observation of disease among relatives has been noted for many years. In 1745, Mauperitius, a physician, reported the occurrence of polydactylysm in several members of a large family. A little more than a century later, in 1866 the monk Mendel,¹ the father of genetics, made his studies with flowers. His work was advanced for his era, and the Mendelian laws of segregation of gametes and independent assortment of individual traits have withstood the test of time well. He recognized that the individual appearance of the plant or the phenotype had a definite complement of traits or genes which he called the genotype. Later it was demonstrated that Mendel's laws could be applied to man and identification of the hereditary factors or genes on the human chromosomes was accomplished. The number of chromosomes in the human cell was designated as 48 by many workers and for many years this was the accepted number.

The recent renewal of interest in genetics has been the result of four improvements in technique. (1) There have been advances in tissue culture. (2) The pretreatment of tissue cultures with colchicine arrests cell division at the metaphase. (3) The Feulgen-squash technique has been adopted in preparation of specimens of cells. (There is no loss of chromosomes which would occur frequently with sectioned material). (4) The idiogram has been adopted whereby chromosomes are arranged in order of decreasing lengths and relative centromere position. (See Figure 1).

In 1956 Tjio and Levan² after examination of human fibroblasts reported the chromosome number as 46. This was soon confirmed by other workers, including Ford³ who studied testicular tissue. Tjio and Puck⁴ later found no variation with sex, age, or tissue used. Only one exception has been noted by Kodani in 1958⁵ who studied testicular tissue of 15 Japanese males and found the chromosome number to be 46 in nine patients, 47 in one, and 48 in five. This finding has not been confirmed by others.

An understanding of the terms used in medical biogenetics is necessary for the proper assimilation of the literature in this field of medicine. The individual arises from the fusions of two cells or gametes—one derived from the mother and the other donated by the father. The genetic characteristics of these cells are determined by the properties of thread-like structures in the nuclei known as CHROMOSOMES. These chromosomes are divided into AUTOSOMES, 22 in number and occurring in pairs, and the X and Y or SEX chromosomes which determine the gender of the offspring.

The gametes are formed by a process called MEIOSIS in which one chromosome from each pair goes into the separate gametes. The remainder of the body cells normally multiply by a process known as MITOSIS, in which the individual chromosomes divide evenly and pairs identical to those found in the parent cell are formed as a result of the division and go into the daughter cells. Thus the human gamete will have a complement of 23 chromosomes and the remainder of the body cells will have 46. The name designated for the number of chromosomes in the gametes where only one of each pair is present is the

*Fellow in Medicine, Victoria General Hospital, Halifax, N. S.

HAPLOID number while when both members of each pair are present this is known as the DIPLOID number. Several methods of nomenclature had been described for the identification of the individual chromosomes. However, the confusion that arose in the naming of the blood-clotting factors was forestalled when, at a recent conference of cytogeneticists at Denver, Colorado,⁶ agreement was reached to arrange the chromosomes in order of decreasing length and call them by number, except that the terms Y and X were retained for identification of the sex-chromosomes. When they are assorted and arranged according to number the arrangement is known as a KARYOTYPE.

There is on each chromosome a definite constricted area which is called the CENTROMERE and this is a useful landmark in the identification of the individual chromosomes.

There are a few terms used to describe abnormal findings of which one should be aware as well. TRANSLOCATION refers to the apparent change in position of one or part of one chromosome and union with a chromosome of a different pair, e.g. Translocation of a number 15 to unite with a number 21 was reported in both a mongol and his mother.⁷ (see figure 2). NON-DISJUNCTION denotes an abnormal transmission of chromosomes where both members of a pair go to one gamete. This leaves another gamete lacking representation from this chromosome pair. For instance both X and Y chromosomes may go to one gamete leaving another one devoid of sex chromosomes.

GENES are the ultimate units of inheritance found in the chromosomes. They are normally duplicated very exactly but occasionally they undergo a sudden change, possibly in structure, called a MUTATION. This new form is duplicated in each succeeding cell. As a result of past mutations a number of alternate forms of the same gene may occur at the same chromosome locus. These variations are called ALLELES. Only two alleles for one trait occur on one chromosome pair—one from the father and one from the mother. If they are similar the individual is said to be HOMOZYGOUS for that trait, if different then they are HETEROZYGOUS. With heterozygous genes or alleles only one of the genes will find expression and this gene then is regarded as a DOMINANT. The one that is not expressed as part of the individual is called RECESSIVE. For example two corresponding genes may be present for leg length, one for long legs and one for short legs; these are alleles. They are also different so they are heterozygous. The individual has long legs—so the gene for long legs is dominant. In certain instances, however, the dominant gene may be modified by one or more factors and does not find full expression. It is then called a dominant gene with incomplete penetrance. Finally there is the term PHENOTYPE which is used to denote the final make-up of the individual, e.g. the masculine characteristics denote the phenotype of the male. The GENOTYPE, on the other hand, refers to the individual genes which determine the Phenotype eg. aA, bB, etc.

SEX LINKED ABNORMALITIES

It is in this field that most of the recent success has occurred in the identification of human chromosome disturbances. The X-chromosome is the determinant of the female sex and is present as XX. The Y chromosome is the determinant factor required for the development of the males. It is more potent than the X factor as it is present in the male as XY. The Y chromosome is practically devoid of genes; however, the X chromosome has a full complement. This is the important feature of sex-linked hereditary disease. E.g.

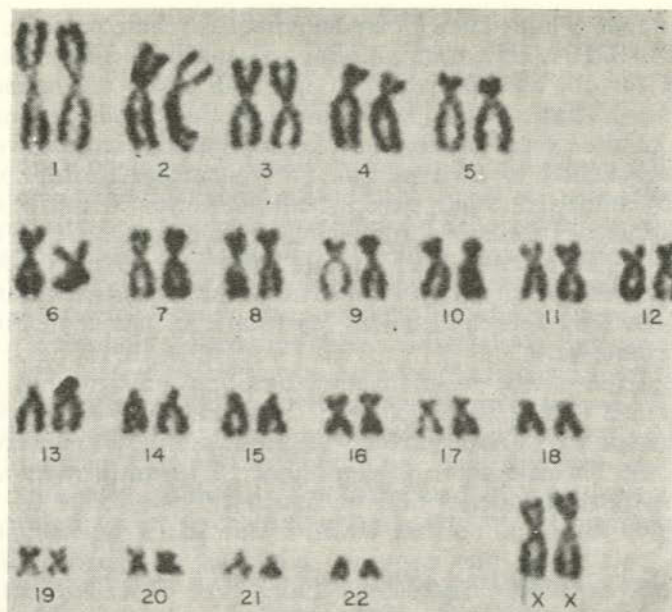


Figure 1. Idiogram for a normal human female—22 autosomal pairs and XX sex chromosome pattern. Reproduced with kind permission from Murray L. Barr, M.D.

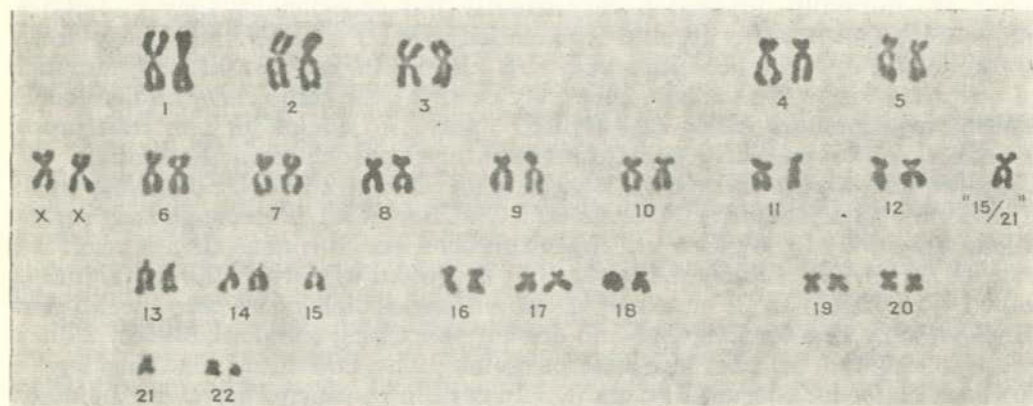


Figure 2. Translocation of a 15 and a 21 autosomal chromosomes with a normal chromosome number of 46. Reproduced with kind permission of C. O. Carter, M.D.

Hemophilia is a recessive trait on the X-chromosome so it is extremely rare to find the disease in females. However, they carry the trait and pass it on to their sons where the recessive gene is not counterbalanced by a gene on the Y chromosome and the disease becomes manifest in the male through failure of production of anti-hemophilic globulin.

To diverge a little further in the identification of sex with chromosomes, there is a distinctive accumulation of chromatin material which occurs normally in the nuclei of up to 60% of cells in the female. It has a "drum-stick" configuration as an off-shoot from the nuclei of polymorph leucocytes. However, it occurs in a different form in other cells and it is perhaps demonstrated with the least inconvenience by using a buccal smear preparation. This

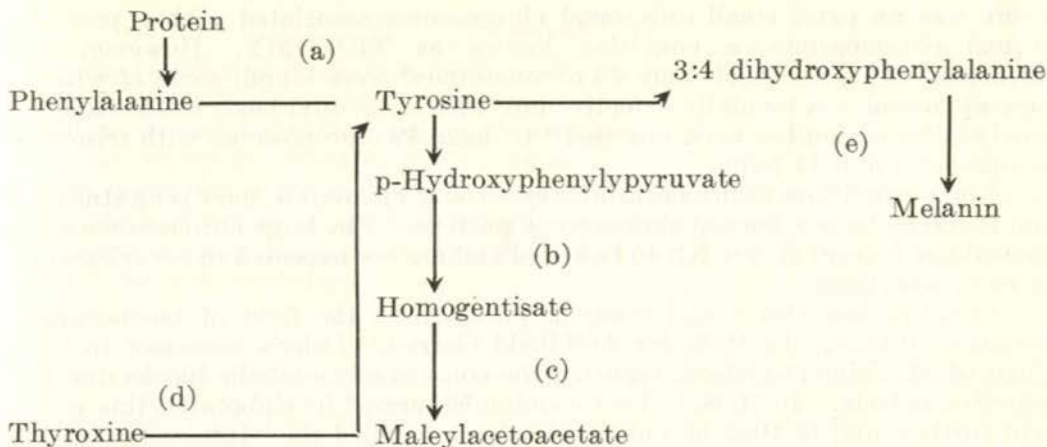


Figure 3. Metabolism of phenylalanine and Tyrosine (see text for explanation).

finding is consistent in normals. Recent work by Barr⁸ has demonstrated a close association between the findings of this chromatin material and the presence of two or more X chromosomes in each cell.

In 1942, Klinefelter, Reifenstein and Albright⁹ reported a syndrome characterized by sterility and small testes with hyalination of seminiferous tubules. Frequently these patients had azospermia, gynecomastia, increased excretion of gonadotrophins and a decreased output of 17-ketosteroids in the urine. In 1959 Jacobs¹⁰ demonstrated 47 chromosomes in a patient with Klinefelter's syndrome and the extra chromosome was an X. This gave a sex chromosome pattern of XXY. This was probably the result of non-disjunction meiosis which resulted in a gamete with XX instead of the normal X or Y chromosome. This abnormal XX gamete then unites with a normal gamete with a Y chromosome to give the XXY pattern. This XXY pattern has been confirmed by Ford¹¹ in four patients with Klinefelter's Disease which, incidentally, were all chromatin positive.

In 1938 Turner¹² described a syndrome with webbing of the neck, increase in the carrying angle of the arms and microgenitalia. The urinary gonadotrophins were increased and the 17-ketosteroids were often reduced. In 1959 Ford and co-workers¹³ demonstrated an XO sex chromosome pattern with a total of 45 chromosomes. This was confirmed by Tjio, Puck and Robinson.¹⁴ The theory of non-disjunction can be applied here as well. When the XX female pattern goes into one gamete this leaves a gamete with no sex chromosomes and when this unites with a normal gamete with an X chromosome the XO pattern evolves. This is even more credible since Klinefelter's and Turner's syndromes have been reported in siblings.¹⁵

Again in 1959, Jacobs and her co-workers¹⁶ reported the finding of the so-called "super-female". This was a 35 year old female who had an early menopause with a total chromosome count of 47 and a sex chromosome pattern of XXX.

Disappointing are the two separate reports of Ferguson-Smith¹⁷ and deAssis¹⁸ of chromosome counts of 46 in patients with true hermaphroditism with normal XX pairs of sex chromosomes.

In the study of autosomal chromosomes LeJeune and his colleagues¹⁹ in 1959 reported the findings of 47 chromosomes in 3 patients with mongolism.

There was an extra small autosomal chromosome associated with a pair of normal chromosomes—a condition known as TRISOMY. However, in further studies on mongols only 46 chromosomes⁶ were found, some of which were abnormal. A mentally defective boy with congenital heart disease and a renal malformation has been reported²⁰ to have 49 chromosomes with trisomy at number 8 and 11 pairs.

Many conditions such as Marfan's syndrome, epiloia, etc. have been studied and found to have a normal chromosome pattern. The large chromosome abnormalities (except X) are felt to be lethal and are not expected to occur except in early abortions.

Genetics has also found ready application in the field of biochemical variation in man. In 1902, Sir Archibald Garrod,²¹ Osler's successor to the Chair of Medicine at Oxford, reported the concept of metabolic blocks due to inherited defects. In 1908, in his Croonian lectures,²² he elaborated this concept further, and in 1923 he published a book entitled the "Inborn Errors of Metabolism"²³ in which he discussed some twenty-two different disease entities of this nature. Studies of the pedigree of patients with metabolic, particularly enzyme, defects, disclose relatives with similar disorders. In a recent review of the biochemical aspect of genetics, Harris²⁴ discusses Phenylketonuria as a disease where the metabolism of the aminoacid phenylalanine is arrested because of the lack of the enzyme L-phenylalanine hydroxylase. In patients with this disease a loading dose of phenylalanine is handled very poorly with marked elevation of the concentration of this aminoacid in the serum. In many of the relatives without this disease a similar dose will cause serum values above normal controls (but not as high as the patient), suggesting a relative deficiency of the same enzyme. This suggests a homozygous deficiency in the patient and a heterozygous deficiency in asymptomatic but partially defective relatives.

Figure 3 shows the metabolism of phenylalanine and tyrosine. The enzymatic defects at a, b, c, d, e are the specific defects in (a) phenylketonuria, (b) tryosinosis, (c) alkaptonuria, (d) goitrous cretinism, and (e) albinism. All these diseases show a definite hereditary pattern and from these and similar findings in relatives the single gene—single enzyme theory was evolved.

Specific enzyme defects²⁵ may not be evident except when the deficiency is tested. Glucose-6-phosphate dehydrogenase deficiency leads to severe hemolytic anemia after ingestion of primaquine, sulfanilamide, acetanilid, fava beans etc. in affected individuals. Prolonged apnoea occurs after administration of the muscle relaxant suxamethonium in patients with absence of pseudocholinesterase in the serum. These findings are familial in occurrence.

In carbohydrate metabolism Von Gierke's disease, (a glycogen storage disease with deficient glucose-6-phosphatase) galactosemia (with defective galactose-1-phosphate uridyl transferase) and others are hereditary in nature.

In protein metabolism agammaglobulinemia, afibrinogenemia, Christmas disease, (PTC deficiency), and hemophilia (antihemophilic globulin deficiency) are well-known inherited defects. In the sickle cell "trait", the relatively asymptomatic heterozygous individual has one normal gene and one mutant, 60% of the hemoglobin is normal (hemoglobin A) and 40% is hemoglobin S. Symptomatic sickle cell anemia, however, is associated with two homozygous mutants and nearly 100% Hemoglobin S. The difference between hemoglobin A and Hemoglobin S lies in the substitution of only one aminoacid in the large hemoglobin molecule. The implication here is that the genes determine the amino-acid composition and sequence in the protein. This has led McKusick²⁶ to state recently that the one gene—one enzyme theory may now be replaced by the one gene-one polypeptide theory.

SUMMARY

The recent discovery of 46 chromosomes in man instead of 48 has renewed interest in medical genetics. The study of inherited and sex-linked abnormalities has resulted in the findings of variations in chromosome patterns which may be related to defective mitosis or meiosis.

A discussion of the terms used in medical genetics is given. The probable association of mutant genes with inherited biochemical defects, such as defects in the synthesis of hemoglobin, enzymes, blood clotting factors and other proteins is briefly mentioned.

REFERENCES

1. MENDEL, G. J. Versuche über Pflanzen-Hybride. *Verh Naturforschenden Verein Brun* 4:3-47: 1866.
2. TJO, J. H. and LEVAN, A. Chromosome number in Man, *Hereditas*, 42: 1-6, 1956.
3. FORD, C. E., and HAMERTON, J. L. Chromosomes in Man. *Nature (London)* 178: 1020-1023. 1956.
4. TJO, J. H. and PUCK, T. T. Genetics of Somatic Mammalian Cells, II. Chromosomal Constitution of cells in tissue culture. *Journal of Experimental Medicine*, 108: 259-268, 1956.
5. KODANI, M. Three Chromosome numbers in Whites and Japanese, *Science*, 127: 1339, 1958.
6. ROBINSON, Arthur, "Letter to the Editor", *New England Journal of Medicine*, 262: 1245, 1960.
7. CARTER, C. O., HAMERTON, J. L., POLANI, P. E., GUNALP, A., and WELLER, S. D. V. Chromosome Translocation as a Cause of Familial Mongolism, *Lancet*, 2, 678, 1960.
8. BARR, MURRAY L. and CARR, DAVID H. Sex Chromatin Sex Chromosomes and Sex Anomalies. *The Canadian Medical Association Journal*, 83: 979, 1960.
9. KLINEFELTER, H. F., JR., REIFENSTEIN, E. C. JR., and ALBRIGHT, F. Syndrome Characterized by gynecomastia, aspermatogenesis without A-leydigism and increased excretion of follicle-stimulating hormone. *Journal of Clinical Endocrinology*, 2: 615, 1942.
10. JACOBS, P. A., and STRONG, J. A. Case of Human Intersexuality having possible XXY self-determining mechanism. *Nature (London)* 183: 302, 1959.
11. FORD, C. E., POLANI, P. E., BRIGGS, J. H., and BISHOP, P. M. Presumption Human XXY/XX Mosaic *Nature (London)* 183: 1030, 1959.
12. TURNER, H. H. Syndrome of Infantilism, congenital webbed neck and cubitus valgus. *Endocrinology* 23: 566, 1938.
13. FORD, C. E., JONES, K. W., POLANI, P. E., DE ALMEIDA, J. C., and BRIGGS, J. H. Sex Chromosome anomaly in case of Gonadal dysgenesis (Turner's syndrome) *Lancet*, 1: 711, 1959.
14. TJO, J. H., PUCK, T. T. and ROBINSON, A. Somatic Chromosome Constitution of some Human subjects with Genetic defects. *Proceedings of the National Academy of Science*, 45: 1008, 1959.
15. BASSOE, H. H. Familial Congenital Muscular dystrophy with gonadal dysgenesis. *Journal of Clinical Endocrinology*, 16: 1614, 1956.
16. JACOBS, P. A. Evidence of existence of human "Superfemale" *Lancet*, 2: 423, 1959
17. FERGUSON-SMITH, M. A., JOHNSON, A. W., WINEBERY, A. N. *Lancet*, 2: 126, 1960.
18. DEASSIS, L. M., EPPS, D. R., BOTURRA, C. *Lancet*, 2: 129, 1960.
19. LEJEUNE, J., GAUTHIER, M., and TURPIN, R. Les Chromosomes humains en cultures de tissu *Compt. Rend. Acad. d. Sc.* 248: 602, 1959.
20. FRACCARO, M., KAJSER, K., and LINDSTEN, J. A Child with 49 Chromosomes. *Lancet* 2: 899, 1960.
21. GARROD, A. E. The incidence of Alkaptonuria, A Study in Chemical Individuality, *Lancet*, 2: 1616, 1902.
22. GARROD, A. E. Croonian Lectures or Inborn Errors in Metabolism, *Lancet*, 2:1, 73, 142, 214, 1908.
23. GARROD, A. E. *Inborn errors of metabolism*, 2nd ed. Oxford University Press, 1923.
24. HARRIS, H. *Human Biochemical Genetics*, Cambridge University Press, 1959.
25. HSIA YI - UNG, DAVID. *Medical Progress, Medical Genetics*, New England Journal of Medicine, 262: 1172, 1960.
26. MCKUSICK, VICTOR A. *International Forum—Medical Genetics—Therapeutic Notes* 248: 1960.

PILLWASHING

The battle between the profession and the drug houses of the United States was joined with a vengeance in the New Year issue of the Journal of Medical Education. The author of the opening article 'Selling Drugs by "Educating" Physicians'* is the Clinical Professor of Pediatrics of Columbia University, New York. He has laid about him with flails of steel rather reminiscent of those armoured mine detonators that waddled across the battlefield in preparation for the infantry attack to follow. The bone of contention is one that we all recognize as being very much with us in our day to day work, namely the conditioning of our choice of drugs by expert advertising gloss and over representation; and superb pillmanship on the part of those well turned out young men who call upon us in our offices.

It is regrettable but true that few publications whether literary or scientific can now be placed in front of the public or professions at a reasonable cost without the aid of the advertising revenue of the business world. This is a two-edged sword. Editors must necessarily allow their advertisers considerable license in the presentation of their matter. It has also encouraged the growth of innumerable medical publications whose pages must nevertheless be filled by work sometimes of dubious value. Among this morass of advertising and clinical efflorescence the wretched physician must attempt to abstract what is useful from what is new and what is merely new for the sake of being new, a task which is now manifestly impossible. And as though this were not enough the patter of cardboard and paper on the mat below the mail box has now been joined by the heavier thump of the new 'glossies'—the paramedical magazines. The author complains, with much justice, that the so-called 'ethical' companies are using unethical methods of promoting sales. But what is 'ethics' in fields of judgment where considerable differences of opinion may exist? 'Ethics' is surely the virtue of not over-doing it for the sole purpose of enrichment. But by the same token in country where the reaping of the financial harvest has become an end in itself it should not occasion surprise if this influences not only the methods of the drug companies but sometimes the practitioners themselves who engage in one medical service or another. One must then regard this as an expression of the capitalistic world and since we have and like to live with it in spite of its many faults it would be better for the profession to instruct rather than to annihilate in this matter. It must be remembered that it was our great-grand-dads who taught the people of the world that they needed lots of medicine. They wrapped up their prescriptions in Latin and grave statements both of which were swallowed though without relish. Nowadays the outward furnishings are often the finest part of the preparation but the "pillwashing" is done by the young man with the leather bag and his gleaming new model.

One method which does give rise to innumerable permutations of so called 'products' is that of compounding drugs in a single preparation and then announcing that they help each other to act (That is—'synergism'—they use Greek now as well as Latin). The antibiotic 'cocktail' is a well-known example of this and continues to be manufactured in spite of many representations from the profession to abstain from so doing. Very few illness require more than one drug at a time at least. Poly-pharmacy of this type is not the science of medicine but the old witches brew all over again.

'Hair of a dog, skin of a newt, eye of a toad, stir and stir. . . ' And this is what is being imposed upon the profession by these prolific pill-vendors who when seen in this light appear so remote from the best of medical practice.

The first 'ethic' of prescribing, therefore, should *not* be the company's name but the official title of the drug. Sometimes these are somewhat unwieldy but there should be no real difficulty on the part of the profession in listing suitable abbreviations understood by all. If this were done much useless rubbish would never congest the market and small pill-rolling firms quickly go out of business.

As for advertising revenues there seems no reason why our journals should adhere solely to medical advertising. Physicians usually pass the money around pretty freely and merchandise advertising in our sombre journals, naturally preoccupied with the mortality of man, might remind us that there are still people around who are alive and well.

Do you remember Army General (pearl-handled guns) Patton, that colourful figure of World War II—killed accidentally alas—who always went into any spot that was likely to be hot with every gun firing? The drug houses will doubtless keep pretty low as all the Professor's guns sound off. But they have a good name with us here which we would not wish to sully quite in this fashion. Nevertheless the time has surely come for a considerable thinning out to prevent the good from being completely choked by much that is bad.

*May. Charles D. Selling Drugs by "Educating" Physicians.
J. M. Educ. 36.1 1961

E.H.E.

RE SCHEDULE OF FEES

"That any submission to the Committee on Fees for alterations in the Schedule of Fees be made not later than November 15th of any year to provide for publication of the revised schedule by January 1st of the following year."

The foregoing resolution was carried at the 2nd business session of the Annual Meeting 1961.

Members are requested, either as individual physicians, or as groups to send such submissions to the Committee on Fees as soon as possible.—The Chairman is Dr. Crossman H. Young.—Submissions will be received at the office of the Executive Secretary, Dalhousie Public Health Clinic, Halifax.

C.J.W.B.

BOOK REVIEW

THE HEALING VOICE. Treatment by Hypnosis by A. Philip Magonet. (Heinemann, London, 1959).

Due to a surge of interest in recent years any book, professional or popular, on hypnosis is almost immediately promised a successful market, though the past history of the art is one of enthusiastic acclaim or vehement rejection punctuated by long intervals of indifference.

In recent years the medical and dental professions have had committees studying the nature of hypnosis, the techniques, the uses and the qualifications of its practitioners. Associations of physicians using hypnosis are now being formed for the purpose of promoting a better understanding of the phenomenon and to provide respectability for this therapeutic method within the medical profession.

This book, in spite of its attractive title, is not the most enlightening nor the one that can be recommended to the reader who is genuinely interested in receiving scientific information about "treatment by hypnosis" or the present status of its medical usage. The first two chapters of the book deal with the background of hypnosis and with the question "What is Hypnosis?" The third chapter—consisting of three and a half pages—describes the technique of hypnosis. The next four chapters contain an over-popularized and rather naive introduction to psychiatry and psychotherapy. The rest of the book, pages 144 to 205, is filled with case reports of patients treated 'successfully' who were alleged to suffer from such diverse conditions as ulcerative colitis (p. 85), oligo-menorrhoea (p. 146), transvestism (P. 162) and obsessive compulsive neurosis (p. 191). In the entire volume I found only two short reports of cases which did not submit to hypnosis and therefore could not be "cured". One was a sexual deviant (p. 161) who "wasn't a good subject for hypnosis and, although I was able to help him in certain ways, I could not break this sexual deviation". A man of 52 (p. 183) "was completely unco-operative and failed to go into trance. I told his wife that he didn't want to be cured".

The following example indicates the ease with which the author approaches complex processes of bio-psycho-social inter-action which lead to human pathology: In his chapter on "Psychosomatic symptoms" (p. 111) he states "To turn to the skeletal system, worry alone is sufficient to cripple you with rheumatism or arthritis; it can assign you to a wheel-chair for the rest of your life". Equipped with such simple aetiological theories as described above, the author's treatment with hypnosis proceeds with just as simplified a formulae.

The following two short case reports may exemplify his therapeutic technique.

One of the more remarkable cures cited is the case of a 26 year old woman "who complained of not being able to become pregnant". The author's treatment is described as follows (p. 148). "Under hypnosis, I explained to her that whenever she had intercourse she was so tensed up about becoming pregnant that she tightened up her Fallopian tubes and prevented the ova from entering them. I told her that hereafter, when her husband made love to her, she would no longer think of becoming pregnant and therefore let nature take its course. After just one session under hypnosis, the patient conceived".

The treatment of alopecia in a young woman is in part quoted as follows (p. 119). "It was a simple matter to correct the false ideas that started the

guilt complex. Then reassurance that her hair would gradually grow back was strongly impressed on her subconscious mind. As the weeks and months went by her hair started growing on her forehead, and the scarf that she wore was pushed back farther and farther until her hair was completely restored".

Throughout the reading of the many case reports one cannot help but wonder how some or all those patients carried on over a prolonged period. Nowhere is there an indication given that the author followed his patients up and enquired about the eventual outcome of their symptoms.

The lay reader—and it is he to whom the author addresses himself, could very easily be persuaded that most human ills yield to the magic of hypnosis quickly and effectively. Such illusion could be held by sufferers of physical and/or emotional illnesses to the detriment of their relationship with their physician and thus of the effectiveness of the entire treatment regime. Most physicians and psychiatrists using hypnosis are not convinced, as Dr. Magonet is, that "hypnotism is absolutely safe" (p. 18). On page 64 the author mentions a mother who gave birth to her child in hypnosis. The baby was born in the absence of any attendant because the mothers awareness of birth pains was greatly reduced by hypnosis. "as ordered, the mother woke up when the baby was born, pressed the bell for the nurse and went back to sleep when the nurse lifted the baby from under the blankets". The danger to mother (post-partum haemorrhage) and to the baby (asphyxiation) under similar circumstances is obvious.

Physical complaints such as pain and other disease phenomena can be suppressed by hypnosis even if these are actual symptoms of pathology, i.e. headaches in patients with brain tumours, dizziness in disseminated sclerosis, etc. The ability to compensate is almost always present in patients with a variety of illnesses. In such cases hypnosis may receive the credit for bringing about cures, while it really only suppresses symptoms and, what is more dangerous, may prevent further medical investigation.

Discussing "the immature, dependent, inadequate type of personality", the author states "To make them more mature, more independent, more confident and self-assured, I do not know of any form of therapy other than hypnosis in the case of suitable, responsive patients". Most psychiatrists would certainly take issue with this statement. Rather than stimulating maturation, hypnosis tends to induce over-dependency of the patient upon the hypnotist.

Dr. Margaret Brennan and Morton M. Gill, in their book on "Hypnotherapy" (page 89) (International Universities Press, N. Y. 1947) cite several papers by prominent authors discussing the two major dangers of hypnosis.

1. "The possibility that the patient may develop an undue subordination to the therapist;
2. the danger of exacerbating an incipient psychoses".

Apparently, similar experiences lead H. S. Sullivan to write "The attempt at hypnotizing distressed pre-schizophrenics should perhaps be emphatically discouraged, as the mandatory, even if self-determined, submission to the other personality is almost certain to cause a severe emotional upheaval, with the hypnotist thereafter in an unenviable role as chief personification of the goal of the dissociated system". (Am. J. Psychiatry, Vol. 11, p. 529-1931).

Dr. Magonet does not hesitate to treat with hypnosis a 54 year old man who "had already had three nervous breakdowns" and who admitted suicidal thoughts and in describing his treatment perpetuates in the layman's mind a false idea about suicide in the following statement. "I reassured him that

only people who had a fixed idea about suicide usually carried it out, but never people who were afraid of it".

The general reluctance, among experienced physicians, to use hypnosis and teach its techniques may be ascribed to the following:

1. The discrepancy between the amount of practical experiences with hypnosis and the primitive understanding of this peculiar psychophysiological phenomenon.

2. The over-enthusiastic and indiscriminate acceptance and use of this treatment method.

3. The widespread use of hypnosis by unqualified operators.

4. The unsophisticated and unscientific approval of a therapeutic technique which can be easily learned.

5. The association of hypnosis with stage shows and charlatanry, and finally

6. The lack of professionally established principles dealing with the following aspects of hypnotherapy:

a) methods,

b) indications,

c) dangers

d) training and qualifications of medical and dental hypnotists.

Dr. Magonet's book "The Healing Voice" has in no way contributed to the better understanding of hypnosis nor to a more realistic propagation of hypnotherapy. The pitfalls of over-popularization of hypnosis on the basis of very subjective experiences, induces the reviewer to discuss this book at length and strongly deprecate the approach taken in it.

R.J.W.

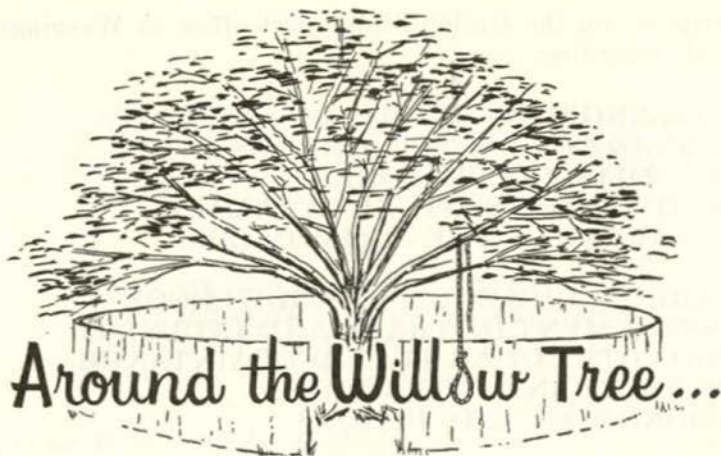
ANNUAL MEETING 1961

The Annual Meeting 1961, held at Keltic Lodge, Ingonish, June 12-14 inclusive was very successful. It was preceded by the 5th regular meeting of the Executive and the Annual Meeting of the Executive; the first meeting of the New Executive 1961-1962 took place after the general sessions.

Registration was 111 members; the business sessions were well attended as were the social events. Presentation of clinical subjects and two panel discussions rounded out a programme which, accompanied by delightful weather, resulted in a most satisfactory meeting. The Pictou Co., Medical Society was host, under the Chairmanship of Dr. F. J. Granville.

The Transactions of the Annual Meeting and the Executive Committee Meetings will be published in an early issue of the Bulletin.

The Annual Meeting 1962 is scheduled for Halifax at the Nova Scotian Hotel, starting Monday, May 21st.



THE ORIGIN OF THE POSTAL SERVICE

The four pavilions at the corners of the New York postal building bear brief statements referring to important reformers in postal services from the time of Cyrus up to the present day.

Cyrus, the Persian ruler (about 400 B.C.) and the Roman emperors Augustus (63 B.C.) and Nerva (A.D. 32.) have been selected among ancient rulers as the fore-runners of modern postal communications. After that long sleep in history now known as the Dark Ages, Charlemagne (A.D. 742) revived the ancient system in Italy, France and Germany.

Centuries later Louis XI (1425) inaugurated striking reforms and over the border in Germany Emperor Maximilian I (1459) created the office of Capitain des Postes which became a hereditary sinecure in the family of Counts Thurn and Taxis. More important still was the reform instituted by Cardinal de Richelieu (1585) who extended the Postal Service for the use of the people as well as the Government of France. Coming to modern times, the names of Thomas Witherings and Sir Roland Hill are prominent, the last named having founded the penny post in 1840. The Universal Postal Union arose largely from the efforts of Dr. von Stephan and Andrew Hamilton who figured prominently in the early history of the post in our own country.

The panels of the pavilions each contain records of two reformers important in the history of the postal services. Eventually it is planned that these panels be flanked by portrait statues of the men named.

Of special interest is the long inscription on the Eighth Avenue facade in the frieze between the two pavilions. While looking up the history of the postal services throughout the ages we came across a sentence of Herodotus in his account of the expedition of the Greeks against the Persians. The Greeks were greatly impressed by the system of mounted carriers instituted during the reign of Cyrus.

The sentence carved on the building is as follows.

“NEITHER SNOW NOR RAIN NOR HEAT NOR GLOOM STAYS THESE COURIERS FROM THE SWIFT COMPLETION OF THEIR APPOINTED ROUNDS.

HERODOTUS.”

The inscription on the United States post office at Washington, D.C. is also well worth recording.

MESSENGER OF SYMPATHY AND LOVE
SERVANT OF PARTED FRIENDS
CONSOLER OF THE LONELY
BOND OF THE SCATTERED FAMILY
ENLARGER OF THE COMMON LIFE

CARRIER OF NEWS AND KNOWLEDGE
INSTRUMENT OF TRADE AND INDUSTRY
PROMOTER OF MUTUAL ACQUAINTANCE
OF PEACE AND OF GOODWILL
AMONG MEN AND NATIONS

INSCRIPTIONS ON THE GENERAL POST OFFICE BUILDING,
EIGHTH AVENUE, 31st to 33rd STREETS, NEW YORK, N. Y.

EIGHTH AVENUE FACADE:

"NEITHER SNOW NOR RAIN NOR HEAT NOR GLOOM OF
NIGHT STAYS THESE COURIERS FROM THE SWIFT COMPLETION
OF THEIR APPOINTED ROUNDS.

HERODOTUS."

Pavilions

EIGHTH AVENUE

South

LOUIS XI - MCCCCLXIV
OPERATED - THE - POSTE - ROYALE
FRANZ - VON - TAXIS - MCCCCC
IMPERIAL - POSTMASTER

North

CARDINAL - DE - RICHELIEU
PUBLIC - POSTAL - SERVICE
PIERRE - D'AIMERAS - MDCXXI
GENERAL - DES - POSTES

- 31st STREET -

East

NERVA - A.D. XXXV - XCVIII
REMITTED - POSTAL - TAXIS
CHARLEMAGNE - DCCC - RELAYS
IN - ITALY - GERMANY - AND - FRANCE

West

CYRUS - C.B. DIX - ESTABLISHED
MOUNTED - POSTAL - COURIERS
AUGUSTUS - B.C. LXIII - A.D. XIV
POSTAL - COURIERS - AND - STATIONS

- 33rd STREET -

East

SIR - ROWLAND - HILL - FOUNDED
THE - PENNY - POST - MDCCCXXXIX
HEINRICH - VON - STEPHEN - UNIVERSAL
POSTAL - UNION - MDCCCLXXIV

West

ANDREW HAMILTON - MDCXCIV
POSTMASTER - NORTH - AMERICA
THOMAS WITHERINGS - MDCXXVII
GENERAL - POSTMASTER - ENGLAND

*Contributed by Dr. H. W. Schwartz, Bedford.

EXECUTIVE MEETINGS 1961 - 1962

The following are the scheduled dates for Regular Executive Meetings 1961-1962:

- 1st meeting took place June 14, 1961.
- 2nd meeting Saturday, September 30, 1961.
- 3rd meeting Saturday, December 2, 1961.
- 4th meeting Saturday, March 3, 1962.
- 5th meeting Saturday, May 19th, 1962.

Scheduled Branch Society meetings will have dates during the three weeks prior to these dates. 1960-1961 was the first year in which dates of Branch Society meetings were scheduled to precede each Executive Meeting. These proved to be advantageous to each Branch Society as well as the parent society.

The recently developed "Newsletter" is to continue, with the next scheduled for distribution August 1961. This is addressed to all members. The purpose is to present items of current concern to the members prior to the scheduled Branch Society Meetings.

C.J.W.B.

PERSONAL INTEREST NOTES

HALIFAX MEDICAL SOCIETY

The following doctors have recently opened offices for general practice in the City of Halifax: Dr. G. A. Guptill, in association with Dr. David B. Fraser, Starlite Building, Bayers Road Shopping Centre, Phone 455-8208. Dr. Robert C. Fraser, in association with Drs. F. Murray Fraser and Wm. M. MacRae, 673 Quinpool Rd., Phone 454-1547. Dr. J. H. Wulff, in association with Dr. M. E. Burnstein, 269 Gottingen Street, Phone 454-1123.

ATLANTIC SOCIETY OF OBSTETRICIANS AND GYNAECOLOGISTS

Twenty-three obstetricians and gynaecologists from the four Atlantic Provinces gathered in Halifax on Saturday, May 27th, 1961 to form the Atlantic Society of Obstetricians and Gynaecologists. The following doctors attended: Dr. W. R. C. Tupper, Halifax, N. S.; Dr. N. K. MacLennan, Sydney, N. S.; Dr. P. S. Gardner, Glace Bay, N. S.; Dr. K. L. Irwin, Charlottetown, P.E.I.; Dr. V. D. McLaughlin, Moncton, N. B.; Dr. H. B. Atlee, Halifax, N. S.; Dr. G. M. White, Saint John, N. B.; Dr. N. Egeli, Dartmouth, N. S.; Dr. I. A. Perlin, Halifax, N. S.; Dr. R. W. Campbell, Shelburne, N. S.; Dr. J. A. Maloney, Charlottetown, P.E.I.; Dr. M. G. Tompkins, Jr., Halifax, N. S.; Dr. G. H. Flight, St. John's, Nfld.; Dr. S. C. Robinson, Halifax, N. S.; Dr. J. Tanzman, Saint John, N. B.; Dr. D. F. Smith, Halifax, N. S.; Dr. A. L. Loane, Fredericton, N. B.; Dr. R. H. Chalmers, Fredericton, N. B.; Dr. F. D. Wanamaker, Saint John, N. B.; Dr. J. M. Lawson, Halifax, N. S.; Dr. K. M. Grant, Halifax, N. S.; Dr. D. F. Sutherland, Saint John, N. B. Other doctors who attended the meeting were members of the Resident Staff of the Department of Obstetrics and Gynaecology of the Grace Maternity and Victoria Victoria General Hospitals and they included Dr. S. S. Causing, Dr. R. W. Winter, Dr. J. L. Fairweather, Dr. D. S. Moore and Dr. D. W. Johnston. Dr. D. T. Janigan, one of the pathology residents with a particular interest in obstetrical and gynaecological pathology, was also present. The following officers were elected for the ensuing year: President Dr. W. R. C. Tupper, Halifax; Vice-President, Dr. F. D. Wanamaker, Saint John, N. B.; Secretary-Treasurer, Dr. D. F. Smith, Halifax, N. S.; Members of Council, Dr. G. H. Flight, St. John's, Nfld; Dr. J. A. Maloney, Charlottetown, P.E.I., Dr. J. Tanzman, Saint John, N. B., and Dr. N. K. MacLennan, Sydney, N. S.

It is felt that such a Society will help the members get acquainted and give them an opportunity for the discussion of common medical and economic problems in the Atlantic Provinces. The Society plans to gather information from the Atlantic Provinces regarding the present state of maternal and infant welfare with a view to determining the deficiencies present and the need of (1) more obstetricians and gynaecologists in the Atlantic area, (2) more hospital beds, (3) more facilities such as pre-natal clinics, well-baby clinics, social services, etc.

The newly formed Society plans to have an annual meeting on a rotation system in a different Atlantic centre each year. In addition, council meetings are anticipated throughout the year.

Business meetings were held in the Student Room of the Grace Maternity Hospital from 10 to 12 a.m. and from 2 to 3 p.m. Lunch was provided through the courtesy of the Grace Maternity Hospital. An excellent clinical program was presented from 3 to 5.30 p.m. The Chairman of the Program was Dr.

S. C. Robinson. The clinical program was as follows: (1) Case presentation—Septic Abortion by Dr. D. W. Johnston; (2) Familial Pseudo-hermaphroditism by Dr. M. G. Tompkins, Jr. (3) A case for diagnosis—The discussion for this case was opened by Dr. G. H. Flight and proved to be a case of a secondary abdominal pregnancy; (4) Conization of Cervix by Dr. R. W. Winter; (5) Post-natal Exercises—A New Approach—by Dr. S. C. Robinson.

A luncheon was held for the ladies at the home of Mrs. W. R. C. Tupper at 1.00 p.m.

At 7:00 p.m. an informal dinner was held at the Nova Scotian Hotel for the members and their wives. It was the opinion of all those attending that the first gathering of the group was most successful and the future of this new Society appears most promising.

(Ed. Note: May we express our thanks to Dr. D. F. Smith, Secretary-Treasurer for these notes).

UNIVERSITY

Doctor Herbert B. Lang has been appointed Assistant Professor of Pathology. Dr. Lang was born in Austria, having studied medicine at the Universities at Vienna, Prague, and Innsbruck, graduating from the latter in 1945. He took post-graduate training both in Europe and America, and has recently been with the Faculty of Medicine, University of Manitoba.

Dr. Donald A. Maciver, has been appointed Assistant Professor of Surgery. Dr. Maciver received his degree in medicine from Edinburgh University in 1942. In 1955 he received a certification in surgery of the Royal College of Physicians and Surgeons of Canada. Dr. Maciver has held the position of house surgeon in a number of hospitals, and in 1953 he joined the Royal Canadian Navy, and since 1957 has been Chief of Surgery at the Canadian Forces Hospital, Halifax.

Drs. N. Barrie Coward, Maureen Roberts, and W. A. Cochrane have gone to the United Kingdom to attend joint meetings of the British and Canadian Paediatrics Societies, Cambridge, England. Dr. Cochrane also plans to spend some three months doing research work while overseas.

Dr. W. B. Stewart, who recently completed his post-graduate training in radiology, will move to Moncton, N. B. with his wife and four children, where they will take up residence.

(Ed. Note: We are including a complete list of the recent graduates of the local university, so that the more senior physicians may know where their younger confreres intend to go.)

MARRIAGES

Dr. John Vernon MacDonald to Miss Anne Marie MacEachern, Antigonish in St. Ninian's Cathedral, Antigonish, recently.

CONGRATULATIONS

To Dr. C. B. Weld, Halifax on his re-election as Provincial President Commissioner of the Nova Scotia Council of the Order of St. John (St. John Ambulance) on June 23, 1961. Dr. Weld was also promoted to be a Knight of Grace of the Order of St. John by Her Majesty, The Queen, Sovereign Head of the Order of St. John.

To Dr. and Mrs. R. S. Shlossberg, Halifax on the marriage of their daughter, Harriet to Robert Lukeman of Dallas, Texas, at Beth Israel Synagogue, Halifax on June 25, 1961.

To Dr. and Mrs. James Hammerling, Halifax on their daughter, Victoria's recent receipt of a Dalhousie University Scholarship.

To Dr. and Mrs. Arthur M. Marshall, Halifax on the marriage of their elder daughter, Mary Ann Ivory, to Edward William Allison Bishop, Kentville in St. Andrew's United Church, Halifax, July 29, 1961.

COMING MEETINGS

SPECIALLY ARRANGED POST-GRADUATE COURSES—The Director of the Post-Graduate Division, Faculty of Medicine, Dalhousie, advises "The Post-Graduate Division is particularly anxious that more practitioners take short periods of full-time post-graduate training, or year-long periods of once weekly training, by special arrangement with various Departmental Heads at the University. The Director of the Division is prepared to assist in making these arrangements not only at Dalhousie, but also is prepared to obtain information regarding opportunities in other post-graduate training centres, on behalf of interested practitioners within the Atlantic Provinces."

September 25-29, 1961—The Annual "Week in Anaesthesia" conducted by the Department of Anaesthesia through the Post-Graduate Division, Faculty of Medicine, Dalhousie will be held in The Victoria General Hospital. Detailed programs will be mailed to all practitioners at the beginning of September. If you plan to attend, please notify the Division at an early date as the numbers to be accommodated are limited.

October 2-6, 1961—47th Annual Clinical Congress of the American College of Surgeons at Chicago, Illinois. Address inquiries to Dr. W. E. Adams, Secretary, American College of Surgeons, 20 East Erie St., Chicago 11, Illinois.

November 13-18, 1961—Canadian Heart Association and National Heart Foundation of Canada, joint annual and scientific meetings in Vancouver, B. C. Address inquiries to Dr. J. B. Armstrong, National Heart Foundation of Canada, 501 Yonge St., Toronto 5, Canada.

June 18-22, 1962—95th Annual Meeting of The Canadian Medical Association, Winnipeg, Man.

October 7-13, 1962—The 4th World Congress of Cardiology will be held at the Medical Centre, Mexico City, Mexico. Address inquiries to the General Secretary: Dr. Issac Costero, 4th World Congress of Cardiology, Institute N. De Cardiologia, Avenida Cuauhtemoc 300, Mexico 7, D.F.

June 10-14, 1963—96th Annual Meeting of the Canadian Medical Association, Toronto, Ont.

DALHOUSIE UNIVERSITY - FACULTY OF MEDICINE

GRADUATES IN MEDICINE 1961

NAME	HOME ADDRESS	*PLANS	PRESENT LOCATION
HARRIS, Mabel Joyce	Bonavista, Nfld.	P.G.	St. John's General Hospital, Nfld.
LIPTON, Illana Goldie	Sydney, N. S.	P.G.	Baltimore, Md.
MAYALL, Elisabeth	Pembroke, Bermuda	P.G.	Massachusetts
AITKEN, Donald Melville	Hamilton, Ontario		Hamilton, Ontario (R.C.A.F.)
AULD, Robert Brewer	Freetown, P.E.I.	G.P.	South Ohio, N. S.
BERNICK, Raymond Isadore	Glace Bay, N. S.	P.G.	Glace Bay, N. S.
BETTS, Douglas Hilchie	Winsloe, P.E.I.	P.G.	Toronto, Ontario
BROOKS, Caleb Emerson	Lachine, Quebec	P.G.	R.V.H., Montreal, Quebec
CATANUTO, Nicholas Thomas	Chicopee, Mass.		Chicopee, Mass. (U.S.N.)
CHANDLER, Briar Maxfield Dunbar	Mount Royal, Quebec	P.G.	Victoria General Hospital, Halifax.
CLARK, Marvin Ramsay	Kensington, P.E.I.	G.P.	Kensington, P.E.I.
COULSON, Gordon McLeod	Calgary, Alberta	P.G.	Calgary, Alberta
DENNIS, William Fraser	Brookfield, Colchester Co., N. S.	G.P.	Moncton, N. B.
DRYSDALE, Ian Omar	Halifax, N. S.	P.G.	Halifax, N. S.
FOLKINS, Donald Fenwick	Moncton, N. B.	G.P.	Digby, N. S.
FRASER, Robert Cecil	Halifax, N. S.	G.P.	Halifax, N. S.
GERSTENFELD, Jack Nathan	Brooklyn, New York	P.G.	Brooklyn, New York
GILCHRIST, Frederick Ian	Angola, Africa	G.P.	Angola, Africa
GILLIS, Wilfred Reginald	Dartmouth, N. S.	G.P.	Summerside, P.E.I.
GOLDMAN, Edwin Joel	Saint John, N. B.	P.G.	Baltimore, Md.
HATFIELD, Jack Gibson	Truro, N. S.		Truro, N. S. (R.C.A.M.C.)
JOHNSON, Ernest Basil	Bathurst, N. B.	G.P.	Halifax, N. S.

*G.P. General Practice

P.G. Post-Graduate Training

KNIGHT, Edwin Owen Wyllis
 LAKE, Cuthwin Lennard
 LAWSON, Alan Keith
 LIPITZ, Tevia
 McCARRON, Edward John
 MacDONALD, Lewis Valens A.
 MACISAAC, Stephen Gregory
 MACKAY, John Sinclair
 MACLEAN, Charles Bernard
 MCPHAIL, John Alexander
 MASON, William Francis
 MORRIS, Donald John Geoffrey
 PERRY, Roland Arthur
 PHILLIPS, William Gordon Carlyle
 PRATT, Henry Harding
 PUN, Ronald Sai-Cheong
 RAFUSE, Edward Victor
 REID, Byron Lewis
 ROBERTS, Gerald David
 SHEEHAN, William Henry
 STEINBERG, Barry
 THIBEAULT, Donald William
 TRASK, Carl Ambrose
 TSANG, Randolph Chiu-Lun
 WARREN, Gerald Wilbur Brinton
 WARREN, William Paul
 WILLS, David Guy

St. Kitts, W.I.
 Anguilla, W.I.
 Minto, N. B.
 Brooklyn, New York
 Saint John, N. B.
 Charlottetown, P.E.I.
 Glace Bay, N. S.
 Saint John, N. B.
 Port Hawkesbury, N. S.
 Sydney, N. S.
 Kentville, N. S.
 Windsor, N. S.
 Halifax, N. S.
 Arlington, P.E.I.
 R.R. No. 5, Ottawa, Ont.
 North Point, Hong Kong
 Waterville, Kings Co., N. S.
 Middle Musquodoboit, N. S.
 Great Neck, New York
 Chelsea, Mass.
 Brooklyn, New York
 Yarmouth, N. S.
 Saint John, N. B.
 Hong Kong
 Corner Brook, Nfld.
 Halifax, N. S.
 Saint John, N. B.

*G.P. St. Kitts, W.I.
 P.G. Halifax, N. S.
 Minto, N. B. (R.C.A.F.)
 P.G. Brooklyn, New York
 G.P. Saint John, N. B.
 G.P. Charlottetown, P.E.I.
 G.P. Glace Bay, N. S.
 P.G. Toronto, Ontario
 G.P. New Waterford, N. S.
 G.P. Sydney, N. S.
 G.P. Tusket, N. S.
 G.P. Windsor, N. S.
 G.P. Halifax, N. S.
 G.P. Halifax, N. S.
 G.P. Halifax, N. S.
 G.P. Dorchester, N. B.
 G.P. Neil's Harbour, N. S.
 G.P. Halifax, N. S.
 P.G. Great Neck, New York
 G.P. Chelsea, Mass.
 G.P. Brooklyn, New York
 P.G. Halifax, N. S.
 G.P. Saint John, N. B.
 G.P. Hong Kong
 G.P. Corner Brook, Nfld.
 P.G. Halifax, N. S.
 G.P. Lunenburg, N. S.

*G.P. General Practice.

P.G. Post Graduate Training.

LETTER TO THE EDITOR

2402 - 5th Avenue South
Lethbridge, Alberta

To the Editor:

It is with great interest that I read in your February issue Dr. Burke's excellent article regarding the use of lidocaine intravenously as an adjunct to general anaesthesia, and it is very gratifying to know he is obtaining such satisfactory results.

It may be of interest to your readers to know that lidocaine is also a remarkable sedative, and that sleep can be induced by the infusion of lidocaine alone, and in this way it helps the soporific qualities of the nitrous oxide. It is also possible to give a large depot dose intramuscularly in cases where an intravenous infusion is undesirable, or where relaxation is not necessary, as in thyroidectomy or perineal repair for example. In these cases I frequently inject 20 to 25 ml. of a 2% solution into each thigh as soon as induction is completed.

Another advantage accruing from the use of lidocaine during general anaesthesia is the fact that endotracheal tubes are well tolerated without the use of analgesic lubricants or sprays, and I might add in elderly patients the chest compliance is greatly increased.

I have been using intravenous lidocaine for over ten years and have no complications to report, nor have I seen any ill effects arising from its use.

Yours truly,

J. SHEGOG RUDELL, M.A., M.D.,
D.A., F.F.A.R.C.S.

"As far as continuing post-graduate medical education is concerned, we feel that the present gap between what is needed and what is being done is comparable to the situation that pertained in undergraduate medical education in the early 1900's". DARLEY, W., CAIN, A. S. A Proposal for a National Academy of Continuing Medical Education. The Journal of Medical Education, 36, Pages 33-37, January 1961.

L.C.S.

INFECTIOUS DISEASES—NOVA SCOTIA
Reported Summary for the Month of May, 1961

Diseases	NOVA SCOTIA				CANADA	
	1961		1960		1961	1960
	C	D	C	D	C	C
Brucellosis (Undulant fever) (044)	0	0	0	0	14	8
Diarrhoea of newborn, epidemic (764)	1	0	0	0	4	3
Diphtheria (055)	0	0	0	0	0	2
Dysentery:						
(a) Amoebic (046)	0	0	0	0	0	0
(b) Bacillary (045)	0	0	0	0	67	166
(c) Unspecified (048)	61	0	0	0	84	26
Encephalitis, infectious (082.0)	0	0	0	0	0	9
Food Poisoning:						
(a) Staphylococcus intoxication (049.0)	0	0	0	0	0	0
(b) Salmonella infections (042.1)	4	0	0	0	93	0
(c) Unspecified (049.2)	0	0	60	0	0	206
Hepatitis, infectious (including serum hepatitis) (092, N998.5)	6	0	95	0	420	355
Meningitis, viral or aseptic (080.2, 082.1)						
(a) due to polio virus	0	0	0	0	0	0
(b) due to Coxsackie virus	0	0	0	0	0	0
(c) due to ECHO virus	0	0	0	0	0	0
(d) other and unspecified	3	0	0	0	9	10
Meningococcal infections (057)	0	0	0	0	2	14
Pemphigus neonatorum (impetigo of the newborn) (766)	0	0	0	0	3	1
Pertussis (Whooping Cough) (056)	1	0	7	0	202	432
Poliomyelitis, paralytic (080.0, 080.1)	0	0	0	0	5	13
Scarlet Fever & Streptococcal Sore Throat (050, 051)	66	0	97	0	801	1509
Tuberculosis						
(a) Pulmonary (001, 002)	25	2	19	2	**	342
(b) Other and unspecified (003-019)	1	0	12	0	**	122
Typhoid and Paratyphoid Fever (040, 041)	1	0	0	0	12	21
Veneral diseases						
(a) Gonorrhoea —						
Ophthalmia neonatorum (033)	0	0	0	0	0	0
All other forms (030-032, 034)	9	0	21	0	852	1008
(b) Syphilis —						
Acquired—primary (021.0, 021.1)	0	0	0	0	0	0
— secondary (021.2, 021.3)	0	0	0	0	0	0
— latent (028)	0	0	1	0	0	0
— tertiary — cardiovascular (023)	0	0	1	0	0	0
— .. — neurosyphilis (024, 026)	0	0	0	0	0	0
— .. — other (027)	0	0	0	0	0	0
Prenatal—congenital (020)	0	0	0	0	0	0
Other and unspecified (029)	1	0	2	0	136*	118*
(c) Chaneroid (036)	0	0	0	0	0	0
(d) Granuloma inguinale (038)	0	0	0	0	0	0
(e) Lymphogranuloma venereum (037)	0	0	0	0	0	0
Rare Diseases:						
Anthrax (062)	0	0	0	0	0	0
Botulism (049.1)	0	0	0	0	1	0
Cholera (043)	0	0	0	0	0	0
Leprosy (060)	0	0	0	0	0	0
Malaria (110-117)	1	0	0	0	0	0
Plague (058)	0	0	0	0	0	0
Psittacosis & ornithosis (096.2)	0	0	0	0	1	0
Rabies in Man (094)	0	0	0	0	0	0
Relapsing fever, louse-borne (071.0)	0	0	0	0	0	0
Rickettsial infections:						
(a) Typhus, louse-borne (100)	0	0	0	0	0	0
(b) Rocky Mountain spotted fever (104 part)	0	0	0	0	0	0
(c) Q-Fever (108 part)	0	0	0	0	0	0
(d) Other & unspecified (101-108)	0	0	0	0	0	0
Smallpox (084)	0	0	0	0	0	0
Tetanus (061)	0	0	0	0	3	0
Trichinosis (128)	0	0	11	0	7	0
Tularaemia (059)	0	0	0	0	1	0
Yellow Fever (091)	0	0	0	0	0	0

N.S.U.

3

C — Cases D — Deaths

*Not broken down

**T.B. for Canada not known

Complete figures for May are not available