

The Diagnosis and Treatment of Cancer of the Skin by the Dermatologist*

Norman M. Wrong, M.D.
Toronto, Ontario

THE dermatologist, because of his special training, is best fitted to diagnose both carcinoma of the skin and precancerous lesions. His training and experience all fit him to recognize variations from the normal and varying degrees of the abnormal. Combined with his clinical training is a degree of skill in histopathology of the skin which is an aid in clinical diagnosis and also in confirming his clinical diagnosis by histopathological examination.

To-day there is far too much tendency to rely on laboratory diagnosis and to ignore the clinical. The pathologist should supplement the diagnosis of the clinician and not supplant the latter. There is no disagreement between dermatologists and pathologists but the accent must be in the right place, namely, clinical diagnosis confirmed by pathological examination. Too often we hear the remark—"It's a lump that shouldn't be there. Let's cut it out and send it to the pathologist. He'll tell us what it is."

The greatest cause of skin cancer is sunlight and weather. Skins exposed to sunlight, wind, heat and cold become prematurely aged and develop thickening, pigmentary changes, keratoses and finally malignancy. This is exemplified in the sailor's skin or the farmer's skin and is seen in all outdoor workers. These changes are much more pronounced in the blue-eyed, fair-haired Nordic than in the Latin races.

At least 95% of all skin cancer occurs in areas exposed to sunlight—lips, cheeks, ears, neck, dorsa of fingers and hands.

The *senile keratosis* (probably caused far more by actinic rays than by senility) is the commonest pre-malignancy and probably is the precursor of most of the cases of squamous cell carcinoma. It is a circumscribed, hard, horny elevation varying from a millimetre to a centimetre in size. It occurs most commonly on the ears, malar prominences and dorsa of hands. It is frequent on the lower lip, rarely on the upper one. The keratotic papule is firmly attached and attempts to pull it off result in pain and a bleeding base. The cutaneous horn is probably a huge senile keratosis.

The senile keratosis is most often confused with the seborrhoeic verruca or wart. The latter is brownish, flat or slightly raised and soft with a cerebrated surface. It occurs in the seborrhoeic sites—face, back, chest and these tumors are often extremely numerous. They are not pre-malignant.

Arsenical keratosis—These tumors are identical with the senile keratosis but occur chiefly on the palms and soles and are caused by the ingestion of the inorganic, pentavalent form of arsenic as in liquor arsenicalis or Fowler's solution. These keratoses may develop years after the arsenic has been administered. These lesions are pre-malignant and should be watched care-

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fully and treated vigorously if malignancy is suspected. Fortunately arsenic is administered but rarely to-day.

Mole, Benign Melanoma, Nevus—This is the commonest tumor in the human and the average number of moles per person is between 15 and 20. Malignant melanoma is a relatively rare disease, which immediately answers the question as to how frequently these lesions become malignant.

The skin-colored or slightly brownish mole containing a few hairs, which occurs so commonly on the face, practically never becomes malignant.

In recent years considerable attention has been devoted to the *junction nevus*. Clinically this is a brownish to black flat or raised nevus which is potentially malignant. The nevus cells encroach upon the dermal-epidermal junction. These lesions can occur anywhere but most commonly on the face, feet and in the nail-bed of fingers or toes. If suspected this lesion should be carefully and thoroughly excised and submitted for pathological examination.

Other types of moles can be dealt with for cosmetic purposes by many different methods but surgical excision or careful and complete destruction by electro-surgery are the best. Under no consideration should moles be treated by radium or X-rays as has been done by over-enthusiastic advocates of these modalities in the past. These tumors are not radiosensitive.

Radiodermatitis—Irreversible changes in the skin are produced by X-rays or radium given in large single doses or in small repeated doses. This has been all too frequent in the past in the radiation of chronic dermatoses (psoriasis, eczema, etc.) or in insufficient protection or carelessness of the operator. It also occurs after the radiation of deep or superficial cancer and in this instance is justifiable. Changes in the skin occur much like those in the sailor's skin with more atrophy, faster progression and more tendency to malignant change. If keratoses develop in areas of radiodermatitis they should be excised and not subjected to further radiation.

Before I leave this subject I want to issue a plea for every physician to do all in his power to have legislation passed, either federal or provincial, to prevent quacks and unlicensed and untrained individuals from using X-ray. It is used in some cities in the treatment of superfluous hair. In Toronto we had an operator licensed as a drugless practitioner who burned literally dozens of individuals. Private lawsuits finally put him out of business but there was no legislation to stop his nefarious practices. Cleveland of Vancouver wrote in the *Canadian Medical Journal* on this subject a few years ago.

Every area of severe radiation damage to the skin is a potential site for the development of carcinoma if the patient lives long enough.

Paget's Disease of the Nipple—This is fortunately a rare condition. It may appear as a very innocent unilateral eczematous change in the nipple with slight oozing of serum, occasionally blood-tinged. The possibility of an underlying duct carcinoma should always be considered and mastectomy performed if the lesion is unilateral and persists in spite of soothing topical remedies. Frequently duct carcinoma is present without any palpable evidence of it. Surgery is the only treatment of this disease and its associated cancer.

Basal Cell Carcinoma—Rodent Ulcer—This is the slowest growing and least malignant of all the carcinomas of the human. Frequently these lesions are seen which have been present and neglected for five or ten years and the lesion is smaller than a 25c piece, is very superficial and not attached deeply or invading in any way. Metastases are almost unknown. On the other hand, when this tumor finally invades mucous membrane, bone or orbital cavity, its growth can not be arrested by any type of treatment and the most horrible mutilations result. At least 85% of these tumors occur on the face, most of them in the central one-third. They are skin colored, semi-translucent and may ulcerate early or very late. On careful examination a rolled pearly edge is usually seen. Eyelids, ala nasi and nose are the favorite locations.

Biopsy is the first procedure when this disease is diagnosed clinically and frequently the lesion is so small that a biopsy removes it "in toto."

These lesions may appear very innocent and are often missed because they are so slow-growing.

After confirmation of the clinical diagnosis by histopathological examination the next problem is

Treatment—the best is that which will remove the growth with the least chance of recurrence and the best cosmetic result.

(a) *Fractional X-ray therapy*—This offers the best results in any large group. The patient is treated daily for 8 to 10 days with a small dose of X-ray which adds up to a total dosage of 4,000 to 5,000r. A sharp reaction occurs within a week or two which subsides at the end of a month and the end result is excellent—a soft pliable scar with few or no telangiectases. Recurrences are very uncommon. This treatment can be used on ala nasi, concha of ear and eyelids with perfect safety as long as normal skin is protected carefully and the rays are not directed towards the eyeball. It is not a new method but was forgotten for a time in favor of massive doses of radium. It has been popularized in recent years in the Royal Free Hospital of London. I have used this method for the past five years and think it is ideal. The only catch is that the patient must report back daily for 8 or 10 days, but it is entirely an ambulatory treatment. Recurrences are less and bad sequelae infinitely less than with massive doses of X-ray or radium. It is not applicable to the treatment of very deep or thick tumors.

(b) *Single Massive dose of X-ray or Radium*—This is, in my opinion, a second best but is often applicable to the treatment of very old people or where it is impossible to treat the patient for ten days. Radium needles imbedded are often necessary for the treatment of very thick or deep cancers.

(c) *Surgical Excision*—This is justified in the handling of very small basal celled carcinomas where a generous biopsy may remove the entire growth. It is not warranted where the lesion is large or irregular as no surgeon can be sure of the extent of the growth and recurrences, even with the best surgery, are far too common. I know of no series of surgically treated carcinomas of the skin where the results approach the percentage of cures obtained with properly administered radiation treatment. Surgery is justifiable in outlying districts where radiation is not available.

(d) *Electro-surgery (electro-desiccation and electro-coagulation)*—This method of treatment alone is followed by too high a percentage of recurrences. In basal cell carcinomas which are raised and thick, after taking enough tissue for pathological examination, the rest of the tumor can then be destroyed by electro-desiccation. After waiting for the resultant ulcer to heal, at least partially, a course of fractional X-ray therapy can then be given.

The prognosis in basal cell carcinoma is excellent and at least 98% should be cured. Only the neglected ones which invade mucosa, bone or orbit are incurable and these are becoming more uncommon with education of the public.

Squamous Cell Carcinoma (Prickle Cell Carcinoma, Epithelioma)—These tumors are most common on areas exposed to sunlight and in these locations may arise from a pre-existing senile keratosis or from an obvious pre-existing lesion. Any keratosis which increases in size, bleeds or changes in any way should be regarded with suspicion. Any small wart-like growth which appears suddenly on areas exposed to light should also be regarded with suspicion. These tumors occasionally start as small ulcers with indurated bases. They always remind me of an iceberg—there is more going on underneath the surface than meets the eye.

All draining glandular areas should be carefully palpated and then a biopsy performed of the lesion. This biopsy may remove all the tumor. If the clinical diagnosis is confirmed the problem of treatment then arises. The order of preference is the same as for basal cell carcinoma.

1. Fractional X-ray therapy.
2. Massive X-ray or radium therapy—Radium needles for deep lesions.
3. Surgical excision.
4. Electro-surgical destruction.

If the biopsy removes the complete tumor, a course of post-operative radiation is the wise course.

Glandular involvement—Surgical dissection of gland-bearing areas is the treatment of choice. Quick section should be performed by the pathologist at the time of operation as the glandular enlargement may prove to be inflammatory thus saving a large and mutilating operation. X-ray therapy of glandular metastases may be done where surgery is impossible but it is definitely second best.

Malignant Melanoma (Melanotic sarcoma or carcinoma).—These lesions usually arise in pre-existing moles but may arise from microscopic nests of cells.

Any mole which shows changes in color, which tends to ulcerate, bleed or enlarge in size should be regarded with suspicion. Frequently the patient will say that the mole feels differently. Any darkly pigmented lesion which appears suddenly should also be regarded with suspicion.

In a large pigmented mole a small portion only may suddenly show signs of activity.

On examination of these lesions, the impression is gained that the lesion would bleed or ulcerate on very slight abrasion and that there is evidence of

activity of growth. Any streaks of brownish or black pigment extending peripherally from the lesion should be regarded with great suspicion.

These tumors can appear anywhere on the skin or in sclera of the eye. Most commonly they are seen on hands, particularly in the nail bed, on forearms, eyelids, on calves or shins and on feet, particularly on soles or in nail bed.

When confronted with one of these suspicious lesions, it is essential that treatment be drastic and thorough. Biopsy is not a wise procedure but it is necessary to excise the whole lesion widely and deeply and submit it for pathological examination. If the clinical diagnosis is confirmed by a pathological one then the draining glandular areas should be investigated and a dissection done if involved glands are found.

It is my opinion that the original site of the lesion should be carefully and thoroughly subjected to radiation. This opinion is not shared by many as some of these tumors are not radiosensitive.

X-ray examination of chest may reveal early secondaries. I do not believe that radical and mutilating operations such as disarticulation of shoulder and hip save life and they are rarely, if ever, justified.

The prognosis in these tumors must be very guarded as they metastasize early and to distant points, probably by blood stream.

SUMMARY—It is necessary for all physicians to increase their "index of suspicion" as regards skin cancer.

Pre-malignant lesions should always be regarded with suspicion and removed for pathological examination if they are changing.

Basal cell carcinomas may grow slowly and look innocent. A biopsy from such a lesion may mean early treatment and save the patient from a mutilating disease.

Squamous cell carcinoma on the lip, ear, cheek or hand should be diagnosed early and treated at once in order to avoid metastases and a possible fatal result.

Malignant melanoma may arise in any pre-existing mole but most commonly on face, hands, forearms, feet and legs. Any mole showing changes should be carefully and widely excised and submitted for pathological examination. Casual treatment of a malignant melanoma may cost the patient his life and the physician his reputation.

The best treatment of basal and squamous cell carcinoma is fractional X-ray treatment; of malignant melanoma is wide-surgical excision and investigation of the neighboring glands.

The percentage of cures in carcinoma of the skin is the highest of any system. No one should die of a basal cell carcinoma and only rarely of a squamous cell carcinoma of skin or lip.

Proper early treatment means an excellent outlook for the patient with an excellent cosmetic result.

Is Cancer A Virus Disease?*

H. W. Schwartz, M.D.

Halifax, N. S.

DOUBTLESS you have wondered, just as I have, as to what real progress is being made in the solution of the cancer problem. We are all aware that much investigation has been and is going on throughout the world and vast sums expended, but with what result?

The title of this paper contains the word "virus." What is a virus? If that question were asked a relatively few years ago the answer would be something like this: A virus is an ultra-microscopic pathogenic form of life capable of passing through a Berkefeld filter and apart from size much like any other microbe. Since the introduction of the electron microscope a virus can no longer be said to be ultra-microscopic: in fact, some are definitely measured e.g. that of vaccinia is one-quarter the size of a streptococcus and from that may decrease in size to that of polio which measures ten millimicrons in diameter. The ordinary light microscope gives a magnification of between 1,200 and 2,000 diameters. The electron microscope is between 50,000 and 100,000 diameters, or as one writer expressed it more graphically a pin head would appear the size of an elephant. You will recall Doctor C. E. vanRooyen saying in his lecture given at the Victoria General Hospital, January 7, 1952, that size bears a definite relationship to physiological function giving rise to an interesting spectrum of activity. The larger ones possess some independent metabolic activity as they have certain enzyme systems. With progressive loss of size goes loss of physiological function until the smallest have lost all independent metabolic activity. As size is related to function so is function related to chemical activity and chemical activity to the problem of treatment.

A great biological gulf exists between bacteria, which multiply by fission and the viruses which divide and multiply within living cells. Their method of reproduction is highly complex. The first step is the breaking down of the virus particle. The cell ingests the particle. The part entering the cell is then broken down into individual components and subsequently re-synthesized in a form of fresh virus material. In other words, the cell itself participates and takes an integral part in the mechanism of building virus protein. This is a totally different concept than that of microbial reproduction. Once a cell becomes a virus infected cell it behaves differently and a build up of virus protein instead of cell protein takes place.

Throughout this presentation the terms gene, mutant and mutation are used frequently. The gene may be defined as the unit of life and although not actually visible is as real in biology as the molecule in chemistry or the proton and neutron are in physics. The inherited properties of every cell are determined by the genes it contains in its chromosomes and every living cell will breed true to the genes it has inherited. A mutant is the result of a mutation, and a mutation is a sudden and permanent transmissible change in the characters of an off-spring from its parents, and can only occur in an actively mitotic or dividing cell. Parent may refer to a type of body or somatic cell

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or to a complete organism. For example, a mutation of a gene in an epithelial or other somatic cell can never be passed on in the hereditary sense whereas a mutation of a gene in a reproductive or germinal cell is passed on and such become the stepping stones of evolution and its ever increasing forms of plant and animal life.

Cancer is a disease having as its primary manifestation the continued unchecked multiplication of cells. For a long time we have been conversant with a host of apparent causes, both chemical and physical, all of which are capable of initiating tumors (that is starting cell division) but none of which can explain the continuance of the process, why the mechanism which once started, never runs down even long after the initial stimulus to growth has disappeared.

In 1911 the Rous chicken sarcoma was discovered. This tumor which is clinically and histologically a spindle celled sarcoma was shown to be due to a virus, being intracellular acted as the continuing agent, stimulating the nucleus to divide and itself multiplying intracellularly indefinitely. Since such tumours were only found in birds (over 200 have been discovered to date) a "dichotomy of thought arose," to use Doctor Ida Mann's phrase, mammalian tumours being considered to be somatic mutations (arising in hereditarily predisposed animals from the action of carcinogenic agents) and avian tumours being largely of virus origin—the virus itself possibly acting as the carcinogenic agent in a predisposed bird.

Mr. J. P. Lockhart-Mummery,¹ the surgeon-pathologist, who made a life-study of tumours, in his book "The Origin of Cancer" published in 1934, subscribed to the theory of gene mutation of somatic cells.

"If a change or mutation for excessive growth of the cell takes place, that is, for a mitosis rate greater than the normal for the particular tissue of which it forms part, then a tumour will ultimately form. The time necessary for the formation of visible tumour will be considerable, and will depend upon the ratio of growth-rate in the mutated cell to the normal for the tissue in which it occurs. If the mutation is a simple one for increased rate of mitosis only, then the result will be the formation, in course of time of an innocent tumour, such as an adenoma, fibroma or lipoma. But the mutation may result in other changes in the character of the cell besides mere increased rate of mitosis, and then the result may be a tumour with the power of invading other tissues, what we call a cancer."

This hypothesis is shown to apparently fulfil all the requirements governing the subject of tumours—innocent or malignant. Whatever the provoking thing—he was insistent that the one thing it is not is a virus and for the following reasons.

- (a) There appeared to be some fundamental bio-chemical difference between mammalian and avian tumour cells.
- (b) Neither from human nor any mammalian tumour can a filterable agent be extracted that is able to produce tumours although such has been searched for exhaustively.

- (c) The extremely specific action of the filterable agents in tumours of fowl has no counter part among infective agents which are known to be the cause of disease—in short we would be obliged to suppose a different virus for any different tumour.
- (d) The general hygiene of the civilized world has greatly improved during the preceding fifty years with a marked decrease in disease due to infective agents—but no corresponding decrease in the incidence of neoplasms.
- (e) The crowning objection was the argument based on uniovular or homologous twins developing the same type of growth in identical positions in the same organ. In the author's words—"It is too palpably improbable, and it seems to me that these cases alone definitely dispose of the possibility of an infective agent as the cause of neoplasms, as far as these twins are concerned, and if it is true of the twins, it must be true of the rest of humanity."

I suppose the same reasoning would be applicable to all mammals.

The existence of cancer pedigrees in man and animals and the familial incidence of certain tumours particularly retinoblastoma in man along with the prolonged breeding experiments with mice initiated by Leo Loeb, Maude Slye and W. S. Murray certainly lent colour to the theory that there may be a hereditary element present. As we shall see familial incidence does not necessarily imply a genetic defect although at first sight such would seem to be the case.

These inbred strains of mice which were started in laboratories in the United States and have since been continued throughout the world certainly seemed to demonstrate the hereditary nature of cancer. In the cancer strain 70% to 95% of the females die of cancer of the breast while in the non-cancerous strain few ever develop cancer. This fact alone might seem conclusive but it is capable of an entirely different explanation.

The whole hereditary conception collapsed when Bittner of Minneapolis then at Bar Harbour demonstrated in 1937 that by cross suckling, the high cancer line can be rendered cancer free, and the non-cancerous group rendered cancerous. Obviously it was something in the milk that was being passed on from generation to generation.

This something, now known as the Bittner virus, exists in a latent form in the bodies of both male and female mice of the affected strain, having been acquired from the mother's milk and remains for a long period (an incubation period like that of other virus diseases) without producing tumours. A chemical initiating cause, namely oestrin, activates it in the normal female in the course of seven to twelve months and they develop cancer of the breast. The males do not normally develop cancer but can be made to do so by the administration of oestrin.

We therefore see that the pathology of adenocarcinoma of the mouse breast is that of a virus disease with a long latent period, the virus being eventually activated by a hormone. Until recently only the latent form in the milk

could be transferred to non-infected stock and no tumours appeared until the mouse reached "the cancer age."

Recently workers at the Imperial Cancer Research Fund Laboratory, London, have succeeded in obtaining the Bittner virus *in its active form* direct from the growth, and have produced tumours with it in both male and female mice within a week or two of inoculation. No tumours develop unless it is injected into mammary tissue, in other words it is tissue specific. Since the virus has already been "activated"—no other carcinogenic initiator is required.

A comparison with the herpes simplex virus can be made. "This is known to enter the body in its latent form early in life—becomes parasitic in certain epithelial cells and changes from the latent to the active form under certain conditions—usually a febrile reaction. As the active form of the virus kills the cells in which it lives the disease is self-limiting." Whereas in carcinoma the activated virus not only stimulates the cells to divide but multiplies within them, and as a consequence the mechanism never runs down and matters go from bad to worse until the fatal end.

You may ask how is explained the great variety of malignant growths. The answer would appear to be that viruses are well known to mutate with great ease and frequency and the large number of different tumours can be looked on as being caused by mutations of a cancer virus which have adapted themselves to become parasitic in different cells. For example—the mammary mutant *only* is passed on in the milk of the so-called cancerous strain of mice, referred to as Riii. In the case of the C57 black strain the connective tissue mutant is present only and they do not develop spontaneous mammary cancer—nor can they be induced to do so with oestrin—so it would appear that the connective tissue mutant is not activated by this hormone. On the other hand, they can be made to develop sarcoma with great ease by injecting them with coal tar derivatives.

Ida Mann² points out that—

"a curious gap has existed between general pathology and that of the eye until relatively recent times with the regrettable result that the general pathologist remained unaware of the unique conditions existing in the eye and of the highly specialized and unusual ways in which it is affected by malignant disease. There are elements of the eye that never develop cancer—the cornea, the lens, and the hexagonal epithelium of the retina. Sarcoma of the sclera is an extreme rarity.

"Take the case of either the cornea or the lens—mitosis goes on throughout life. The absence of malignant disease is not due to their inert or fully differentiated condition, nor due to any difficulty of an "activating" cause reaching them. Such causes are mainly chemical in nature and could easily reach the tissues by osmosis. These structures are particularly exposed to radiations of one kind or other—yet such physical causes never induce cancerous changes. The conclusion is that the lens and cornea escape because no virus has ever reached the cells on account of the absence of blood supply. If this is not the explanation then some mysterious protecting mechanism must be postulated. Now in the case

of the lens it has been shown experimentally that this does not exist—as an epithelioma of the sub-capsular epithelium has been induced. As to the cornea, there is no essential difference between the limbal and corneal epithelial cells, nor between the amount of trauma to which they are subjected. The obvious difference is their blood supply in early life; the sclera has a poor blood supply and is almost immune to malignant change.”

Let us turn the matter end for end and consider a part with ample blood supply but whose cells no longer divide—that is a state of affairs just the opposite to that of the cornea. Is there then a part with a good blood supply but whose cells are no longer capable of dividing?

“The retina has differentiated by the end of the sixth month of life and none of its cells are capable of dividing again except a few astrocytes in the glial supporting tissue. What is of particular interest to us is that practically all the differentiation occurs before a blood supply is developed at all. Indeed the spread of the blood vessels is from the disc toward the periphery as is also differentiation, but be it noted the differentiation precedes the vascularization by many weeks throughout development. The only situation where development lags behind is the fovea centralis and this is devoid of vessels throughout life.

“On account of the fact that differentiation is practically complete before a blood supply appears you would expect malignant tumours of the retina to be rare (as they are). If they do appear they should appear very early in life or even before birth (as they do) since only then could the cells involved divide. The only genetic possibility is that of an inherited lag in differentiation which would allow the blood supply to overtake and infect undifferentiated cells carrying a tissue-specific mutant. “The tumour incidence in vascular and avascular, differentiated and undifferentiated, of the eye supports the virus origin of malignancy. The study of the mode of transmission of the Bittner virus in mice affords an explanation of the apparent familial and hereditary forms of cancer in the eye.”

Does the same pathology apply to sarcomas? Professor Gye³ and associates at the Imperial Cancer Research Fund Laboratories have shown that it does and that sarcomas can be started afresh by tumour tissue frozen and dried in vacuo as in the case of carcinoma. Both from the spontaneous (in which the initiating agent is unknown) and the induced (in which a chemical was deliberately applied) the active form of the sarcoma virus has been obtained, and has been made to initiate new sarcomatous growths.

Of course the conclusions of Gye, Begg, Mann and Craigie did not go unchallenged. Professor Gye was confident that the severity of his technique ruled out the possibility of tissue transplant, believing that no cell could survive. They write—

“Extremely active material capable of starting fresh tumours in less than two weeks has been obtained from both chemically induced and spon-

taneous sarcomas frozen at -79°C . for over twelve months, and from sporadic carcinomas frozen at -79°C . for over three months. This phenomenon of survival of activity of cancer cells under conditions which are known to kill normal mammalian embryo cells (Mann, 1949) appears worthy of investigation of whether extreme cold can be used to destroy mammalian cells, and simultaneously to preserve any possible intra- or extra-cellular agent capable of starting a tumour *de novo* in cells of another host. If the continued activity of such refrigerated tissue is due to survival of cells of the original animal, then the tumour produced in the new host is merely a transplant. If, however, it can be shown that the cells in the refrigerated tissue are dead, then the new tumour must be produced by an agent (which would then be the 'continuing cause' of cancer) which is a separate entity from the cells in which it lives, and which is capable of surviving under certain conditions when they are dead. Such transmission would be 'cell-free,' and would place any tumour so produced in the class of virus tumours, among the known virus chicken tumours, the Shope papilloma of rabbits, Bittner's mammary carcinoma and Lucké's adenocarcinoma of the frog.

"We have subjected the tumour tissue to various processes besides refrigeration which are known to kill mouse embryo cells, such as fine mincing and dispersion, dilution with glucose, with cystein, buffering to pH6, storage in glycerol and treatment with distilled water. None of these procedures affect the activity of the refrigerated tissue, which remains as great as or greater than that of the fresh tissue. Thirdly, we have made histological examinations of frozen tissue implants at intervals and have examined the material itself, finding, however, neither any evidence for survival of cells, nor conclusive proof of their total destruction, since one cannot be certain that every cell has been examined.

"Finally, being well aware that to all these methods of approach might be opposed the objection of the remote possibility of the exceptional survival of a few cells, we have proceeded to dry the refrigerated tissue completely to dust *in vacuo* at a temperature of -25°C . This is universally allowed to be lethal to both normal and tumour cells, yet we have obtained highly active dry material from all the three tumours studied. It therefore appears impossible to avoid the conclusion that from both the chemically induced and the sporadic sarcomas a cell-free agent can be recovered, which on injection into appropriate mice is capable of starting the tumour afresh. From its resistance to extreme cold, to glycerol and to drying the agent seems most likely to be a virus, and since a virus origin is undoubted for many avian sarcomas, this is less surprising than would be a non-virus origin for mammalian sarcoma."

Passey⁴ and Dmochowski repeated the experiments and confirmed the results, but went a step further. They showed that fractional centrifugation gave a supernate without tumour inciting properties; yet the sediment was active in the production of tumours. Moreover, *in vitro* culture of the frozen material grew the same type of tumour cells and when the macerated tissue was reconstituted histological examination showed apparently intact cells.

The work of the English investigators is reviewed by Russell and Wynne⁶ under a grant from the American Cancer Society and entitled "The Viral Theory of Cancer: Evaluation of Some Recent Work" and their conclusion is—"There is an excellent theoretical case that a virus could be either the inciting cause, or the continuing cause, or both, in the many varied types of the neoplastic process. The experiments of Gye, Begg, Mann and Craigie have been largely confirmed, but the conclusion reached by them that a virus is responsible for the growth of tumours does not appear justified in light of more recent work which has demonstrated that viable cells can survive the conditions of similar experiments. On the other hand, the participation of a viral factor in the genesis of the tumors has not been disproved. If a continuing viral cause could be proved for all types of neoplasia, the biological problems of the neoplastic process would be immeasurably simplified. Research in the field could then be directed to multiple attacks on a single master problem."

SUMMARY.

I have attempted to trace the gradual development of the idea, first scouted and now taken seriously, that cancer may be of virus origin.

You will recall that Mr. Lockhart-Mummery in 1934 supported the theory of gene mutation of somatic cells and placed before us his arguments against the probability of an infective agent playing a part and clinched the matter by the "too palpably improbable" of the uniovular twins who develop similar growths in identical parts. At the very moment he was writing "definitely" disposing of the possibility of an infective agent Bittner was carrying his cross suckling experiments between high and low cancer strains of mice with the startling result that it was an infective agent that caused mammary carcinoma in the mouse, and that the apparent hereditary nature of the disease was due to inbreeding of the virus within the affected strains and not due to a mutation involving the genetic or reproductive cells of the experimental mammal. The subsequent work that established the tissue specific characteristic of a virus and the genetic identity existing in uniovular twins seems to me to support rather than dispose of the idea of latent infection in the well recognized phenomenon of identical tumours in identical organs developing at the same age.

The calling in of normal embryology of the eye by Doctor Ida Mann to support a general theory of infection is I think quite unique. She summarizes in part—

- (a) It would appear that the virus must enter into the body at or just after birth or possibly even before.
- (b) That a cancer virus is tissue-specific and must reach its destination by the blood stream.
- (c) It is probable that a cancer virus cannot stimulate a cell to divide unless that cell still has the power of mitosis. Cells so highly differentiated that they can no longer divide are unable to react to the stimulus of the virus.

- (d) The various mutants will remain latent and in their cells of election—be they epithelial, glandular, connective, etc.—until they change to the active form.
- (e) We are told the number of experimental carcinogens is legion, and that some of them have a chemical resemblance to substances occurring in the course of normal metabolism, so that the fact that an “initiating cause” is not always obvious in man does not prove that human cancer is causeless.
- (f) No experimental evidence exists of any genetic tendency to cancer. Some questions that remain to be answered. Are there other portals of entry for the virus than the transplacental and mammary routes? How late in life can the entry of a virus occur? Can a virus ever be carried as a “passenger” in the sperm of man as occurs in some of the lower animals? What are the activators which in man convert the latent to the active form?

Of course the question uppermost in all our minds is whether anything has been observed suggestive of cancer in man being due to a virus. Many are agreed that the electron microscope consistently reveals bodies believed to be virus bodies in greater concentration in tissue and milk of cancer patients. So you see how exciting the pursuit has become. Supposing it is definitely established that cancer in the human is due to a virus another hurdle would still remain. No remedy in the form of a chemical compound is of any value with virus infections in spite of the thousands of compounds tried up to January, 1952, when Doctor van Royen compared the search for such as the attempt, (when wearing a pair of black spectacles) to catch a black cat in a dark room—the only hope of success being the off chance of stepping on the beast.

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After A Poker Game

Bertha Ogilvie Archibald
Halifax, N. S.

THERE are some people who still believe in ghosts. Well—a young Halifax man was once convinced that ghosts were still floating around Halifax in the vicinity of the old Victoria General Hospital.

In a room which later was used as a basement store room for the Pharmacy in the old hospital was a rather unusual ward. In it were long wooden coffin shaped boxes placed in rows on the floor. In these boxes were placed the patients having delirium tremens.

The public rose in condemnation of such treatment and the Superintendent later had a padded cell built adjoining the infectious ward. The infectious ward was a little building across the yard at the back of the main building near the pond of the City Home.

This room did not have a window and it was here that such patients were cared for. It was the duty of the nurse who was on night duty in the infectious ward to climb a step ladder with her flashlight and peer down through the transom several times during the night to see how the patient was doing.

A young man of one of the elite families of our city having imbibed too freely at a poker game was brought to the hospital and there confined. When the nurse peered in at him, her head being encircled by a halo, he screamed—"What are you? Am I in heaven or hell? Are you an angel?" "Not yet, I'm afraid" came the gentle reply. The patient wakened to find himself in the pitch dark room and as he felt the walls he found them padded. He was mystified. He recalled the poker game but that was all.

The nurse reported to the Superintendent of Nurses next morning that the patient in the padded cell was apparently rational. Out of consideration for his family, he was placed in Ward 16 and screened off in one corner of the ward until he had recovered sufficiently to return home.

Minutes of The Medical Economics Committee

A meeting of the Medical Economics Committee of The Medical Society of Nova Scotia was held in the offices of Maritime Medical Care Inc. Tuesday, Oct. 26th, 1954. Present were: Drs. A. Sutherland, J. B. Tompkins, T. B. Murphy, D. M. MacRae, H. J. Devereux, Dr. G. G. Simms, Assistant Deputy Minister of Health, Mr. David Macneill and Dr. M. R. Macdonald.

First item on the agenda was the extension of services to the Welfare group and due to the fact that there is still a surplus in the Welfare funds it was decided that benefits be extended to include hospitalization for any medical or surgical condition up to 12 days with a maximum fee of \$25.00, and that Hon. Harold Connolly, Minister of Health, be informed of the change.

The question of paying for consultation services was brought up but it was decided to leave this matter in abeyance until a new contract is drawn up.

The second item on the agenda was Federal Health Grants. Dr. Simms was asked for information regarding the following Health Grants—Child and Maternal Health Grant, Rehabilitation Grants, and Radiological and Laboratory Service Grants. Dr. Simms gave a comprehensive review of the present position regarding these grants.

Child and Maternal Grants. These are non-matching outright grants. The original grant was approximately \$50,000. and had to be spent prior to March 31, 1954 and an advisory committee was set up in Halifax and the following was accomplished—(a) training of nurses in infant and maternal care, that is, short courses, given at Grace Maternity and Children's Hospital. (b) Provision of case room and nursery equipment for hospitals that needed it, for example, incubators were given hospitals that needed them. (c) Teaching of obstetrics at Grace Maternity Hospital was assisted with aid from the grant. (d) Formation of a consultation team in child and maternal welfare. This team will consist of an obstetrician, paediatrician, anaesthetist, and an especially trained nurse. (e) Provision of special equipment to Grace Maternity Hospital, e.g. terminal sterilizer. (N.B.) Other hospitals will also receive similar equipment in the near future. (f) A division of Child and Maternal health within the Dept. of Health was set up. Dr. E. L. Eagles was appointed Director of this division and a well qualified nurse is also employed in this division.

Dr. Simms advised that the Advisory Committee is now being reorganized to be more representative of the various organizations concerned. The new Grant is approximately \$90,000 and any of the hospitals in the province may request assistance as has been outlined, at any time.

In reply to a question Dr. Simms thought that the Grants could be used to cover short courses in obstetrics and paediatrics for interested doctors but that it would be necessary to have the application set up as individual projects and be approved by the Provincial and Federal Depts. of Health.

Rehabilitation Grant is a matching grant for services and non-matching for training and equipment. The amount of this grant is approximately \$50,000. A co-ordinator in rehabilitation has been appointed. There is also a rehabilitation council for Nova Scotia, set up on a voluntary basis, in which all interested parties will be represented. At present preliminary discussion is going on regards the setting up of a rehabilitation centre.

The Radiological and Laboratory Services Grant is a non-matching grant for equipment and training and matching for services, the amount of this grant is approximately \$269,000. Dr. O. C. MacIntosh is part-time Director of the Division of Diagnostic Services. Up until the present a number of people have been trained and are training under this Grant. For example, X-Ray and Laboratory Technicians, Radiologists et al.

The procedure for training technicians is for the hospital to enter into a contract with the Province and trainee. If the trainee does not fulfil terms with the contract, the hospital is responsible for payment of funds paid out by the province and the trainee is responsible to the hospital.

Dr. Simms stated that it is proposed to call together the different Advisory Committees late in the year.

A letter from Dr. A. D. Kelly was read regarding the feasibility of the N. S. Division, making a survey of the cost of Medical Practice. After some discussion it was decided to get further information on this matter before any definite proposal is made.

New Business

A resolution from the Western Counties Medical Society dealing with Income Tax was read. This resolution had been passed on from the Executive of The Medical Society of Nova Scotia. After some discussion it was decided the Chairman of the Economics Committee discuss this matter with Dr. A. D. Kelly and also get legal advice. The Chairman of the Economics was also requested to consult Dr. A. D. Kelly in regard to exemption from Income Tax for annuities and pension plan.

Meeting adjourned at 10.15 p.m.

The Pacific Shore In '54

A STATION-WAGON SAGA

L. C. Steeves, M.D.

Halifax, N. S.

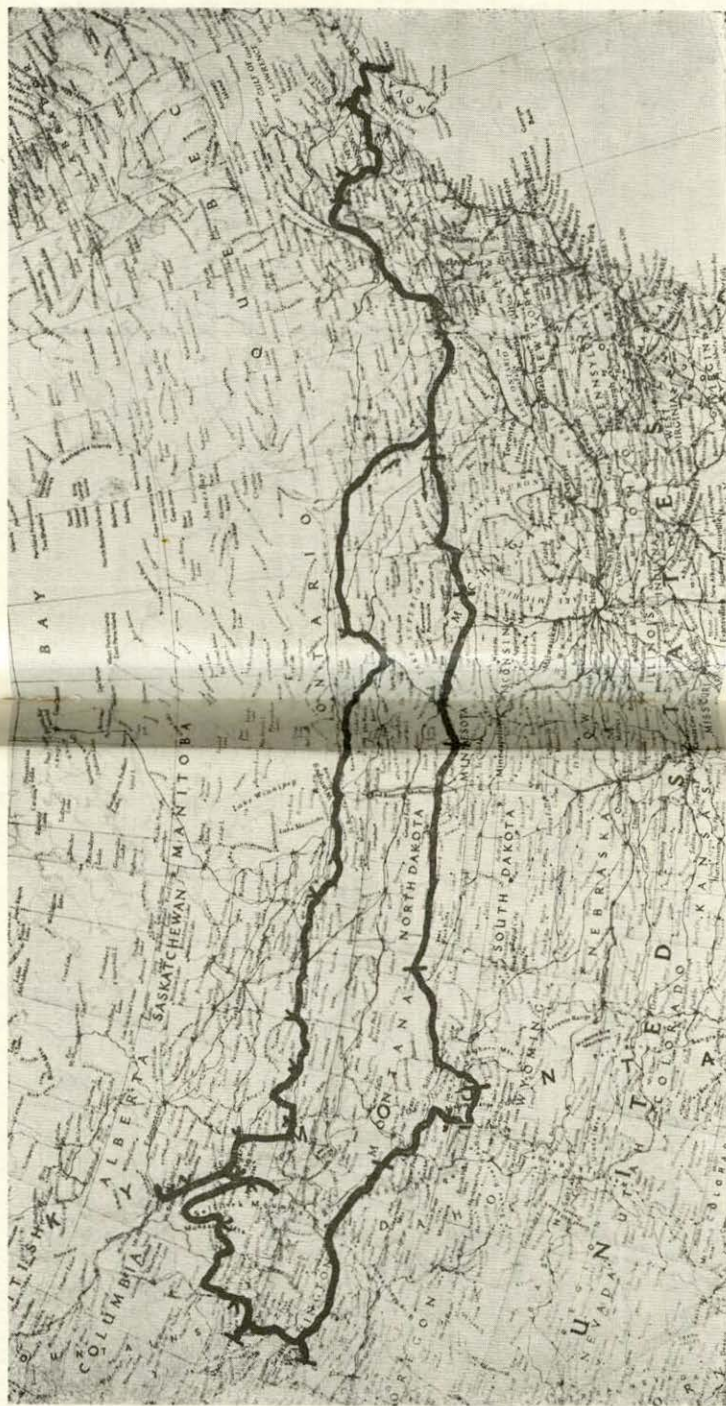
EVER since our honeymoon included five hectic Winter days in B. C., I had said to my wife, Katharine, "The next time the CMA meets in Vancouver, we'll go see the coast as it really is." But as the years rolled by, Canada's soaring birth rate had somehow involved us in the care and feeding of five little Steeves' boys, aged 11, 9, 6, 4½ and 2, and priced us out of the travelling class!

However, after the two of us had made a 2800 mile trip by car to a Convention in the Spring of '53, both enjoyably and economically, I quietly mentioned driving to the CMA with the two older boys. In no time at all Katharine was enlarging the plan to include all five boys, and soon our friends were in two camps—one claiming it impossible, the other plying us with tales of others who had "lived through it" and multiple copies of magazine articles on the subject by a Cape Bretoner.

We already had a station wagon, equipped with upper and lower berths of my own design and manufacture. By the time the seven of us had our birthdays, and Christmas and wedding anniversary came, we found ourselves equipped with a picnic ice-box, gasoline stove, sleeping bags, air mattresses, plastic dishpan, dishes and cups. Add to this, four thermos bottles for milk, our pressure cooker, assorted knives, forks, spoons, blankets and outdoor clothing, and we were all set to go—providing everyone walked, so that there would be room for the luggage! Having moved my family to a summer cottage on a number of occasions, however, this development was no surprise and I had planned a simple car-top carrier to take everything but the bedding. Passing mention of snakes preferring the warmth of a sleeping bag to the cool mountain air, put Katharine's mind to work overtime and I soon found myself, with her help and that of two medical friends, building a watertight car-top carrier with a collapsible upper berth capable of sleeping the two older boys on top of it.

And so, on May 29th, after packing until 3.30 p.m., we took off arguing about the "500 lb" load Katharine had stowed (which actually weighed 1200 lbs.)

And then the rains came; stopping daily however, to allow us two picnic meals at sites varying from a grassy slope overlooking Lake Temiscouata in Quebec, to a small patch of parched grass and gumbo in North Dakota. At dawn, after our first night sleeping in the car, Jamie—age 2, a confirmed "bed rocker", got up in his little bunk and rocked the whole car on its springs—waking us all. Most mornings we started late, after the youngsters had run off some of their energy, with Katharine driving and telling stories to keep them quiet while I slept a couple of hours. Stopping only to change drivers, we continued until supper when, while we cooked up and cleaned up, the youngsters had again a good run out of doors. After supper, all went to bed—five in the inside bunks and one on the front seat—while I drove until our



The above map shows the route followed by Doctor Steeves through the United States and return by all Canadian highway.

450 mile quota was made about midnight. Then, into one of the frequent picnic sites, up with the car top collapsible four-poster, shifting the two older boys into it, and so to sleep.

The feature of the ten days Westward bound was, of course, our day in Yellowstone. The rain changed to snow as we gained altitude, driving the wild life down into the valleys and along the road. Soon our time-filling game of counting cows versus horses had been modified to bears versus elks. By dark, after fourteen bears peered in the car windows, the boys, who had objected violently to the two nights we spent in motels, were in complete agreement with Mother, that a cabin for the night would be nice. This was because of the snow—of course!

At Vantage, on the canyon banks of the Columbia in Ginko Petrified Forest, the boys added to our weight considerably with five sets of assorted petrified woods, horse-traded from the park geologist on promises of some raw amethyst from Blomidon!

After a five day recovery period, with relatives at Tacoma, came the Canadian Medical. At Blaine, we passed through the International Peace Park—the only boundary park we saw to exceed, or even approach, in attractiveness our own in Amherst. Staying with two sets of friends, three days each, several miles from the hotel, we saw very few fellow Nova Scotians—other than in the distance at the meetings. Here we became a “human interest” publicity item, at the request of the President of the CMA, and appeared in the local paper with writeups and photos.

The next week was our rainless one, which proved fortunate as we followed the devious course of the Trans-Canada Highway through the Rockies, with side excursions to Kimberley and Jasper. The scenery, weather and wild life and camping facilities of our National Parks beggared description, and not even the Prairies would discourage us from returning at the first opportunity.

By the time we left the Rockies we had decided to make it an all Canadian return, because we found, to take the boys to a promised rodeo we would have to go East as far as Swift Current.

Here, we distinguished ourselves as the best dressed visitors, sitting in a cold blowing rain in our waterproof storm suits and under our waterproof ground sheets, while the rest of the crowd shivered and soaked in conventional 1st July clothing.

With only a little over a week of holiday remaining, and 60% of the return trip still ahead we settled down to serious driving. To avoid dense clouds of mosquitoes east of Winnipeg, we drove day and night in four hour shifts, from eastern Saskatchewan to northern New Brunswick in four days, stopping only on the second night with friends just east of Lake Nipigon, where we could stay behind screens. One further jump to Shediac; three days settling into Grannie's cottage for the summer, and then Katharine and I made the last lap to Halifax—10,700 miles, six weeks and three flat tires after starting.

Now more firmly convinced than ever before that British Columbia—(my birth place) and Nova Scotia—(our home) are Canada's choicest spots, and having learned the fun of station wagon camping, we plan to do it again—but this time, the Cabot Trail!

MINUTES OF A SPECIAL EXECUTIVE MEETING OF THE MEDICAL SOCIETY OF NOVA SCOTIA

A special meeting of the Executive of The Medical Society of Nova Scotia was held in the Board Room of the Dalhousie Public Health Clinic, Halifax, N. S., on Monday, October 25th, 1954, at 4.08 p.m.

The meeting was called to order by the President, Doctor D. M. Cochrane.

Present: Doctors D. M. Cochrane, C. H. Young, M. R. Macdonald, D. F. Macdonald, C. G. Harries, A. L. Sutherland, T. B. Murphy, E. F. Ross, C. L. Gosse, J. S. Robertson, G. C. Macdonald and H. J. Devereux, Chairman of the Committee on Medical Economics.

It was moved by Doctor C. L. Gosse that the Minutes of the Annual Executive meeting as printed in the September, 1954 issue of the Nova Scotia Medical Bulletin be taken as read.

This was seconded by Doctor D. F. Macdonald. Motion carried.

It was moved by Doctor A. L. Sutherland that the Secretary be paid the same salary as the late Secretary, starting September 1st, 1954. This was seconded by Doctor C. L. Gosse. Motion carried.

It was moved by Doctor T. B. Murphy that the assistant secretary receive the balance of \$150.00 voted on March 17th, 1954 for extra help in the office, as a bonus. This was seconded by Doctor D. F. Macdonald. Motion carried.

Regarding the resolution re radiologists and pathologists as published in the Minutes of the second business meeting on September 7th, 1954, in the October, 1954 issue of the Nova Scotia Medical Bulletin it was moved by Doctor E. F. Ross that the Secretary of each Branch Society be sent a copy of this resolution, and also call their attention to the fact of its publication in the Bulletin, and that it would come up for discussion next year at the annual meeting. This was seconded by Doctor T. B. Murphy. Motion carried.

The resolution from the Western Nova Scotia Medical Society re Proprietary Drug Act, as published in the Minutes of the Annual Meeting, was read by the Secretary. This had been referred to The Canadian Medical Association for their ruling, and the Secretary read the following letter from Doctor A. D. Kelly, General Secretary of The Canadian Medical Association, dated October 8th, 1954.

"I have your letter of October 5th containing the resolution of your Western Nova Scotia branch with respect to the listing of active ingredients on the labels of preparations sold under the Proprietary Drug Act.

"Two recent recommendations of this Association to the Food and Drugs Division, Department of National Health and Welfare are in line with the intent of your resolution:

- (A) A recommendation to prohibit the use of strychnine in laxative pills. This would circumvent the commonest cause of accidental poisoning in infants and young children and we have the assurance of the Department and the Canadian Pharmaceutical Manufacturers' Association that our recommendation will be carried out.
- (B) A recommendation for the labelling of drugs with dosage in Metric units where Imperial units only are now indicated and the use of the Metric system only in all new preparations.

"It is my view that the essence of your resolution has already been acted upon."

The Secretary stated that last year when the Society adopted a crest and motto for the Society, the motto had been "Health of Humanity," and this had been sent to Lord Lyon of Lyons and approved of by him. When the copy of the charter was received from Scotland it was noted that the motto had been changed to "Health and Humanity." It was moved by Doctor A. L. Sutherland that this change be accepted, as it was really a change for the better, and that we recommend to the Society the motto "Health and Humanity" to go with the crest, and that it be the Society's motto. This was seconded by Doctor C. G. Harries. Motion carried.

The resolution passed at the second business meeting that a committee be set up to draw up a new set of By-Laws for The Medical Society of Nova Scotia was next discussed. It was moved by Doctor C. L. Gosse that the President appoint a committee of three or four, and not exceeding five, to draw up a new set of By-Laws for the Society. This was seconded by Doctor C. H. Young. Motion carried.

The resolution passed at the Annual Meeting regarding "the appointment of a committee to explore all possibilities and report back to the Executive with a plan and nominations for the position of a full-time secretary and that the Executive be given the power to finalize the arrangements" was next discussed. Doctor E. F. Ross moved that the Chair appoint such a committee from the Executive to do this work and report back at the next meeting. This was seconded by Doctor C. G. Harries. Motion carried.

The Secretary read the resolution from the Western Nova Scotia Medical Society regarding Dental Anaesthesia which had been brought up at the first business meeting, and which had been referred back to the Executive so that they take it up with the officials of Maritime Medical Care Incorporated.

It was pointed out that there would be a meeting of the House of Delegates of Maritime Medical Care Incorporated on Saturday, October 30th.

It was moved by Doctor D. F. Macdonald that the Executive request Maritime Medical Care Incorporated to allow payment for the administration of general anaesthesia for dental extractions by qualified medical practitioners. This was seconded by Doctor C. L. Gosse. Motion carried.

The following were nominated for senior membership in The Canadian Medical Association: Doctor W. L. Muir of Halifax, Doctor R. M. Benvie of Stellarton, Doctor P. S. Campbell of Halifax and Doctor Allister Calder of Glace Bay.

The following resolution from the Western Nova Scotia Medical Society regarding Income Tax was read by the Secretary.

"WHEREAS, During the past two years many of the Doctors in this area have been investigated by the Income Tax Department, and

"WHEREAS, This investigation has been based on the so-called network system, and

"WHEREAS, In most instances the inspectors have checked a period far beyond the ability of the Doctor to recall for necessary details, and

"WHEREAS, Most Doctors have kept adequate business records and did not feel it necessary to keep accurate records of personal expenses outside their business necessary to establish their net-worth, and

"WHEREAS, As the inspectors spent very little time with each Doctor in establishing their claims of discrepancies, and

"WHEREAS, In most instances, we have employed Chartered Accountants at their request, who have quickly detected gross errors in the inspectors' figures, and

"WHEREAS, In most instances, the cost of living has been computed by the inspectors and this item based on impression has largely indicated the final discrepancy figure,

Be it RESOLVED, that the Western Nova Scotia Medical Society recommend to the Executive of the Nova Scotia Medical Society

- (1) That a complete investigation of the present methods carried out by the Income Tax Department be made by the Society.
- (2) That a practical system of book-keeping for Doctors be devised which will determine ordinary expenses of a medical nature and permit net-worth to be determined from year to year as based on facts rather than the inspectors' impressions of one's personal expenses.
- (3) That a study be made to determine on what basis the cost of living may be computed allowing for the individual living habits of each Doctor."

It was moved by Doctor D. F. Maedonald that this matter be referred to the Medical Economics Committee and that they report back to the next meeting of the Executive. This was seconded by Doctor E. F. Ross. Motion carried.

Regarding the Annual Meeting to be held in Amherst next year the President reported that the Cumberland Medical Society had had a meeting and appointed a Finance Committee, an Entertainment Committee and a Ladies' Committee. It was decided to write Doctor A. D. Kelly, General Secretary of The Canadian Medical Association that the Society had tentatively decided on holding their Annual Meeting in July. It was suggested that the Executive meeting be held on a Tuesday, with general meetings on Wednesday, Thursday and Friday.

Regarding the resolution passed at the second business meeting for necessary steps to change the Constitution of Maritime Medical Care In-

corporated to enable that body to choose their President from any member in good standing of The Medical Society of Nova Scotia it was moved by Doctor A. L. Sutherland that this notice of motion be sent to Doctor J. C. Wickwire by the Secretary and that whatever necessary steps should be taken be done. This was seconded by Doctor G. C. Macdonald. Motion carried.

The President stated that he desired to have a conference with the officials of Maritime Medical Care Incorporated.

It was moved by Doctor E. F. Ross that Maritime Medical Care Incorporated be again contacted and asked to provide a monthly article for publication in the Nova Scotia Medical Bulletin in order to keep the profession informed. This was seconded by Doctor D. F. Macdonald. Motion carried.

Regarding expense accounts for executive members and committee members it was moved by Doctor D. F. Macdonald that they be paid out of pocket expenses, as formerly, except meetings in connection with the annual meeting. This was seconded by Doctor G. C. Macdonald. Motion carried.

The Secretary stated that in the past names of any doctors put on standing committees whose dues were not paid were deleted from such committees, and it was the opinion of the Executive that this practice be continued.

Regarding the recommendations of the Editorial Board which had been accepted at the annual meeting the Secretary reported that they were being looked after.

The Secretary read the following letter from Doctor A. D. Kelly, General Secretary of The Canadian Medical Association, dated August 10th.

"I attach for your information the report of the Special Committee on Rehabilitation. You will observe that certain recommendations for Divisional action are contained in this document and I would suggest that the importance of the subject justifies the establishment of a Committee on Rehabilitation if your Division does not already possess such organization.

"As evidence of the reawakening interest in medical rehabilitation, the Executive Committee has authorized the conversion of the Special Committee on Rehabilitation to a Standing Committee. Your Division is entitled to membership on this Committee through the chairman of your committee of similar name and function.

"A number of factors demand increasing attention by the medical profession to the subject of rehabilitation and among them are

- (a) The availability of a sizeable National Health Grant for rehabilitation which has not been utilized to any appreciable extent.
- (b) The availability of pensions for totally and permanently disabled persons. Specifically, it is our hope that your Division will
 - (a) Establish a Committee on Rehabilitation and notify us of the Chairman.
 - (b) Consider the initial steps recommended by the Special Committee on Rehabilitation with a view to implementation in your province if you consider them to be feasible.

- (c) Discuss with your Department of Health the utilization of the Rehabilitation Grant and the organization of machinery for the award of pensions to the disabled."

It was agreed that a committee should be appointed, and Doctors W. D. Stevenson, G. J. H. Colwell and J. F. L. Woodbury were nominated. It was moved by Doctor E. F. Ross that these men be appointed. This was seconded by Doctor C. H. Young. Motion carried.

The question was asked whether a second Vice-President was to be appointed, and it was pointed out that the appointment of a second Vice-President had been left in abeyance, and now would not be done until the next annual meeting.

The President read the following letter from Mr. L. C. Parkinson, Manager of Digby Pines, dated October 4th.

"On my next visit to Halifax, I would appreciate the opportunity of visiting you, at your convenience, to discuss the possibility of a future meeting of The Medical Society of Nova Scotia, at the Digby Pines Hotel."

It was pointed out that there was not time enough allocated in the programmes of the annual meeting for the visiting of the advertising booths, and also that it was not feasible to have them in the same room where the meetings were held.

It was moved that the meeting adjourn at 7.40 p.m.

THE MEDICAL SOCIETY OF NOVA SCOTIA ANNUAL GOLF TOURNAMENT SYDNEY, 1954

The Annual golf tournament was held on Wednesday afternoon, September 8th, at Sydney's Lingan Country Club. The weather was rather poor for golf as it was quite windy and began to rain in the late afternoon. The turn out of golfers was rather disappointing this year as only ten turned up. I believe this was due to the crowded schedule of the Convention. There was a rather important general business session of the Society scheduled at the same time which was unfortunate. I think this might be avoided in future by better planning. Also, the Golf Committee were taken aback by the decision of the central committee at Sydney to refuse us permission to present the golf winner prizes at the annual dinner which has been done in previous years with such success. My own feeling is that if the golf tournament is to be treated in future years as it was this year it should be abandoned altogether. It is very disappointing to a committee chairman to spend some time and trouble planning his job only to be balked at every turn by the very officials who asked you to undertake the job in the first place. My thanks are extended to Doctor N. K. MacLennan who ably assisted and did all in his power to help and to Mrs. MacLennan for wrapping our prizes and acting as scorer.

A. W. TITUS

PRIZES

- | | |
|---------------------------|------------------------------|
| 1. Low Gross | Dr. A. W. Titus, Halifax |
| 2. Runner Up Low Gross | Dr. J. H. Charman, Halifax |
| 3. Low Net | Dr. B. St.C. Morton, Halifax |
| 4. Runner Up Low Net | Dr. L. M. Morton, Yarmouth |
| 5. Low Gross, Home Town | Dr. H. R. Ross, Sydney |
| 6. Best on Par 4 Holes | Dr. J. R. McLellan, Sydney |
| 7. Hidden Holes | Dr. W. L. Muir, Halifax |
| 8. High Gross | Dr. D. F. Smith, Halifax |
| 9. Best Score Par 3 Holes | Dr. G. J. LeBrun, Bedford |

PRACTICE OR ASSISTANTSHIP WANTED

Scottish physician, eligible for registration in Nova Scotia and at present with the R.C.A.F., available in June, 1955, for a general practice or assistantship.

If interested write to Doctor R. F. Reid, 126 Blake Street, Barrie, Ontario.

Dalhousie Notes

AT the annual meeting of The Medical Society of Nova Scotia in September a resolution was introduced by the Editorial Board of the Bulletin requesting the Society to ask the local Branches, the various specialty groups, and a number of other organizations whether they would agree to provide news and articles for publication in the Bulletin. One of the bodies so approached was the Dalhousie Medical School. Since the Dean in his capacity of Associate Editor was one of the sponsors of the request, he must now move to his other chair and try to meet this additional demand. Only a few brief notes will be included in this issue. It is hoped that more weighty contributions from the various departments of the Medical School can be provided in future issues.

The new class of first year students registered on September 7th with 53 men and three women. One other student is repeating his first year, bringing the total class up to 57. The distribution by place of residence is as follows: Nova Scotia 17, New Brunswick 13, Prince Edward Island 8, Newfoundland 6, other Provinces of Canada 4, United States of America 6, British West Indies, Puerto Rico and British Guiana 3. Their pre-medical courses were taken at the following institutions: Dalhousie 16, Mount Allison 10, Saint Francis Xavier 8, Prince of Wales College 7, Memorial 3, University of New Brunswick 3, Acadia 2, McGill 3 and others. 5.

Following the custom introduced a few years ago, the new students were greeted on their first day by several members of the Faculty, and were taken on a conducted tour of the medical campus and hospitals. An informal party was also held at the Medical Library on September 29th to give the new students an opportunity to get acquainted with each other and with the teaching staff.

The autumn Convocation of the University was held on October 5th. President Kerr welcomed the new students and introduced new Faculty members, including Doctor Kenneth F. Girard, Assistant Professor of Bacteriology, and Doctor Albert M. Sinclair and Doctor Frederick W. Knowles, Assistant Professors of Anatomy.

Doctor Girard has a degree of B.Sc. in Chemistry and Biology from Siena College in Albany, New York. His training was interrupted by three years service in the American Army as a medical technician. He spent part of that time at the Imperial University and St. Luke's International Medical Centre in Tokyo. On his return to America he attended McGill University where he received his M.Sc. degree in 1950, and his Ph.D. in 1952, presenting a research thesis on the relationship between *Listeria Monocytogenes* and Infectious Mononucleosis. During the past two years he has been associated with Lederle Laboratories at Pearl River, New York.

Doctor Frederick W. Knowles, Assistant Professor of Anatomy, has the degrees M.R.C.S., L.R.C.P. from Middlesex. He served for one year as Lecturer in the Department of Anatomy of Queensland University, Australia.

Doctor Albert M. Sinclair, Assistant Professor of Anatomy, graduated from Dalhousie in 1952. Since that time he has been doing post-graduate work in surgery, one year at the Vancouver General Hospital and one year at the British Post-Graduate Medical School, Hammersmith, England, on an I.O.D.E. Scholarship.

28th Annual Dalhousie Refresher Course

During the week of October 25th-29th the annual refresher course was presented by the Faculty of Medicine, Dalhousie University. A very large attendance of practitioners from the four Atlantic provinces reflected their interest in such post-graduate work.

This year we were most fortunate in the guests who augmented the programme of our own Faculty members. During the first two days Doctor Wrong and Doctor Moir were with us. Doctor Norman Wrong, Chief of Dermatology at Toronto General Hospital and of Sunnybrook Hospital, Toronto, gave lectures and clinics. His excellent clinical approach was most instructive. Doctor Chassar Moir, Nuffield Professor of Obstetrics and Gynaecology at Oxford University, brought us practical assistance from his wide experience as general practitioner, research worker, and specialist in his chosen field.

The John Stewart Memorial Lecture was delivered by Doctor Waltman Walters, Chief of Surgery at the Mayo Clinic. He spoke on "Physiologic and Clinical Aspects of the Treatment of Gastric and Duodenal Lesions." He remained with us for the last two days and gave clinics on pancreatic diseases, biliary tract surgery and gastric malignancy.

During the latter half of the course we had two other guests. Doctor Edward MacMahon, Professor of Pathology at Tufts College of Medicine, Boston, and Doctor Franz Ingelfinger, Associate Professor of Medicine at Boston University Medical School. Besides their individual contributions, they gave us a medical intellectual treat in a joint clinical pathological conference.

An innovation this year was a comprehensive symposium by the Nova Scotia Tumour Clinic. As in past years, an evening was devoted to traumatic topics by the Committee on Trauma of the American College of Surgeons. Other presentations of our own Faculty members were of a high order. Papers on original work, clinics and round table discussions resulted in a programme that many stated was "the best yet."

This year all the sessions were held in the auditorium of the Nurses' Residence at the Victoria General Hospital with the exception of one session at Camp Hill Hospital. This departure from the previous custom of afternoon meetings at the hotel met with general approval. The Victoria General Hospital, Camp Hill Hospital and the Children's Hospital further assisted by inviting practitioners to lunch. Besides saving considerable time, this afforded an opportunity for members of the course and Faculty members to meet one another.

In keeping with the tradition of refresher courses, social functions were kept at a minimum. However, several enjoyable events were held. A dinner at the Lord Nelson preceded the John Stewart Memorial Lecture and after the address the medical profession and their wives were invited as guests to the wardroom of H.M.C.S. Stadacona for a pleasant evening in their delightful surroundings. At the close of the week's work, a farewell party was held at Ashburn Golf Course when members and their wives were the guests of the

Halifax Medical Society. The committee would extend their thanks to the Society for this very pleasant evening.

It is gratifying to know that many feel this was a most successful refresher course. However, suggestions are solicited from practising doctors as to how future courses may be of more interest and instruction to them. Plans are already under way for the 29th Annual Refresher Course to be held in October, 1955.

R. M. MacD.

Post-Graduate Symposium On "Geriatrics"

ONE of the more recent sidelines of the Lederle Laboratories Division of the American Cyanamid Company is the sponsorship of one-day Medical Symposia for physicians in general practice. Consequently when this Company approached the Post-Graduate Committee of Dalhousie Medical School with regard to financing such a symposium in Halifax, the kind offer was accepted.

The symposium, which is on Geriatrics, will be held in the Ballroom of the Nova Scotian Hotel, Halifax, on December 8th, 1954.

Four guest teachers who have distinguished themselves in this field of Medicine will present the course, the program of which is outlined herewith. It will be noted that the earlier publicity regarding this symposium included the name of Dr. Wallace Wilson, Director General of Medical Services, Department of Veteran Affairs, Vancouver. Unfortunately, due to illness, Dr. Wilson will not be able to participate in this program. However, we are pleased to say that Dr. Louis G. Johnson, Assistant Professor of Medicine at McGill, has kindly agreed to discuss his topic. Dr. Wilson's many friends will be pleased to know that he is making a satisfactory recovery from his illness.

On December 7th the Nova Scotia Society of General Practitioners and the College of General Practice of Canada, Nova Scotia Chapter, are holding a joint dinner for the Medical Profession at which the guest speaker will be Dr. W. Victor Johnson, Executive Director of the College of General Practice of Canada. Dr. A. G. MacLeod will preside.

Our co-sponsors have generously invited all physicians attending this symposium and their wives to be guests at a luncheon to be given on December 8th and also at a reception at 5.30.

PROGRAMME

MORNING SESSION

Moderator: Dr. D. M. Cochrane,

President, The Medical Society of Nova Scotia.

9.00-10.00 Registration.

10.00-10.40 "Acute Surgical Conditions of the Abdomen in the Aged."

Dr. E. Lee Strohl,

Associate Professor of Surgery,

Northwestern University,

Chicago, Illinois.

- 10.40-11.20 "Arthritis and Related Disorders in the Aged."
Dr. Richard H. Freyberg,
Associate Professor of Clinical Medicine,
Cornell University Medical College,
New York.
- 11.20-12.00 Questions—Panel Discussion.
- 12.15- 1.45 Luncheon.
Chairman: Dr. C. B. Stewart, Dean, Faculty of Medicine.

AFTERNOON SESSION

Moderator: Dr. H. J. Devereux,
Treasurer, The College of General Practice of Canada, Nova Scotia Chapter.

- 2.15- 2.55 Neurologic Problems of the Aged.
Dr. Allan Walters,
Assistant Professor of Medicine,
University of Toronto.
- 2.55- 3.35 Nutritional Aspects of Aging, including Anaemias, etc.
Dr. Louis G. Johnson,
Assistant Professor of Medicine,
McGill University,
Montreal, Quebec.
- 3.35- 4.15 Questions—Panel Discussion.
- 5.30- 6.30 Reception by Lederle Company.

Society Meetings

WESTERN NOVA SCOTIA MEDICAL SOCIETY

The fall meeting of the Western Nova Scotia Medical Society was held October 22nd at the summer home of Dr. C. K. Fuller, Oakdale Manor, Clyde River. Despite rainy weather, the afternoon gathering and evening meeting were most enjoyable and profitable. At seven P.M. a delicious buffet supper was served. Following the supper, the business meeting, presided over by the president, Dr. A. M. Siddall, Pubnico, was unique in that the speaker of the evening was a good friend from the legal profession, Mr. Irving C. Pink, LL.B., whose subject, "The Doctor and The Law", was most interesting and instructive and provoked a lengthy discussion. Dr. M. R. Macdonald, Halifax, the newly appointed secretary of the Provincial Society, was in attendance and spoke briefly, as did Dr. Bernard Shaw, Medical Director of Maritime Medical Care. Another guest was Dr. Alec Guthro of Baddeck.

The following Doctors were in attendance:

L. P. Churchill	Shelburne
W. H. Jeffry	"
M. F. Taylor	Barrington
A. M. Wilson	"
J. E. LeBlanc	Pubnico
A. M. Siddall	"
A. F. Weir	Hebron
P. E. Belliveau	Meteghan
G. Victor Burton	Yarmouth
George V. Burton	"
R. M. Caldwell	"
B. J. D'Eon	"
C. K. Fuller	"
D. F. Macdonald	"
L. M. Morton	"
W. M. Phinney	"
D. R. Sutherland	"
J. A. Webster	"
S. W. Williamson	"

D. F. Macdonald, Secretary,
Western Nova Scotia Medical Society.

PICTOU COUNTY MEDICAL SOCIETY

The Fall meeting of the Pictou County Medical Society was held at the Braeside Inn, Pictou on October 20th, 1954, with President S. D. Dunn and fifteen members present.

Prior to the meeting Doctor K. M. Grant of Halifax gave a most instructive talk and demonstration on the problems encountered in difficult labours

and their management. Doctor Grant's practical approach and words of experience were greatly appreciated.

Following the talk a delicious steak dinner was served.

The meeting discussed problems relating to Workmen's Compensation Board and Maritime Medical Care in addition to preparation of papers for the Nova Scotia Medical Bulletin, and the possibility of future "Regional Courses" in Pictou County.

H. A. Locke,
Secretary-Treasurer.

NOVA SCOTIA CHAPTER, COLLEGE OF GENERAL PRACTICE

The general practitioners of Nova Scotia express to Doctor Murray Fraser their sincere sympathy on his recent bereavement.

The attention of all general practitioners is called to the one-day symposium on Geriatrics which is to be held at the Nova Scotian Hotel on December 8th.

Early in March The Lederle Laboratories Division of the North American Cyanamid Limited contacted the Dalhousie Post-Graduate Committee with a view to presenting a one-day symposium for general practitioners. The generous offer to finance this presentation was accepted. Acting on the recommendations of the local general practitioner groups, the Post-Graduate Committee drew up a programme featuring Geriatrics. In general principle this one-day symposium follows the outline of similar "days" put on throughout the continent; this is the third to be presented in Canada.

All interested physicians and their wives are being invited to attend this meeting. There will be no registration fee, and at noon physicians and their wives will be guests at luncheon. At 5.30 p.m. there will be a reception for speakers, special guests, physicians and their wives.

Tuesday, December 7th, the evening prior to the symposium, at the Nova Scotian Hotel, there will be a joint dinner meeting of the Nova Scotia Society of General Practice and the Nova Scotia Chapter of the College of General Practice of Canada. All interested physicians may attend. The reception will commence at 6.30 p.m. and dinner will be served in the main dining room at 7.30 p.m. A. G. MacLeod, M.D., President of the Nova Scotia Society of General Practice, will preside at this meeting, and the speaker will be W. Victor Johnston, M.D. of Toronto, Executive Director of the College of General Practice of Canada.

C. Henry Reardon,
Secretary, General Practitioners' Branch.

Personal Interest Notes

The marriage took place in Boston, Mass. on September 25th of Miss Ellen Williams Shepherd, daughter of Mr. and Mrs. Prentiss Shepherd of Boston, and Doctor David James Sieniewicz, son of Doctor and Mrs. T. M. Sieniewicz of Halifax. Doctor Sieniewicz is now radiologist under Doctor J. W. MacKay at the Montreal General Hospital in Montreal. Doctor and Mrs. T. M. Sieniewicz and Doctor and Mrs. C. M. Kincaide of Halifax attended the wedding.

Doctor A. F. Miller of Kentville and Doctor P. S. Campbell were awarded honorary memberships at the fourth annual meeting of the Canadian Public Health Association, Atlantic Branch, held in Sydney September 9th and 10th.

Doctor S. T. Laufer of Halifax attended the Second World Congress of Cardiology in Washington, D. C. in September.

Over one hundred friends paid tribute to Doctor and Mrs. H. E. Kelley of Middleton at a party in October to mark the couple's silver wedding anniversary. Doctor Kelley has practised in Middleton for nearly thirty years.

The bulletin extends congratulations to Doctor and Mrs. K. V. Gass of Pugwash on the birth of a daughter on August 9th; to Doctor and Mrs. G. G. G. Simms of Halifax on the birth of a son, Jonathan Jude, on August 15th; to Doctor and Mrs. J. E. H. Miller of Halifax on the birth of a daughter, Mary Catherine, on September 10th; to Doctor and Mrs. R. L. Aikens of Halifax, on the birth of a son, Geoffrey Robert, on September 14th; to Doctor and Mrs. A. S. Wenning of Halifax on the birth of a daughter, Joan Barbara, on September 28th; to Doctor and Mrs. David Kernohan of Parrsboro on the birth of a daughter, on October 8th; to Doctors Mary and Hugh N. MacDonald of Rochester, Minneapolis, on the birth of a daughter, Barbara Jean, on October 11th; to Doctor and Mrs. I. A. Perlin of Halifax on the birth of a daughter on October 16th and to Doctor and Mrs. D. B. Keddy (Leslie Ann Hayes) of Mahone Bay on the birth of a daughter, Heather Lee, on October 22nd.

At the last meeting of Branch 64 of the Canadian Legion held at Waugh's River in September, Doctor Dan Murray of Tatamagouche was presented with a life membership certificate.

At the meeting of the International College of Surgeons held in September in Chicago Doctor W. R. C. Tupper of Halifax was elected a Fellow. Doctor Tupper gave a paper at the meeting on "Natural Child Birth" which was very well received.

Obituary

THE death occurred at the Digby General Hospital on August 30th of Doctor Edward Dudley Dickie, following a period of ill health extending over a period of several months.

Doctor Dickie was born in Barton, Digby County, July 24th, 1917, the son of Doctor Walter R. and Jean Dickie. He moved to Digby in 1927 where he attended Digby Academy. Following his graduation he attended Mount Allison University and later entered Dalhousie Medical School graduating in 1941.

In May of that year he entered practice with his father in Digby and in 1942 enlisted in the Royal Canadian Navy. He served overseas as Surgeon Lieutenant Commander on various ships of the Royal Canadian Navy until his discharge in 1945.

He returned to Digby and practised there until May, 1949 when he joined the medical branch of the Civil Service and was stationed at Fort Qu'Appelle, Saskatchewan. After leaving the Civil Service he entered private practice in Liverpool, Nova Scotia, where he practised until ill health forced his retirement.

To Mrs. Dickie, the former Elaine Woodman, R.N., of Newfoundland, and his son, David, we extend our sincere sympathy. Surviving also are his parents, Doctor and Mrs. W. R. Dickie of Digby, two brothers, Alfred and Hugh of Digby, and one sister, Mrs. C. F. Keays of Halifax.

Doctor William Henry Eagar, one of Nova Scotia's pioneer radiologists, passed away at the Eastern Kings Memorial Hospital, Wolfville, Nova Scotia, on September 22nd. He had been in failing health for the past five years.

Doctor Eagar was born in Halifax in 1877, the son of the late Martin F. and Mary E. (Weeks) Eagar. Following graduation from the Halifax Academy he entered McGill University, graduating in 1900, and began his career as a general practitioner.

In 1907 he was appointed attending physician of the Victoria General Hospital in Halifax, and the following year to the Children's Hospital, also in Halifax. In 1919 he was appointed radiologist at the Victoria General and Camp Hill Hospitals in Halifax, a position which he held until 1926. In 1930 Doctor Eagar moved to Wolfville, where he became radiologist at Eastern Kings Memorial Hospital. He remained active in this capacity until his death, and in addition was consultant in radiology for the Victoria General Hospital.

Doctor Eagar was a member of Virgin Masonic Lodge, Halifax, the Canadian Association of Radiologists and the Nova Scotia Association of Radiologists, the American College of Radiology, and a former member of the American Roentgen Ray Society and Roentgen Society of London, England. He was also a life member of the Valley Medical Society.

In 1914 Doctor Eagar enlisted in the Canadian Army Medical Corps. He attained the rank of Major and was discharged from active service in 1919.

Twice married, his first wife, the former Gertrude Mary Scarfe, predeceased him in 1938. Left to mourn his passing are his second wife, the former Gladys Thompson, and a son, James, of Fredericton, N. B.

WILLIAM H. EAGAR—AN APPRECIATION

William H. Eagar was born in Halifax on May 4, 1877. He received his formal medical education at McGill Medical School and was graduated in 1900. He continued a student to the end.

After graduation he practised his profession at Barton, Digby Co., and at Dartmouth. He was at heart a physicist and with the development of radiology his interest was stirred and he began to prepare himself for his career as a radiologist. His experience in World War I, at a time when the field of x-ray examination was being extended, proved valuable. Roentgen became his patron saint and he pioneered with Holmes of Boston and the others.

Then followed a very active and useful period as a private radiologist and later at the Victoria General Hospital. In the late twenties he became attracted by the idea of an early retirement from routine work and he settled in Wolfville. His later course exemplifies our present day attitude toward the problem of the latter spans of life. As it turned out he was to spend the last twenty-two years of his life in continuous service for the local hospital.

Although a forceful exponent of his favorite theories yet he possessed the faculty of weighing facts and keeping an open mind. At about this time we were engaged in establishing a hospital and the matter of placing it on a firm financial basis was a first task. This precluded the purchase of expensive equipment. Hence when he was asked to develop our x-ray department only the essentials could at that time be procured. To Dr. Eagar this was a challenge. Not naturally a patient person, he however succeeded in performing marvels of interpretation with minimum means. Later his equipment was more adequate but he gloried in improvisation. He found so much satisfaction in his work that he made his interpretations up to the last day of his life.

It was not only in the development of the X-ray Department but in the great interest and enthusiasm which he had for the hospital that we hold him in sincere appreciation. A precisionist and with a high standard for medical practice he made a fine contribution.

It has been said that genius is, "an infinite capacity for taking pains." Bill exemplified this in hospital and in his own work shop.

We shall never see his like again. We shall greatly miss his advice and example.

M. R. E.

DR. JOHN BURRIS REID

Doctor John Burriss Reid died suddenly at Truro on Monday morning, November 8, 1954. His health has not been of the best in recent years but he had reduced his activities to the limit permitted and had been going about as usual.

He was born at Musquodoboit in 1890, received his early education there and graduated from Dalhousie University Medical School in 1914. After post-graduate work in Britain he entered upon the practice of his profession in Truro in 1923.

From the outset his chief interest was in Surgery. His colleagues were nearly all older men, keen, colourful individualists who were at times somewhat resentful of a younger man. The nature of his practice brought him into close contact with the Colchester County Hospital and he recognized there the value of staff organization, meetings and good records. After he was made a Fellow of the American College of Surgeons his interest in this work increased and the Hospital as a result owes much of its success in staff work to his efforts and to his diplomacy.

For many years he was a member of the Provincial Medical Board and was one of its two most senior members at the time of his death. He never missed a meeting when his health permitted and his sound sense and good judgment could always be relied upon in settling difficult problems.

In Truro he took an active interest in community affairs. He was surgeon to the Truro Fire Brigade and was in charge of the medical services at the Colchester County Home. He was a member of St. Andrew's United Church, Truro and of the Masonic Order.

John Reid was a good man. He was a good surgeon with the best possible background—general practice. He was a good citizen. He had a genuine interest in his profession as an organized body. Few had higher ideals of professional conduct yet he could find excuses for the errors and omissions of others. More than all, he was a good friend. He will be often missed and long remembered with affection by all who knew him.

To Mrs. Reid, his son, Doctor J. B. Reid, Junior, of Truro, his daughter, Mrs. David Milligan of Truro, and all other members of his family the Bulletin extends its sincere sympathy.

The Bulletin extends sympathy to Doctor N. J. MacLean of Inverness on the death of his father, Mr. William Vibert MacLean of Port Hawkesbury who died on September 6th; to Doctor W. R. Dickie of Digby on the death of his son Doctor E. D. Dickie on August 30th and his wife on September 24th, to Doctor E. F. Ross of Halifax on the death of his mother Mrs. Mary C. Ross of Stellarton who died in September 26th and to Doctor F. Murray of Halifax on the death of his wife, Audrey on October 28th.