"V. D. Briefs"

"The Doctor's Puritanical State of Mind"

"Too many doctors still believe that nobody has syphilis except Negroes, prostitutes, and criminals. Their own patients, failing to fall into one of these classes, are too well born, too moral, too well educated, too well to do to be infected. Too many doctors, surprising as it seems, still think of syphilis as a disgrace, not as a disease, and hesitate to suggest the necessary steps for diagnosis lest the patient's feelings be wounded. Too many, even if they do recognize syphilis, still think of it as well-earned punishment for sin, and do less than their part in administering or arranging for proper treatment."

Dr. J. Earle Moore
Johns Hopkins Medical School

Every Genital Sore—Possible Syphilis

The diagnosis of primary syphilis is a laboratory diagnosis, not a clinical one. Positive *Darkfield examination* is conclusive. Clinical variations in primary genital lesions are great. Every genital sore should be submitted to Darkfield examination. Provincial Health Departments provide specimen kits on request. Always keep a kit available. You'll find primary syphilis when and where you least expect.

"Hooks and Barbs"

Immediately before use, draw intravenous and intramuscular needles across sterile cotton. Minute hooks and barbs, which cause pain to the patient, will catch cotton fibres. Try another needle if the one you test, catches fibres. Technical excellence keeps patients under treatment longer.

"Find V.D. Contacts—Report V.D. Cases"

Industrial Dermatoses

H. L. Scammell

THE revival of industry due to the war, and an increasing number of processes involving the use of new chemicals, as well as the employment of unseasoned workers has brought dermatitis in industry to the forefront as a major cause of lost time. In the United States in the last year for which statistics are available the loss in wages from this cause was upwards of five million dollars. About 1% of all workers are at one time or another affected. Space will only permit a brief survey of the problem with its practical application to general practice.

Predisposing Causes: Blond races are more susceptible than those with dark skin or negroes. Thick oily skins are more resistent to chemical solvents but are more likely to develop acne. Hairy skins will show follicular reactions. The dry skin is easily affected by solvents. The youthful worker will develop an acute condition while the older one will have a subacute or chronic type. Warm weather with increasing perspiration shows the greatest number of cases. Those who have a skin disease of another type are candidates for invasion. The male sex is supposed to be more often the sufferers. Lack of cleanliness is certainly a factor of importance. Contrary to a prevailing impression, allergy is responsible for less than one-fifth of the cases.

Clinical Types)

(a) *Acute eczema.* This is often caused by a specific irritant. Constitutional features are frequently involved. The irritation may be external or there may be primary absorption with later external manifestations. The clinical features are, erythaemia, then papules which rapidly become vesicles. The discharges from these form crusts and desquamation follows. A more *indolent* or chronic form usually caused by fat solvents, soaps, detergents and dehydrating agents, shows hyperkeratosis with subsequent fissuring. A good deal of erythaemia is always present.

(b) *Acne and folliculitis.* Here there is first a mechanical plugging of the sebaceous follicles followed by a suppurative process. Generally speaking oils, waxes and chlorine or chlorine releasing compounds are responsible.

(c) *Proliferative epidermal lesions, both benign and malignant.* These are usually the result of exposure to arsenic, anilines, coal tar or its derivatives and petroleum. Papillomata and epitheliomata may occur at the sites of exposure and hyperkeratosis is a common feature.

Lesions are brought about in two ways:

(a) By direct contact of the skin with an irritant. If the contact is intermittent, the lesion takes longer to develop. In the same manner, the speed of production depends upon the quantity of the irritant. It may of itself cause the skin lesion, or it may in combination with the skin secretions form a new compound which gives rise to the trouble. Finally it may by its action withdraw some essential element from the skin necessary to its normal health

(b) By sensitization. Here the offending element has no immediate effect on the skin exposed. Tnere is nothing to indicate to the worker that

anything has happened. If, however, he again comes in contact with this element, he will develop a dermatitis either at the site of the original contact or in some other part of the body. A period of a week or more is necessary for sensitivity to develop from the original exposure. It should be noted here that confusion in diagnosis in this group is avoided by a careful history of the condition of the skin at the site of the lesion complained of prior to exposure. If it was previously abnormal from disease or other cause this specific area alone of the whole body surface may be the one capable of being sensitized.

Diagnosis: To be regarded as of industrial origin a dermatitis must not antedate employment. Depending upon the nature of the irritant and the amount and period of exposure, there is usually an interval between contact and development of physical signs. The initial site is often the site of exposure. More distant parts may develop as the result of allergy or in the case of acute irritants through transfer by the hands from the original site of contact. A well known example of this is the person who comes in contact with poison ivy by handling it, and transfers its irritant to his face, genitalia or other parts of the body. The fact that dermatitis may arise from exposure to many substances commonly used in the home must be borne in mind before labelling it as of industrial origin, and in this regard too, the role of cosmetics, dyestuffs in furs and clothing worn should be most carefully considered.

Differential Diagnosis. The main problem is to discover the offending body. Industrial dermatitis usually appears at work, improves or vanishes when the sufferer is away from work. It will reappear shortly after he returns to work. If absence from work does not result in marked improvement or cure, the source is elsewhere. Fungus infections are usually circumscribed and the fungi may be demonstrated.

Patch tests are only of value when used with full knowledge of their limitations. When positive they are of value: when negative decision must be reserved. Cases giving repeatedly negative patch tests may show a rapid recurrence of symptoms when returned to employment.

Prevention. This is mainly a problem of industry. Individuals who suffer from chronic or recurrent skin lesions are well advised to seek out door occupations or at least those not involving contact with irritants. A genuine attack should encourage the patient to seek a new occupation or an entire change of environment in his work. Personal cleanliness and clean clothing are factors of value. Industry encloses processes in which irritants are used; wet-cleans floors and walls where dusts are present; has fans and hoods to exhaust fumes and vapors. Protection in the form of clothing, respirators, gas masks, and specifically prepared protective ointments for all workers in dangerous occupations undoubtedly prevent many cases. Bathing facilities, especially showers, are most essential. All these are only of value if used, and in some industries a compulsory routine involving many of these measures must be established.

Treatment. When first seen the patient has frequently enjoyed for a space the benefits of his home pharmacopaeia and the efforts in the same direction of a host of sympathetic friends. Some of these may have some value but the changes of medication are frequently so rapid that the benefits are nullified. If self treatment has been continued for some time the physician has to contend

with a patient suffering from loss of sleep, mental as well as physical irritation. If the history indicates an industrial origin for the dermatitis and the lesions are severe and extensive the first logical step is to have him stop work. Sedation may be necessary for a day or two, and in this regard it is well to remember that in some cases the coal tar derivatives tend to aggravate the skin lesions. The involved surface should be cleansed of any medicament previously employed of an irritating nature. From this point it may be said that credit for cure is given to a tremendous number of lotions and ointments without much real justification. As a rule the principle of protection with a minimum of irritation will yield satisfactory results. Ointments containing one of the sulpha drugs are claimed to have value where there is a super added infective process, but the use must be cautious and brief as cases of dermatitis from this source also have been reported. Sometimes the old reliable calamine lotion works like a charm if the case is early and vesicular. The addition of one ounce of spiritus rectificatus to seven ounces of the standard lotion appears to add to its value. Application should be made repeatedly at short intervals until a crust forms. Then no other protection is needed. The lesion must be carefully watched, as a time comes, often within a week, when dehydration *sui generis* is irritating. Then the crusts of calamine should be removed with a bland vegetable oil, olive oil if it can be procured, and calamine liniment employed or a mild ointment such as boracic. As a rule stimulation is unnecessary, but cases that have gone on to hyperkeratosis and fissuring, often get much benefit from X-radiation. Whatever treatment you employ in acute cases remember that the curative forces of the individual if given a chance to act effectively will usually clear up the process. The individual develops an immunity which may be effective for several months. Not all are fortunate in this way. If the specific irritant is known, desensitization is worth a trial, but the surer procedure is a shift of work. Some mild cases may be allowed to keep at work using a protective ointment, and these will often develop an immunity.

A tremendous number of substances can cause dermatitis. Each case must be considered on its merits. Of special interest to physicians is the dermatitis caused by rubber gloves. If gloves are soaked in a 5% solution of sodium carbonate, washed and dried before using or autoclaving, most cases may be avoided. Finally, it is well to remember that the field of cosmetics is a "happy hunting ground" of causative irritants, so if your patient is a lady, think first of her *beauty* and then of her *industry*.

Anatomy Renovated: An Example of Change in Medical Education

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IN 1944 the Dalhousie University authorities gave full and generous consideration to the housing, working conditions, equipment and maintenance of the Anatomy Department, and decided to bring that Department, as nearly as was possible with the existing limited accommodation, up to the level of other medical science departments. At the same time a grant of $6,000 was obtained for X-ray research in the Anatomy Department from The John and Mary R. Markle Foundation of New York, and the Dalhousie Board of Governors voted an additional sum to permit the teaching of anatomy by X-ray methods more adequately than had previously been possible. To the anatomy staff these changes seem to imply recognition of anatomy as a living and progressive subject, which requires, first, a much larger annual appropriation than was formerly thought necessary, and, secondly, such additional annual expenditures as will be necessitated from time to time by developments of knowledge, methods, and equipment. In a university that maintains such a policy anatomists feel that they can perform efficiently the functions in medical education for which they were appointed.

The renovated Anatomy Department was opened to visitors at the 1944 Refresher Course, and the present article has arisen by editorial request from some remarks that I made on that occasion. Under the title "Is Anatomy Dead?" my talk dealt largely with the past—a discussion of how and why so much traditional anatomy had been discarded in Dalhousie teaching. The next logical step was the discussion of what is substituted for the discards, but consideration for the patience of the audience forbade anything more than general statements on this topic, without any attempt to answer in detail those who might ask: "If so much is omitted, what is actually taught?" That question had, indeed, already been answered, as far as is appropriate in general medical journals, by an article in this BULLETIN (May, 1938)[3] and by another published elsewhere[4] in September, 1944, and distributed at the Refresher Course.*

Practitioners and Educational Reform

Even editorial requests would hardly justify thrusting such articles at clinical readers except that anatomy exemplifies many of the problems that now confront us everywhere in medical education. Drastic proposals for reform are to be found, for instance, in recent reports and other writings, British[1, 2, 8] and American[7]; but reform should not be left solely to medical school authorities and government committees. Some of the most valuable comments on medical education have come from non-teaching practitioners who have realized that teaching methods must change to suit altered conditions, and who have found out what labels like "anatomy" and "bio-

* Some copies of this article are still available for those who may be interested.

chemistry" now actually represent. For example, a hospital biochemist may be concerned largely with test meals, urinalysis and other diagnostic tests, but when we think of the importance of endocrins, of vitamins and of diet in general, and when we remember that sulfa therapy is essentially a biochemical matter, we see that biochemistry not only includes much of what used to be "physiology," but underlies a large part of modern medicine.

The main purpose of this paper is to exemplify from anatomy and other laboratory subjects some of the problems of medical education, as seen by one who has had, as recipient and donor, a quarter of a century's experience of that education. Some comments must necessarily be critical, and I would not have it supposed that I am aiming criticism either at the teaching of other subjects in Dalhousie Medical School, or at anatomists of the last generation, who were the victims of a system which they did not create.

Approach to True Anatomy

At the Refresher Course I tried to show how the physical changes in the Anatomy Department were justified by the mental changes that had already altered the teaching. I described how, although I had enjoyed learning and teaching traditional anatomy, seeds of doubt regarding its value had been sown by clinicians, by medical scientists, and by my research experiences; and how these seeds had germinated in the greater educational freedom that I found in Canada. Thus I had come to realize that gross anatomy, unscientific and stultifying, tied to the dead body and choked with facts, was not the true anatomy, as conceived by anatomists up to the early nineteenth century—the make-up of the living human body. In modern terms this true anatomy is concerned not only with the relations of organs, but with the body as a whole, the functions of organs, the differences between people, age changes, and the relationship of body and mind. The term "applied human biology" would be better than "anatomy"—biology applied to the preservation and restoration of health. This true anatomy had, in fact, never died, for it had been kept alive by physiologists, clinicians, radiologists and many other workers.

In retrospect my break with tradition seems excessively slow and overcautious, but by 1938 the Dalhousie anatomy course had all its present features in respect of outlook, methods, selection and presentation of facts and ideas. Full development and polishing were impeded by lack of teaching assistance and of physical necessities. The former need was reduced by the arrival of Dr. R. L. Saunders in 1938, and the physical needs have now been greatly reduced, as already stated. (A noteworthy acquisition, the museum, will be discussed by its creator, Dr. Saunders, in a separate article.)

In one way or another, a transition such as I have sketched has been made by various anatomists, even by some of those who remain in Britain. A few have made it by the hard route, by coming from a traditional department to work in one where the change has already been made. Everything appears wrong to such a person unless or until he sees that the "new" anatomy is essentially an older, broader type than his own, and better fitted for undergraduate education. Similar difficulties can probably be expected in many subjects if drastic educational changes are made, for a period of change is often a period of conflict.

Objectives of Undergraduate Education

In any change of undergraduate teaching the primary objective of that teaching must be continually remembered: to pave the way toward general practice, and to open doors that can later, by post-graduate study, lead to specialization. Entering students often fail to appreciate this distinction. They think, for example, that they learn anatomy in order to become surgeons; as when one first-year student said: "What is the use of knowing about the bundle of His? You can't operate on it, can you?"

Practitioners can influence considerably the attitude of prospective medical students, and they could usefully point out:

(1) That an all-round medical education, in which every subject plays its part, is essential; for example, that undergraduate anatomy helps to form the basis of all medical studies, including dermatology and preventive medicine. Its objective is not to train surgeons.

(2) That, even if a student intends to become a surgeon, he should know that a modern surgeon is not a "hand worker" only, as etymology suggests, but has to use his brain oftener than his hands, in order to diagnose, to *avoid* operations, and to understand as fully as possible Nature's intricate mechanisms, destructive and restorative.

Good training of general practitioners requires something more than feeding with facts and techniques. To cope with rapidly changing knowledge and practice, the student must be helped to learn how to teach himself. Specific methods of anatomy teaching designed for this have been discussed elsewhere[3, 4] with reference, for example, to the learning of bones, joints and muscles, the study of normal variation, practice in observation and description, and the use of reference books. Here it is more fitting to mention some ideas and methods that are applicable *mutatis mutandis* to any branch of medical education.

The Environment in a Department

A practitioner is more than a technician, and everything in a student's environment can be made to contribute to his education. If he is later to preach cleanliness, light and ventilation, he should see that these are attainable even if he is working at a task like human dissection in an old-fashioned building. He should see the numerous parallels between clinical practice and his present work. For example, even in his first year he is part of a teacher-student co-operative system, developed from the efforts of teachers and the questions, criticisms, and suggestions of students and graduates, and he has his part to play in making the system efficient. He should be shown as far as possible how his tasks contribute to his education. For example, laboratory work in physiology, biochemistry, and pharmacology have many more uses than mere demonstration of textbook results, and an experiment that does not give the expected results can often, if properly used, become more instructive than an experiment that succeeds.

Just as the practitioner has to develop rules for himself and his assistants, so rules have to be developed for the efficient running of a teaching organization, and if rules and restrictions are rational the best way to secure their observance is to explain them.

Reduction of Didactic Lectures

In all branches of medicine there is a tendency to replace didactic lectures by more useful methods. Mimeographed or printed notes are widely used,

covering the work either fairly completely or more summarily, with references to textbooks and other sources. Fifteen years' experience has shown me that such methods, if employed to replace lectures and not simply to duplicate them, afford more time for solution of difficulties, for practical study (of specimens and patients) and for discussion of recent work, e.g., clinical illustrations of facts or ideas set forth in the notes. The notes economize the students' time but not that of the instructor, for the types of teaching just mentioned require more time for organization than does a course of lectures.

Even if the head or chairman of a department prepares notes to cover the whole course, this need not be thought a dictatorial method, restricting the freedom or lowering the prestige of his assistants, or depriving them of experience. If they rightly understand the system, they will see that the notes or prescribed books form a tool, open to continual improvement by criticisms and suggestions of staff and students. (The twenty-eighth edition of *Gray's Anatomy*, published in 1942, received one and a half columns of criticism in the *Lancet*[6].) In helping students to learn how to use this tool an assistant can display as much ingenuity as he possesses. Instead of spending his time gathering materials, largely from textbooks, for a full set of lectures, he can dip as deeply as he likes into the original literature of any part of the course, digest it, and briefly present it, if suitable, to the students. He need not fear, as under the old lecture system, that he may fail to cover the required work.

Before leaving this subject I may perhaps be justified in digressing to answer questions raised by a number of clinicians regarding the publication of my own notes in book form. As the notes embody the anatomy course they had reached approximately their present form in 1938 and an opportunity of publication in England was offered in that year. I felt, however, that much further time should be spent on the incorporation of recent discoveries, thorough checking, condensation, and some rearrangement to suit different types of course. Since 1938 I have had the benefit of Dr. R. L. Saunders's careful scrutiny of the mimeographed notes, typescript and proof, and his valuable constructive criticism. After delay due to the war the book has now been published[5] in the United States.*

Laboratory Work

Although, as already pointed out, anatomy involves much more than laboratory (dissecting-room) work, it is dissection that takes most of a student's time and may leave his mind befogged with detail. A summary of the Dalhousie routine may therefore be of interest. Among other things it tries to imitate the way in which a practitioner must educate himself—chiefly by seeing, feeling and reading.

The student is continually reminded that dissection is only a means to an end—knowledge of living subjects; that dissecting-room information must therefore be corrected, as it is in his textbook or notes, by information gained from palpation, radiology, surgery, and other sources. The laboratory procedure is then as follows:

(1) At the beginning of the course a program of work is issued, stating what has to be studied before dissection and what has to be dissected.

*The book was accepted for publication because it was of a type not approved by tradition-loving anatomists. Unfavorable reviews are therefore expected and will doubtless in part be merited. It was time someone risked a break with tradition, and the imperfections of this attempt may help a more capable writer, or group of writers, to create a really good anatomy textbook.

Editor's Note:- **Dr. Mainland's book can be obtained through the Dalhousie Medical Book Bureau, Public Health Clinic, Morris Street, Halifax.**

(2) A few days before a region is to be dissected a display of it is exhibited, arranged according to the program of work: bones, museum specimens, uncovered dissections, anatomical pictures, radiographs and, where appropriate, some simple pictures showing the clinical application of the anatomy.

Many of the pictures are selected from a book that the student owns, *Cunningham's Manual of Practical Anatomy*. Others are specially prepared, and these, mounted on cardboard of convenient and uniform size (11 in. by 10 in.) and covered by X-ray film celluloid, are not only used for the preliminary demonstrations and for epidiascope demonstrations but are on view during the dissection and are afterward hung in the Anatomy Department halls, so that anyone can use them for review at any time. They are therefore of more general use than large charts that can be exhibited for a short time and then must be removed to make way for other charts.

(3) After this preview the student is expected, at home, to consult his work program, examine again the *Manual* pictures that have been displayed, and read rapidly the prescribed pages of his textbook (up until now his mimeographed notes).

(4) In actual dissection the student, knowing the basic features of the region, needs only brief instructions in his program and, for the ordinary routine, little help from demonstrators. The latter can therefore give full attention to serious difficulties, to preparation of special material, and so on. Critical inspection of the students' display of a complicated region like the orbit shows that the results are as satisfactory as when the more elaborate dissection, with demonstrators' help, was carried out.

(5) The student reviews at home, and from time to time in laboratory and museum, the parts previously dissected, in order to obtain a continuous picture of the body. He can hardly help thinking of it as the living body because his textbook refers to "people" rather than to "specimens," and gives instruction throughout for palpation, muscle testing, and other methods of examining the living subject—the student himself and his friends.

It is difficult to weigh or measure amounts of information, but a recent estimate suggests that the student has to carry in his memory far less than half the amount of detailed information (individual facts) required under the old system. This results, however, in a gain rather than a loss, because what is left is taught by reference to basic principles.

Teaching by Basic Principles

To cut detail out of a medical course does not mean mere subtraction. It means teaching by basic principles and outlines, with sufficient detail to illustrate the principles and give body to the outlines. Lorrain Smith's course of pathology and bacteriology in Edinburgh twenty-five years ago was conducted on these lines; although his students would probably have failed in examinations at many schools, they received a rationally constructed conception of disease processes and of the body's resistance, which they could use in their clinical work and could supplement with more details later.

Basic schemes in anatomy can be exemplified by a plan of the relationships of structures in the neck, thorax, or abdomen, a coherent scheme which can be easily comprehended and quickly reviewed. Such details as it contains

are those most likely to be useful in medical or surgical diagnosis and in such simple operative procedures as a general practitioner requires. This method is like learning to know a city rationally, by prominent landmarks and principal streets, instead of memorizing as many details of as many streets as possible, regardless of their value. Being excused from this latter burden the student should be expected to have the basic plan clearly visualized and to be able to reproduce it in words, step by step in proper sequence. (He need not, of course, use the plan prescribed for him, if he can devise one that is as coherent, comprehensive, and simple.)

Of even wider application are two other schemes which, learned in anatomy, can be used in every branch of medicine:

(1) A scheme for observation and description. The same categories (position, size, shape, color, texture, and so on) can be used to show one what to look for in a histological specimen, a living tumor, or a skin disease.

(2) The names of the anatomical systems: skeletal, articulatory, muscular, vascular, nervous, and the rest. If a student would habitually recall these when trying to remember the signs and symptoms of any disease, or the structures that may be injured in any particular region, he would avoid much verbal memorizing from clinical textbooks and many errors of omission in diagnosis.

"Anatomical Clinics"

Students can be shown the value of basic principles and plans by a system which, for want of a better term, has been called an "anatomical clinic." Students of the second year are told to review a certain part and, some days later, they sit, seven or eight at a time, around an examining table on which lies a Health Clinic patient who has to be examined and handled with the courtesy and consideration that all patients should receive. The purpose of the "clinic" is indicated in words such as these:

> An anatomist is not a skilled diagnostician but he can show how anatomy can be used simply and systematically as a basis for diagnosis, and how other basic sciences can be called on. You will later learn to go more directly to a diagnosis, but in doubt or difficulty the only safe way is the systematic way.
>
> In clinical work you may try to learn parrot-wise a list of causes of blood in the urine, hiccup or difficulty in swallowing, or the signs and symptoms of aortic aneurism. Even if you succeed for a time, you will need the basic sciences in applying properly the bald statements of your clinical textbook. The rational and easier way is to fit the clinical information into a plan derived from the basic sciences.
>
> In whatever way you have originally learned anything, you will forget most of it, but if you have at the beginning learned it rationally, it will come back more easily and stay longer than does a mass of unrelated facts.

The topics chosen in the "clinic" vary greatly and the discussion is elastic. For example, a cut is indicated on the patient by chalk or adhesive paper, and the students are asked to describe it (position, size, slope) in medical terms and sometimes in terms suitable for a law court. They then tell what would probably be severed if the cut reached a certain depth, the list of anatomical systems being used to insure completeness. If a nerve would be involved, they are asked to mark its line, to show the skin that might have impaired sensation, and to test the muscles that might be paralyzed. (The recent

Medical Research Council *War Memorandum*[9] has proved popular with students for this purpose.)

Another kind of topic shows the importance of remembering the continuity between regions that are met separately in dissection. The students are told that the patient has, for instance, difficulty in swallowing, and possible causes are systematically deduced. The method can be illustrated by difficulty supposed to lie in the esophagus.

The students are reminded that they have met the esophagus in histology, embryology, and gross anatomy. Histology, even twenty years after graduation, should remind them that the esophagus has (a) a lining which may be injured or inflamed or may develop a tumor; (b) a muscular wall which, like any structure whatever, may be defective—hence diverticula which when loaded can cause obstruction. The simplest embryological fact about a tube is that it must develop an adequate lumen; failure to do so here results in congenital atresia.

In gross anatomy the plan of mediastinal relationships, usable in all diagnostic problems, comprises: (1) Thoracic walls (sternum, diaphragm, vertebrae and adjacent parts of ribs). (2) Pericardium and heart. (3) Air and food passages. (4) Arteries. (5) Veins. (6) Nerves. (7) Thymus and lymphatic tissue. (8) Pleura and lung. (9) Connective tissue (whose clinical importance is sometimes overlooked[5]). This order is adopted because it enables one to reconstruct the arrangement in the mind or by drawing; e.g., Group (3) precedes Group (4) because an air passage (left bronchus) gives something definite to hook the aortic arch over. By so fitting one thing against another the spatial relationships of each individual structure can be given in a few lines instead of occupying a page or more.

From each group the facts appropriate to the esophageal problem are noted. The nerves (sympathetic and vagus) lead first to function (physiology) and so to "cardiospasm," and then they are briefly and simply traced to the central nervous system. When the brain is reached, the students are reminded that there is associated with brain something which they will never see by dissection but which must be thought of whenever a nerve is traced: the mind —a clue in this case to "hysterical" dysphagia.

Finally, statements on dysphagia in medical and surgical textbooks are read aloud to show how many clues have been provided and how few additional facts need be memorized from the clinical books. To one who was brought up on masses of anatomical detail it is amusing to see how diagnostic requirements are met by such a scheme which emphasizes the simple and obvious things and omits nearly all the difficulties over which he slaved as student and demonstrator.

Forgetting and Reviewing

For countless years teachers of senior classes have complained that students do not bring adequate knowledge from their earlier classes, and by simply questioning his students a clinician cannot tell what they have or have not been taught in their preclinical courses. A student, well acquainted with radiographs of bony epiphyses in his second year, will often call an epiphysis a fracture in his fourth year. One senior student, seeing pituitary glands mounted for a museum, said that it was the first time that he had ever seen the gland, although the display of it is part of the second year's dissection.

Clinicians themselves frankly admit that what they teach is soon forgotten unless the graduate uses it frequently.

This problem cannot be solved merely by adding review courses or courses of applied science to an already overburdened curriculum, or by rearranging the time table in any way whatever. The solution would be better sought along the following lines:

(1) Let it be continually remembered, and impressed on students, that the whole medical course is a unit; that, although specialists must teach different aspects, the division into "subjects" and into "preclinical" and "clinical" courses is artificial.

(2) Let students see their clinical teachers using "preclinical" information, especially by frequently turning for help to "preclinical" books and journals in wards and clinic rooms. To students fresh from college and to new instructors who have taught under other systems it is somewhat startling to hear a professor, of anatomy for instance, reply to a student's question: "I have forgotten that; let's look it up." And yet, since teachers behave thus when they are not teaching, it is surely the best way to show students how to treat knowledge.

(3) Let it be remembered that the most economical and efficient way of recapturing lost knowledge is by reviewing it in the same form as that in which it was originally acquired. A clinical teacher, instead of reviewing anatomy, physiology, or pathology with his class, could find out from the appropriate teachers what the students had already received, and then, several days before a class meeting, he could instruct his students what to review. During class he could test the students' power of applying this knowledge, and then could build on it,add to it or modify it as he wished. He could thus not only save time from didactic teaching but could help "preclinical' teachers to mold their courses to clinical needs. (From my own experience I can attest the value of questions asked and suggestions made by clinicians, either voluntarily or in response to circular letters sent to my clinical colleagues.)

By one method or another some teachers make special efforts to link up laboratory science and bedside teaching, but suggestions such as the foregoing could be most extensively carried out only if there were full-time clinical professors, i.e., chairmen of departments who could devote their time and energy to building up a teaching program and to experimenting with various methods. Meanwhile, however, a start could be made if any individual clinician saw his way to trying the suggestions, even with respect to one "preclinical" subject.

At some schools physiologists, biochemists, pharmacologists, and anatomists have been appointed as specialists or consultants on hospital staffs. This system is not a substitute for the methods here suggested, but is valuable in many ways, and deserves thorough consideration in a school that is trying to break barriers between laboratory and clinical medicine.

Co-operation and Trespassing

The breaking of barriers between medical subjects demands co-operation among teachers and at the same time entails a risk that some teachers will be suspected of trespassing beyond their legitimate territory and duplicating

the work of others. Such risks can be reduced if policies are stated clearly For instance, although radiographs have been used in Dalhousie anatomy teaching for some fifteen years and the fluoroscope has been used when conditions have permitted, it has been repeatedly made clear that no attempt was being made to teach diagnosis or technique. The work would have been impossible without the generous help and co-operation of Halifax radiologists Dr. S. R. Johnston throughout the whole period, Dr. C. M. Jones during his tenure of office, and his successor Dr. W. M. Roy.

A similarly definite policy applies to the X-ray equipment now being acquired by the Anatomy Department. It is to be used for research and for the teaching of anatomy, not for diagnosis or for teaching radiology. To allay possible fears of X-ray hazards, it should be stated that the anatomy staff knows that, as a radiologist expressed it, X-rays are "dynamite," and sensible people do not *play* with dynamite. To insure competent technique, Dr. R. L. Saunders is now receiving instruction and experience under a professional radiologist, Dr. Roy.

Research in a Small Medical School

Sometimes university authorities, and occasionally even a member of a teaching staff, will say that it is the business of a small (poorly endowed) medical school to teach, leaving research to the larger schools. If, however, a school adopted that policy it would soon lose its Grade A rank and it would find increasing difficulty in filling its teaching vacancies with properly qualified instructors. When a school is surveyed for grading, inquiry is made regarding research facilities, especially the time available to members of the staff for research. A recent British government committee[2] on medical education has recommended that certain medical schools shall cease to teach, and one factor that contributed to this verdict was the absence of facilities for, and activity in, research.

To the public, medical research probably suggests expensive undertakings, and it is true that some investigations such as the synthesis and testing of large numbers of related compounds for chemotherapy, hardly fall within the scope of even a large medical school, but a very great deal of medical research is inexpensive. Besides laboratory research there is an enormous amount of clinical research to be done, such as has been successfully undertaken at medical schools no larger or better endowed than the Dalhousie school.

Even if all types of research were extensively conducted outside medical schools, it would be necessary for research to be done in them also, as the best safeguard against the production of dogmatic teachers and rule-of-thumb practitioners. Research experience is demanded for higher teaching appointments because, although good research workers are not necessarily good teachers, research papers are concrete evidence of a candidate's qualities. They show, for example, how well he can digest, criticize, and use other workers' results; and they demonstrate that, having started a piece of work, he can, often despite repeated failures, bring it to completion.

For these various reasons it is the recognized duty of medical schools to support research. If they provide minimum necessary facilities, the main financial burden will be borne by other organizations such as the National Research Council and the Banting Research Foundation.

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D. D. T.*

Mr. Chairman and Guests:

The Surgeon General of the Army would like to have me express his sincere appreciation for the help and cooperation the Geigy Company has accorded his office. We have come a long way with *DDT since October, 1942, when your representatives, Mr. Mahnken and Dr. Froelicher, called on Dr. R. C. Roark of the Bureau of Entomology, United States Department of Agriculture, bringing to his attention a new insecticide for agricultural purposes and also effective in killing lice. It was fortunate that the Bureau of Entomology was engaged at that time in a research project requested by the Surgeon General through the Committee on Medical Research of the Office of Scientific Research and Development to develop a new insecticide for the control of lice. The Army was already using an effective louse powder called MYL, but this contained the critical ingredient, pyrethrum, needed even more in our aerosol insecticide. It was this need to conserve pyrethrum which led to the request for further research to develop a suitable substitute as an insecticide against lice. To the great satisfaction of Colonel William S. Stone, my predecessor as Director of the Sanitation and Hygiene Division of the Surgeon General's Office, who displayed an early interest in DDT and pressed the investigations, DDT proved to be not only a suitable substitute for pyrethrum but one whose effectiveness against lice was retained for 30 days as compared with the 7 days for the MYL pyrethrum powder.

After a great many toxicological studies, the safety of DDT under the conditions of its Army use was established, and on May 26, 1943, a mixture of 10% DDT in pyrophyllite was adopted for use. This powder is packaged in a 2-ounce, pepper-type can, and distributed on a basis of 1000 cans per 1000 men per month to troops in areas where louse-borne epidemic typhus exists. Each soldier carries a can in his pack, and the powder is applied by dusting it onto the inner surface of the underwear before he dons the garment, paying particular attention to the seams.

The further development of the use of DDT louse powder is a fascinating story. The first field studies on DDT were carried out in the fall of 1943 in North Africa by Army medical officers in cooperation with the U. S. A. Typhus Commission and investigators from the Rockefeller Foundation. Here the most important development of the century in the field of typhus control was demonstrated. It was shown that with as potent a lousicide as DDT, mass delousing of troops, prisoners, refugees, and the civilian population could be successfully carried out by simply blowing or dusting DDT powder under the clothing by means of a hand "Flit" gun fitted with a rubber nozzle, or power dusters utilizing compressed air.

*Address by Lt. Colonel A. L. Ahnfeldt, M.G., Director, Sanitation and Hygiene Division Office of the Surgeon General, at a Press Luncheon at the Hotel Pennsylvania under the auspices of Geigy Company Inc., New York City.

*DDT compositions used by the Army are required by the military and naval forceseen such tremendous quantities that for the time being none is available for civilian use.

DDT, popular symbol for dichloro-diphenyl trichloroethane, now the active ingredient for these amazing compositions, was synthesized in 1874 by a young German chemistry students one Othmar Zeidler, in Strasbourg. His formula was a routine accomplishment in connection with a thesis he was preparing. He regarded it merely as a casual test tube evolution of no particular significance and recorded it in a brief six lines of notations in the Proceedings of the German Chemical Society. Zeidler had no idea of the insecticidal values inherent in the formula and his name like the formula, has remained until now in obscurity.

The following experiment is typical of the experience gained in such methods. In one prisoner of war camp, 252 men were selected as a group. Lice were found on 77% of these men. The entire group of men were then dusted with DDT louse powder. Re-examination of 151 of these men 16 days later failed to reveal the presence of a single louse.

As an interesting side light, this method of delousing soon was tremendously popular with the native Arab population in North Africa, and became known among them as a sleeping powder, because for the first time in years they were able to have relief from louse infestation and were thus able to get a good night's sleep.

An opportunity for further proving the worth of DDT and the suitability of the new method of mass delousing in the face of an actual epidemic was not long in presenting itself. During December, 1943, and January, 1944, a relatively large outbreak of louse-borne typhus, epidemic typhus, occurred in Naples, and spread rapidly, constituting a serious potential threat to our troops. This outbreak was due in large part to returning Italian troops from Yugoslavia after Italy's capitulation.

The U. S. A. Typhus Commission, AMG officials and a typhus control team of the Rockefeller Foundation Health Commission, working in close cooperation with the Army Medical Corps, took prompt and vigorous measures to suppress it. DDT, we knew, would control lousiness, but would it also control a typhus epidemic? The test was at hand. DDT was applied at mass dusting stations which were set up all over Naples. Each station was manned by 6 to 20 persons. Over a million and a half individuals were deloused with DDT powder in less than one and a half months—an astonishing accomplishment. Some stations were able to dust as many as 5,000 people a day, and during the early control period, over 50,000 persons were deloused daily in Naples.

Reports indicate that up to the middle of March over two and one-quarter million persons had been so treated. The epidemic was stopped, and to date no case of typhus has been reported in an American soldier in Italy.

Again, delousing had its humorous side. The delousing schedule occasionally interrupted wedding ceremonies. The bride with her entourage would leave the chapel and appear at the dusting station, cheerfully submitting to the dusting procedure. Great hilarity ensued. Here was a new vogue: sprinkling the bride with louse powder instead of the traditional rice. (Laughter).

As experimental work advances, new uses are being found for DDT. The impregnation of underwear with a DDT emulsion has proved in tests to be a practical procedure. Ordinarily, impregnations of garments will not withstand washing, but our research scientists have found an emulsion that retains its effectiveness against lice after the clothing has been laundered eight times extending over two months. An insecticide which has such residual qualities, even after repeated washing, is truly phenomenal. The still limited production of DDT, however, will not permit us to use this additional louse-protective measure yet, but the louse powder has filled the bill pre-eminently well.

The amazing potentialities of DDT are still unfolding and many other developments for its use will inure to the benefit of our troops, and those of our allies.

These new control measures will be of tremendous military advantage, and will make the troops of the United Nations the best protected soldiers in

history. To accomplish this, we will need to have DDT in much larger quantities than present production facilities will permit. We must be able not only to lend a helping hand to our allies under Lend-Lease, but also be prepared to reinstitute sanitary control measures for the ravaged civilian populations in war-torn areas of occupied countries.

Production of DDT is moving ahead at an accelerated pace but is still not sufficient to meet our own requirements. A number of companies are now in production and increasing their output. The Geigy Company Inc., through its subsidiary* affiliate, the Cincinnati Chemical Works Inc., which was the only manufacturer of DDT in this country for the first eight months of the production program, has done yeoman work in this regard. Since September of last year you have increased your production sixfold, and I understand are undertaking further expansion to increase your production even more. This is a commendable record for which we extend to you our sincere thanks. Your reward is in knowing that the DDT which you have manufactured has protected many a soldier who might otherwise have been the victim of insect-borne disease, and died. This gratitude will also be written in the hearts of parents, wives and relatives who will have been spared the loss of a loved one from the diseases which plagued armies in the past.

Before closing, I would like to say a word about the preventive medicine program of the Army. This program is a tremendous one and is promulgated by the Preventive Medicine Service of the Surgeon General's Office.

In 1939, when war broke out in Europe and it became clear that we might ultimately be drawn into the conflict, plans were made to combat the diseases which might threaten our troops in foreign lands. The plagues of every land were considered potential hazards. Our main objective was to protect the health of the Army through the prevention and control of communicable diseases, and the elimination of sanitary and other health hazards.

An inventory of the measures available against communicable disease and particularly against insect-borne disease indicated the need for newer and better methods. Additional scientific committees were organized and an extensive research program instituted at the request of the Surgeon General. This program of research was ably carried out by the Committee on Medical Research of the Office of Scientific Research and Development, through the Bureau of Entomology, U. S. Department of Agriculture, the National Institute of Health, the Food and Drug Administration, and private investigators.

Now, in the insect control field we have the aerosol bomb, the Army 6-2-2 repellent and the DDT louse powder as some of the outstanding fruits of these labors.

It is a kind Providence that permits revolutionary discoveries of benefit to all mankind to come from the wanton destruction of war. To millions of the people of the earth, there could be no greater boon than freedom from the disease-bearing and pest insects which have plagued man since time immemorial.

I firmly believe that the discovery of DDT now being applied to the use of the Armed Forces offers the hope of a new era in insect control and will rank with the really great discoveries in medicine of the past century. DDT will be to preventive medicine what Lister's discovery of antiseptics was to surgery and should close the door forever on those diseases which are companions of death-dealing insects. (Applause).

*Editor's Note: Cincinnati Chemical Works Inc. is an affiliate of Geigy Company, Inc not a subsidiary.

Now It Can Be Told*

The True Story of DDT, Which Alleviated the Typhus Epidemic in Italy; Amazing Preventive Possibilities in Other Fields; Tremendous Benefits to Agriculture; Scientists do 8 Years' Research in 2; End of Possibilities Not in Sight.

A CHEMICAL formula which lay dormant for almost seventy years in a dusty volume of "Berichte der Chemischen Gesellschaft" (the Reports of the German Chemical Society) has suddenly come to life as the progenitor of a spectacular series of insecticidal compositions that seem destined to achieve in preventive medicine an effectiveness already likened to that of penicillin and sulfa drugs in the curative field.

Apart from their sensational preventive properties, dramatically demonstrated in the Army's virtual conquest of typhus, the compositions, in results already attained and in hopes induced by current tests, encourage the belief that they will bring about an economic revolution in the field of agriculture by crops saved from the scourge of insect pests.

When the Geigy patent application was filed in Washington, the military authorities, having come upon a potential major weapon, clamped down a firm secrecy order which had prevented, until last summer, the revelation of any phase of the amazing developments involved. Now, Geigy Company, Inc., New York, is able to disclose some of the major aspects of a remarkable discovery made by that Geigy's parent organization in Switzerland. It was the Geigy organization that discovered the amazing possibilities of these compositions and obtained patents in various countries including Switzerland, England, Canada, and the United States (U. S. Patent No. 2,329,074) and persisted so firmly in its efforts to induce the Government's interest that science now is able to claim another great boon to mankind. Recent official announcements of the universal effectiveness of one DDT composition (Neocid) in eradicating typhus in Italy and elsewhere have brought this marvel of chemistry to public notice.

Military secrecy still envelopes certain important phases of the product's effectiveness. However, sufficient information now may be imparted publicly to bare some of the huge benefits recorded and to indicate others in the saving of lives and in the momentous economic savings in agriculture.

It was several years ago that, in the testing of a number of formulae, Paul Muller, scientist of J. R. Geigy, of Basle, Switzerland, synthesized the product and discovered that an incredibly small amount of DDT, when combined with a carrier, provided an amazingly effective and durable insecticidal composition. In 1939 the potato crop of Switzerland was seriously threatened by the imported (from America) Colorado Potato Beetle. Geigy made available to the Swiss entomologist, Dr. R. Wiesmann, a composition carrying the designation "Experiment No. G1750" which was later called "Gesarol." Dr. Wiesmann conducted experiments in the Swiss Federal Experimental Agricultural Station at Waederswil and confirmed Geigy's results which culminated in the control of the destructive Potato Beetle. Shortages of the accepted insecticides, arsenates, pyrethrum and rotenone further encouraged the investigations which have revealed DDT compositions as the outstanding

*Released by Geigy Company Inc., New York City.

development in the insecticide field for many years. Many entomologists go so far as to say it is the all-time great in insecticidal development.

Its insecticidal values now officially established, Geigy marketed Gesaro (pronounced "Jesarol") in Switzerland, supplying in one year 150 tons of the product to Swiss farmers and vintners, a significant testimonial to Gesarol's effectiveness when the small size of Switzerland is considered. Some of the Swiss pests successfully attacked are also found in the United States, among them species of aphis on apple, the codling moth (apple), cherry fruit fly, imported cabbage worm, cabbage looper, species of flea beetles, thrips, grape berry moth and raspberry fruit worm, so that early results received from Switzerland could readily be checked in the United States and were checked here.

When the United States entered the war it became manifest that its uniformed men would be sent to all parts of the world, meeting the menace of typhus and other dread diseases in many infected areas. Geigy in Basle, aware it had the most effective enemy of typhus ever experienced in medical history, informed Major De Jonge, American Military Attache in Berne, in August, 1942, that Neocid, the lousicidal composition of DDT, had proved amazingly effective against the typhus carrying louse, and that it possessed incredible residual potency, an all important factor.

Geigy simultaneously notified its New York subsidiary of its significant discovery. Contrary to a false published story that a quantity was smuggled out of Switzerland, it was sent openly from Basle, as a regular transaction between the two divisions of the chemical firm. Another false story, that Geigy was unaware of the lousicidal properties of the composition, is refuted by the fact that Geigy not only discovered its lousicidal properties but brought them to the attention of the U. S. Government in 1942.

From the materials submitted by Geigy to the U. S. Department of Agriculture, much excitement was created. Geigy, New York, then imported 100 Kilos of the active ingredient, DDT, the greater part of which was donated to the Department of Agriculture. Thereafter, scores upon scores of the Bureau's experts undertook experiments in experimental stations all over the United States.

The experiments confirmed Geigy's claims and proved so spectacular as to attract the attention of Colonel William S. Stone of the Surgeon General's Office and the Office of Scientific Research and Development. Colonel Stone's direction in this work was a great spur in bringing this lousicide from the research stage to adoption by the armed forces. He is in the field in Italy to-day. The Office of Scientific Research and Development had appropriated funds for this field of research to enable the Bureau of Entomology to go ahead. Dr. F. C. Bishopp, Assistant Chief of the Bureau of Entomology and Plant Quarantine, Agricultural Research Administration, Charge of Research, United States Department of Agriculture and Dr. Walter E. Dove, Chief, Division of Insects Affecting Man and Animals of the Bureau of Entomology and Plant Quarantine ably directed activities. At the Orlando, Fla., testing station alone a staff of 29 scientists under the supervision of Mr. E. F. Knipling were assigned to investigate further possibilities of DDT compositions in combatting pests affecting the armed forces. Scientists throughout the country were enlisted in this "all out" effort to check on the startling results obtained and to determine the full extent of the efficacy of the DDT composi-

tions against pests affecting the military. Too much credit cannot be given the Orlando station for the amazing developments of military uses for DDT compositions. The 29 scientists worked unheard of hours which resulted in having this weapon ready for the Italian campaign. Many of our servicemen and many Italian citizens owe their lives to the tireless efforts of those 29 men and their directors.

Simultaneously and with the small quantity which could be spared, greenhouse investigations were started by various U. S. Department of Agriculture Stations, State Experimental Stations and the Crop Protection Institute (sponsored by Geigy Company) and to these men and stations must go the credit for the great amount of scientific data which is now ready to enable as early use of DDT compositions for agricultural pests as will be permitted by the military organizations.

Entomological investigation continues at a maddening pace and it is safe to say that scientific data which under normal conditions would take all of eight years of effort to compile, will be available in two years. Few will ever know what sacrifices scientists throughout this country have made of their time and effort to have DDT compositions ready for the armed forces and the public.

In all, to advance this research work, Geigy, New York, donated some 3,500 pounds of DDT of Cincinnati and Swiss manufacture, or enough to protect 300,000 servicemen for a month.

All this experimental work in the United States has been carried on without the slightest thought of discounting the magnificent research done in Switzerland, but it must be remembered that results obtained by an insecticide in one part of the world are not necessarily duplicated in another part of the world. Indeed, results obtained in Maine may be different from those obtained in California on the same type of insect. Similarly, an orchard spray against Citrus Pests designed for Florida might give crop suicidal results in California.

The product never had been manufactured commercially in this country, wherefore a difficult production problem arose. This was solved in an amazingly short time by the Cincinnati Chemical Works, Inc., at Norwood, Ohio. It began in May, 1943, to manufacture DDT without contract or letter of intent. Until the first of 1944, the Cincinnati Chemical Works was the only maker of DDT in this country. Since January 1st three other companies have produced DDT and have accounted for 40% of total production; Cincinnati alone producing 60%. Expediting by the War Production Board of much needed machinery aided greatly the early mass production of the product.

Geigy, in cooperation with the Cincinnati Chemical Works, was largely responsible for the louse powder which conquered the recent typhus epidemic in Naples and Cincinnati Chemical Works has been by far the largest producer of DDT up to this moment. Many thousands of pounds of its product have been flown and shipped to various fronts. Up to date, the quantity manufactured in the Cincinnati Chemical Works has been sufficient to protect over 50,000,000 individuals against typhus for one month. During last January there were in the Naples area lone several million applications, this Neocid dusting procedure having since been shown in newsreels throughout the United States.

Other compositions of DDT in emulsion form have been used to impreg-

nate clothing. The lethal effectiveness against the typhus-bearing louse is retained for a month and longer in clothing impregnated with DDT emulsion, despite several normal launderings.

As experiments develop, other disease-preventive possibilities come to light.

Walls and ceilings covered with a Gesarol spray remain deadly to flies for three months. Dairy cattle made nervous by flies have been quieted by sprayings of the compound, an important item when it is realized that a cow's milk productivity is lowered by a pestilence of flies—apart from sanitary considerations. Beef cattle similarly are benefitted.

The results thus observed on farms point to preventive possibilities against diseases transmitted by flies to human beings. Thus diarrhea and dysentory whidh plague armies in the field will be ameliorated by the destruction of the disease-carrying fly. Statistics are not available on the effectiveness of this control method at present, but interesting data should be obtained in the near suture. In civilian life many cases of typhoid are caused by flies. Here again, destruction of flies and reduction of cases must be considered companion incidents.

Tests on dogs and cats have shown that Neocid not only eradicates fleas but also affords subsequent protection for a long time. In ordinary domestic use, the composition has been most efficacious against moths, roaches, bedbugs, silverfish. Beds properly sprayed just once with a DDT composition continue to be 100% effective even after 300 days against the bedbug, the bane of some hospitals and institutions.

House owners may also be comforted by assurance of its deadliness to termites. In this case it is a palliative rather than a preventive control.

It has been indicated by field tests conducted by the U. S. Department of Agriculture and collaborating entomologists that DDT compositions, Gesarol Sprays and Dusts, are successful against such garden pests as the Japanese beetle, thrips, tomato fruit worm, plant lice and the three important cabbage worms. In attacking the Oriental fruit moth, peach damage has been reduced from 60 to 90% compared to unsprayed trees. Gesarol dust controls the white apple leafhopper, gives excellent promise against the apple maggot, has shown splendid results in preliminary efforts against the codling moth, Enemy No. 1 of the apple orchard. Whereas (from three to ten) substantial applications of arsenate of lead are required to combat the codling moth, Gesarol is needed only in relatively small quantity and applied much less frequently.

Gesarol dust completely protects against the Colorado potato beetlef and takes care o the potato leafhopper, the tarnished plant bug and aphids. Insects attacking peas, celery and other crops have been controlled.

Some of the most spectacular results thus far obtained are control of the Corn Earworm. Good results have been obtained against the European Corn Borer.

The inestimable value of control in the fight on corn scourges is obvious. Incalculable, too, is the prospective boon to the citrus industry, in which early results against the red scale have been highly promising.

Like the natural products, Pyrethrum, Rotenone, and Nicotine, commonly used as insecticides, DDT compositions are poisonous on contact by common insects, paralyzing an insect's nervous system and giving it what has been alliteratively called the "Gesarol Jitters."

These natural products, Pyrethrum, Rotenone and Nicotine, however, lose their strength in a short time after application to the plant.

Lead Arsenate, Paris Green and other inorganic stomach poisons hold their effectiveness indefinitely. The insect must eat the poison if it is to be killed. But certain insects, like plant lice, do their feeding by sucking the sap within the plants and so do not swallow the dust or the spray residue left on the outside of the plants. For these there must be an insecticide that will kill on contact.

To insects Gesarol is both a stomach and contact poison, a unique characteristic, indeed. So far as entomologists are concerned, this is a sensational circumstance. Claims by Geigy, Switzerland, of this double quality, seemed fantastic and were received with some skepticism by American scientists. Their reluctance may be appreciated when it is stated that of 3,000 synthetic organic insecticides tested by the Department of Agriculture only two were found to possess both contact and stomach lethal qualities, Sodium Fluoride and DDT. Geigy, well known in the synthetic dyestuff field but relatively new in the insecticidal field, had hit the scientific "jackpot." From an economic standpoint, the savings may be understood when it is known that in the same area it has been necessary heretofore to use two poisons, stomach and contact, to combat the two types of pests. With few exceptions Gesarol takes care of both.

Fumigation and egg destruction, which are other general methods of insect control, are not as convenient and direct in action as the spraying and dusting with DDT compositions. Incidentally, DDT compositions have no ovicidal value (do not kill eggs), but the effect of these compositions is so lasting that the insect is killed as it is hatched.

Dr. P. N. Annand, Chief of the Bureau of Entomology and Plant Quarantine, estimates that farm crop insects' destruction costs the agricultural industry of the United States two billion dollars a year. His predecessor, Dr. L. O. Howard, put it another way, that the devastation undoes the work of 1,000,000 men.

With Gesarol already proved toxic to many pests that do huge damage to farm and garden crops, with its effectiveness assured by small concentrations of the product and with its residual potency maintained for extended periods, Geigy believes that it has the support of the United States Department of Agriculture in predicting that the general commercial production of Gesarol, when the military needs have been accommodated, will open the way to what may be regared as a revolution in the economy of agriculture and in the quantity of the world's food output.

Meanwhile, it is not claimed for Gesarol and Neocid that they are cure-alls. They are not. They are specific. They cannot be said to replace in *every way* any one of the presently employed insecticides, nor are present DDT compositions eminently effective against all insects as is evident by the poor results so far indicated against the Mexican Bean Beetle, the Red Spider, the Cotton Boll Weevil and only fair results on some others.

The toxicity of Gesarol and Neocid preparations to man and animals is still under investigation by the U. S. Public Health Service, the Food and Drug Administration and the Kettering Laboratory of Applied Physiology of the University of Cincinnati, the last mentioned research being sponsored by Geigy. Research goes on. Indeed, considerable research is still necessary to determine all the possible uses and ineptitudes of DDT compositions. The

forms and methods of application, the rates of application and the dosages on specific plants and in specific climates must be settled. Research is proceeding as rapidly as good practice permits.

Enough has been revealed to indicate the possibility of wide application in agriculture, households and in preventive measures against disease-carrying insects to establish the DDT compositions as among the great scientific discoveries of our time.

Many authorities have declared that out of this war have come three momentous discoveries in curative and preventive medicine—Plasma—Penicillin—and—DDT.

Definitions of Product Names

DDT - - - -	A contraction established by Governmental Agencies for Dichlorodiphenyltrichloroethane, the active ingredient or so-called pure product. It must be diluted with a carrier such as oil or talc to be usable. DDT is synonymous with GNB-A, which is the contraction for Gesarol Neocid Base—"A" indicating "Made in America."
Gesarol - - -	A generic term, by Geigy, of a series of insecticidal compositions for use against agricultural pests.
Neocid - - - -	A generic term, by Geigy, of a series of insecticidal compositions for use against insects affecting man and animal.

NOTE: DDT is so far only available to the armed forces.

What Every Woman Doesn't Know—How to Give Cod Liver Oil

What Every Woman Doesn't Know is that psychology is more important than flavoring in persuading children to take cod liver oil. Some mothers fail to realize, so great is their own distaste for cod liver oil, that most babies will not only take the oil if properly given, but will actually enjoy it. Proof of this is seen in orphanages and pediatric hospitals where cod liver oil is administered as a food in a matter of fact manner, with the result that refusals are rarely encountered.

The mother who wrinkles her nose and "makes a face" of disgust as she measures out cod liver oil is almost certain to set the pattern for similar behavior on the part of her baby.

Most babies can be taught to take the pure oil if, as Eliot points out, the mother looks on it with favor and no unpleasant associations are attached to it. If the mother herself takes some of the oil, the child is further encouraged.

The dose of cod liver oil may be followed by orange juice, but if administered at an early age, usually no vehicle is required. The oil should no tbe mixed with the milk or the cereal feeding unless allowance is made for the oil which clings to the bottle or the bowl.

On account of its higher potency in Vitamins A and D, Mead's Cod Liver Oil Fortified With Percomorph Liver Oil may be given in one-third the ordinary cod liver oil dosage, and is particularly desirable in cases of fat intolerance.

Abstracts from Current Literature

THE TREATMENT OF SUBACUTE BACTERIAL ENDOCARDITIS WITH PENICILLIN. Dawson, M. H. and Hunter, T. H.: Jour. Amer. Med. Ass., 1945, 127: 129.

Twenty patients with subacute bacterial endocarditis were treated with penicillin. A preliminary group of 5 were treated in 1942 and 1943, and 15 were treated in 1944. The infecting organism was the streptococcus in all instances. Heparin was employed as an adjuvant to penicillin in the treatment of the majority. While it is recognized that a long follow-up will be necessary before the ultimate outcome is established, therapy was apparently successful in 15 of the twenty. All 15 patients are now clinically and bacteriologically free from infection. In 2 of the remaining 5 patients the infection was controlled as long as penicillin was administered, but a relapse occurred when therapy was discontinued. These 2 patients are still in excellent general health, and it is hoped that it will yet be possible to arrange for a therapeutic regimen which will produce a satisfactory outcome. The remaining 3 patients succumbed. In each instance death was apparently due to a cerebral embolus. In 2 of the fatal cases the infection was still present at the time of death, and in the third the situation was in doubt. Further experience is necessary before an opinion can be expressed regarding the value of heparin as an adjuvant to penicillin in the treatment of this disease.

Since the preparation of this report, 7 additional patients with subacute bacterial endocarditis have been treated with penicillin. In the last 5 of these penicillin was administered by continuous intramuscular drip and heparin was not employed. The results indicate that the response was as favorable in this group as in those patients in whom heparin was used. In 6 patients the infection has apparently been terminated. The seventh patient relapsed after one course and is now receiving additional therapy.

Comparative studies show that as a rule higher blood levels are obtained in patients receiving penicillin by continuous intramuscular drip than in those receiving continuous intravenous drip. Since the intramuscular drip is also better tolerated by the patient and the technic is simpler, this method of administration appears to be the one of choice for patients receiving penicillin for prolonged periods.

TRANSMISSION OF PRIMARY ATYPICAL PNEUMONIA TO HUMAN VOLUNTEERS. Commission on Acute Respiratory Diseases: Jour. Amer. Med. Ass., 1945, 127: 146.

Human volunteers have been inoculated with a pool of sputum and throat washings obtained from experimentally produced cases of atypical pneumonia. Respiratory illnesses having all of the characteristic features of primary atypical pneumonia developed in 3 of 12 men receiving filtered inoculum. Similarly, 3 instances of pneumonia occurred among 12 individuals inoculated with untreated material from the same source. The infection was thus carried through two successive groups of well persons. No cases of pneumonia developed in any of the 18 men who received autoclaved inoculum.

The incubation period in the experimental disease differed with the type of inoculum. Persons receiving filtered material developed symptoms of

disease between 12 and 14 days after inoculation. The onset of illness in those inoculated with untreated material was approximately one week earlier.

The results of this experiment thus demonstrate that bacteria-free filtrates, presumably containing a virus, can induce primary atypical pneumonia in man.

INFLUENCE OF SULFONAMIDES ON POST OPERATIVE COMPLICATIONS. Rhoads, J. E. and Ravdin, I. S.: Ann. of Surg., 1944, 120: 463.

Rhoads and Ravdin studied the mortality of the postoperative infection occurring in a general surgical service and made a comparison of the experience during the three years prior to the introduction of the sulfonamides with the experience during the four years following their general acceptance. The most important advance occurred in the treatment of postoperative bronchopneumonia, the gross mortality dropping from 69 per cent to 9 per cent. It is pointed out that better control of postoperative complications not only permits some saving of life but also permits a broader selection of patients, especially in the older age groups, for certain operations which are indicated but in which in the past the contraindications have slightly outweighed the indications.

RELATIONSHIP OF PROTEIN DEFICIENCY TO SURGICAL INFECTION. Cannon, P. R.: Ann. of Surg., 1944, 120: 514.

Cannon and his associates demonstrated by both immunologic and chemical methods that in the blood serums of protein deficient rats there is a lowered concentration of antibody globulin fractions. This indicates the adverse action of protein deficiency on protein reserves. In many surgical conditions serum protein fractions are lost through exudates, hemorrhage or the kidneys. Furthermore, undernutrition caused by an inadequate intake, absorption or utilization of high quality protein may lead to depletion of the tissue protein reserves both before and after operation. This loss of tissue proteins may become critical if and when a potentially pathogenic micro-organism enters tissues unprepared to mobilize the forces of acquired resistance. Reliance on the so-called albumin-globulin ratio for the determination of the state of the tissue protein reserves is inadequate. We need to know not only whether the globulins are in a lowered concentration but particularly whether there is a diminished concentration of the gamma globulin fraction. In the absence of a quantitative clinical method for determining the concentration of gamma globulin, dependence must be placed on the evaluation of the preoperative weight loss and total serum protein determinations. If the total serum protein concentration is found to be less than 5 Gm. per hundred cubic centimeter of serum, preoperative protein repletion should be employed. Gamma globulin presumably contains many if not most of the essential amino acids. For its synthesis it is necessary to provide an abundance of essential amino acids. In patients with depleted globulin reserves repletion necessitates the ingestion or intravenous administration of proteins containing all of the essential amino acids. The further effects will depend on the patient's ability to convert these amino acids into tissue proteins, including antibodies.

TOPICAL APPLICATIONS IN HEALING OF WOUNDS. Williams, R. H. and Bissell, G. W.: Arch. Surg., 1944, 49: 225.

Williams and Bissell studied the effects of vitamins and various other substances on the acceleration of healing when applied topically to wounds of uniform size in normal rats. The substances studied were vitamins A, C, D and E, thiamine hydrochloride, nicotinic acid, riboflavin, calcium pantothenate, pyridoxine, biotin, hydrosulphosol, biodyne, urea-sulfathiazole ointment, amino acids, adenosine, liver extract, cod liver oil, a "vitamin mixture" and sesame oil. The effect of sulfamerazine used in conjunction with most of these substances was also observed. No definite benefit was derived from the use of any of these substances as judged by frequent observations of the wounds and the microscopic changes.

PENICILLIN IN SULFONAMIDE RESISTANT GONORRHEA. Scarcello, N. S.: New Eng. Jour. Med., 1944, 231: 609.

Scarcello reviews 200 cases of sulfonamide resistant gonorrhea in which treatment with penicillin was used. The penicillin was dissolved in sterile distilled water, 100,000 units being dissolved in 20 c.c. The patients are given five intramuscular injections of 4 c.c. (20,000 units) at two or three hour intervals until a total of 100,000 units has been administered. There were 27 patients who required two or more courses of penicillin. Twenty-nine patients developed complications. There were 3 patients with gonorrheal arthritis all of whom had an immediate good response to penicillin. Four patients with prostatic abscess showed immediate response to penicillin therapy. Seventeen patients had an acute epididymitis on entry, and 5 developed epididymitis following penicillin. Penicillin had little or no effect on this condition. Sulfonamide therapy should be continued as long as possible to keep the infection localized, even though clinical improvement is not noted. Irrigations and installations, the cause of the majority of complications, should be avoided. The observations on the 200 cases convinced the author that penicillin has proved its worth in sulfonamide resistant cases of gonorrhea. All patients were returned to duty in one-third of the time previously required.

TRAGEDY OF MALIGNANT MELANOMA. Tod, M. C.: Lancet, 1944, 2:532.

Tod thinks that there is no greater tragedy in medicine than the death from multiple metastases of a young patient who had been in perfect health until a small pigmented mole was removed for cosmetic reasons. Unfortunately ignorance regarding the great danger of interfering with any pigmented mole or "birthmark" still prevails. Casual excision, ligaton or cauterization of pigmented moles has led to the rapid death of 34 patients referred to the Holt Radium Institute when the appearance of recurrence or metastasis gave the alarm. These 34 patients were among 100 seen at the Institute. It is never justifiable to remove, for cosmetic reasons, a pigmented lesion which shows no sign of active growth. A patient who wishes to have such a lesion removed, must be strongly advised to leave it alone and warned that any form of minor treatment is dangerous. If he insists on removal, the operation must be in every way as radical as if the lesion showed signs of active growth. A patient may come for advice because a pigmented lesion has begun to grow (a) spon-

taneously, (b) after injury or (c) after injudicious treatment. If there is no doubt that a lesion likely to be a melanoma is growing, treatment must be radical. A patient may come with a pigmented lesion, which may or may not show signs of growth, and enlarged regional lymph gland. If the regional lymph nodes are involved, the treatment is surgical. Lymph nodes should not be treated by irradiation except for palliation when they are completely inoperable. A patient, when first seen, may have multiple metastases. When metastases are already present beyond the regional lymph nodes, cure is practically impossible. Palliative irradiation may be tried and sometimes prolongs life and prevents suffering by delaying the local breakdown of lesion on the surface until metastases in lung or liver end life in a more merciful way. The author lists results obtained among the aforementioned 100 patients; 50 are dead, and of the 50 who are alive, 40 are well, whereas 10 have recurrence.

PSYCHOSOMATIC ASI ECTS OF ALLERGY. Karnosh, L. J.: Psych. Quart., 1944, 18: 618.

Karnosh thinks that neurologists or psychiatrists cannot ignore the emotional, mental and neural phenomena which are interlocked with the allergic reaction in human tissues. That the brain is capable of a direct and profound reaction to protein hypersensitivity has been clearly demonstrated by many investigations made on laboratory animals. The contentions of many clinicians that such conditions as migraine, Meniere's disease, infantile convulsions, transient paralyses and physhosis are expressions of allergy within the cranial cavity are not entirely without rational support. The author is chiefly interested in the question of the influence of the mind on the allergic lesion and, conversely, the influence of the allergy on the mind of the patient. He cites a schizophrenic patient in whom there existed a close parallelism between skin allergy and mental disease. The skin is a powerful organ of emotional expression—perhaps next to the voice and the facial muscles, it is the best expression of human feeling that can be freely observed. There is the blush phenomenon in self consciousness, the paroxysmal sweating in anxiety states and the sallow, lemon tint in melancholia. Itching, like pain, may appear at the site of psychic fixation. The same sympathetic nervous excitements in the skin, such as vasomotor irritability, increased sweating and pilomotor excitement, are expressions of the emotions as well as of allergy. The author shows that the more one studies allergic patients who suffer from "nervousness" or take an "erratic slant" at themselves and their troubles, the more one recognizes that these nervous reactions are not greatly different from those which follow in the wake of any chronic, irksome, disabling and irritating affliction. Even though one cannot establish a causative relationship between allergy and nervous and mental disease, it can be said that almost always, to some degree, the two afflictions are concomitant in the same person. No allergic patient can be adequately evaluated without considering the personality structure in which the disease is implanted.

SULFAMERAZINE IN MENINGOCOCCIC MENINGITIS. Oliver, C. S. and Anderson, D. G.: Amer. Jour. Med. Sci., 1944, 208: 597.

Oliver and Anderson report the results obtained with sulfamerazine in 56 cases of meningococcic meningitis. All presented the typical clinical picture

of meningitis, and in each case the diagnosis was confirmed by bacteriologic studies. The severity of the illness varied: 13 patients were regarded as mildly ill; in 24 the illness was of moderate severity; 19 were severely ill. The patients in the last group were either comatose or nearly so. A petechial rash was observed in 34 patients. The usual dosage of sulfamerazine employed in the adult group was an initial dose of 2 Gm. orally followed by a maintenance dose of 1 Gm. every eight hours. In children, dosage was calculated on a basis of 1 Gm. to 20 pounds (9 Kg.) of body weight per day. Comatose patients and those who were otherwise too ill or uncooperative to take medications by mouth were given the sodium salt of the drug intravenously. Treatment was continued until the patient had made a clinical recovery. The average duration of treatment was 8.4 days. As far as possible, daily determinations of the whole blood concentration of both the free and the total drug were made in all cases. Fluids were administered liberally. No deaths occurred. Complications of meningitis were observed in 8 cases. Except for 1 case of nerve deafness, the complications had cleared before discharge from the hospital. Except for 1 patient who experienced renal colic, no serious toxic reactions to sulfamerazine were encountered. The authors conclude that sulfamerazine is an effective agent in the treatment of meningococcic meningitis.

E. David Sherman, M.D.
Abstract Editor

Correspondence

Wolfville, N. S.
February 15, 1945

The Editor
THE NOVA SCOTIA MEDICAL BULLETIN
Halifax, N. S.

Dear Sir:

The question which seems to be agitating the exclusive brains of the Canadian Medical Association, and its section The Medical Society of Nova Scotia, at the present time, is, "100% or Compulsory Membership." It would therefore seem that a few frank words on the subject might be in order even if not welcome.

One asks: Why this move at the present time? No definite answer to this has been given by the Officers, or the "In-it-or-deads" who control the M.S.N.S. Instead, we hear in whispered tones of some bogey of compulsion which is not defined. There is no definite statement or plan set forth as to what benefit would ensue by 100% membership or compulsion.

One asks: Is the present set up business like, efficient or helpful to the medical profession as a whole? My answer is no! Such an answer deserves some suggestions.

Secretary: A business like secretary is most necessary. He should have the time and ability to devote to the needs of the Society. To advise the president and officers, and, in fact, to manage our organization. This is a real and necessary job. I wish to clearly state that I am not offering criticism of our present secretary, I believe he does his best with the material and support he receives and, personally, I like him.

President: This has been a position of honor, conferred on some medical man in the district in which the annual meeting is to be held. He is a man of medical ability, but, what are his business abilities or his ability to properly conduct a meeting? It is notorious that scientific men are generally lacking in this, hence the need of a secretary who has the time and ability.

Executive: This has been and will be "The same old story in the same old way." It never has been representative and the "In-it-or-deads" will die hard, but I dare to suggest that the Executive should be province wide, and representative of all specialties, especially with a good percentage of younger men.

The question will be asked, especially by the I-I-O-D's of Halifax: How about attendance at Executive meetings? Most of the business can be done with outside members by questionnaire. If a meeting is necessary, then their expenses should be provided. And now that money enters the picture I refer again to the Secretary, he should be well paid for his work, he certainly can and will earn it.

Committees: The same old story has applied to this and the I-I-O-D's come in strong. As one example: The Workmen's Compensation Board. I will admit that this is mainly a surgical problem but not entirely. What consideration has been shown Specialists, by committees of the past, certainly the writer has never been consulted, and, certainly Radiology plays an impor-

tant part in this work, with a ridiculous scale of fees. I therefore suggest diversification in the appointment of this, and all committees; after all a surgeon may be good and necessary but not dominant.

Meetings: Here is another illustration of old methods still carried on. An overstuffed, even though good, scientific programme. No time for discussion or questions, one might as well read the paper, if it is published. The same applies to the business portion of the meeting; so we have a polite presiding officer who is forced to use the yearly statement "I regret Gentlemen, that time does not permit us further discussion of this excellent paper" or "the subject before the meeting." Note however that the I-I-O-D's, have risen to speak or been called upon before he makes this remark. Let us have meetings on time, conducted in a business like manner, with time for all to ask and discuss. If you want 100% membership, give 100% consideration.

In closing let me remark that in my opinion the C.M.A. and the M.S.N.S. have been grossly unbusiness like and incompetent, especially during this war, and that there is no evidence of a change, and that the situation does not justify 100% membership or compulsion, and that I will personally and publicly protest any attempt at the latter. I suggest a proper housecleaning with some attention to the above suggestions. That the Secretary make a personal effort to secure 100% membership, and that to round this off: retired medical men, old practitioners, and those deserving, be made honorary members. I wish to assure you that the above is written in good faith, and with the hope that it will make membership in our organization more desirable.

Sincerely

W. H. Eagar, M.D.

Personal Interest Notes

WORD has been received by Doctor H. G. Grant, Dean of the Faculty of Medicine, Dalhousie University, that a bursary has been awarded by Mr. Elliott S. Frosst, President of Charles E. Frosst and Company, Montreal, to be awarded to the student in the fourth year who has shown general proficiency. Character and need of the student are stated to be the leading essentials. The bursary amounts to $250 per year.

Owing to the acceleration of medical courses because of the need of the services, Doctor Grant said, there was no fourth year this year; and permission was granted by Mr. Frosst to award the bursary n the final year.

The bursary has been awarded to Roy A. Morrow of Saint John, now serving his interneship in the Saint John General Hospital.—(*Halifax Mail*, January 23rd.)

New Victoria General Hospital Will Be Real Medical Centre

The province's new 400-bed Victoria General Hospital in Halifax—due to be completed in the summer of 1946—will introduce a revolutionary departure for the Maritime medical profession and in existing hospital procedure, it was revealed recently by Honourable F. R. Davis, M.D., Minister of Public Health. Instead of going to places like Montreal, Boston or Rochester for medical check-ups, Nova Scotians will be able to obtain complete medical examinations and treatment at a new Victoria General Hospital "Out-Patient Department." Permanently staffed by trained specialists, the "Out-Patient Department" will give ailing citizens everything from X-rays to laboratory analyses, from vision tests to relief for fallen arches.

The Department will have an emergency operating room for minor emergencies, in addition to the seven operating rooms on the twelfth floor of the hospital, which, incidentally, will be the biggest building in the Maritime Provinces. Every patient arriving at the hospital will be checked by a social worker, who will determine the patient's economic and home conditions and help decide whether the patient should go to a ward, or a semi-private or private room. "There are too many people using the wards who shouldn't," Doctor Davis told *The Chronicle*. Explaining that some people committed themselves to expenditures they could not afford, while others abused concessions intended for people who cannot afford to pay their way, Doctor Davis voiced the belief that the new system would eliminate a lot of grief for both the patients and the hospital.

The hospital will need about forty medical men on the staff, or almost as many active medical practitioners as could be found in pre-war Halifax, but Doctor Davis stressed that the new Victoria General Hospital would have to be a "closed hospital" in order to maintain a high standard. The "closed hospital" system, which prevails in large Canadian and American centres, means that medical men have a definite place on the staff, are eligible for promotion on an equitable basis and conform to the highest standards of professional and hospital practice. Not counting doctors on leave, there are now about thirty on the Victoria General staff. "Those doctors unwilling to give their time in the Out-Patient Department, for example, would either have to refer their cases or use a private hospital," Doctor Davis explained.

He said that professional charges to semi-private patients would be kept within defined limits.

Persons listed as out-patients for further treatment would pay a small fee, say $5, which would entitle them to see the same medical consultants without extra charge for a month.

The towering hospital is now taking shape in front of the old Victoria General, facing on Tower Road. The basement floor will include kitchen, dining rooms, and a cafeteria service for nurses and staff help. The second floor will include the main entrance, principal offices, doctor's room, library and other administrative quarters.

The X-ray and Out-Patient Departments will occupy the third floor, with the next three floors given over to wards—each ward with eight to ten beds, and none having more than ten. A new feature of the wards will be a special room off each ward for very ill patients.

The seventh and eighth floors are to be devoted to semi-private rooms and the next three to private rooms, while on the twelfth floor there will be five main operating rooms, a cystoscopic (kidney and bladder) operating room, and a fracture room.

All sterilizing for the hospital will be done at a Central Supply Room on the twelfth floor. This again is a radical development. Each of the operating rooms will have an observation gallery for medical students, designed to give them the best possible opportunity for studying surgical procedure and technique.

A department-store pneumatic tube service extending throughout the entire building will make possible the quick, labour-saving delivery of smaller medical charts, bottles of medicine and so forth.

Yet more radical for conservative Maritimers will be the introduction of a "tray-veyor" (horrible word) system—in other words, an endless conveyor belt connected with special elevation—by which all meals will be delivered for all patients from the basement kitchen.

To cater to patients wanting cigarettes or peanuts or oranges or what have you, the Canadian National Institute for the Blind will operate a small concession stand in the hospital—and Doctor Davis hopes that it won't be a traffic block.

The new hospital is intended to maintain the highest traditions of the medical profession and of hospital practice, and to make use of every conceivable and worthwhile device not now in use in Nova Scotia.

Architecturally, the new Victoria General Hospital will be a monument to the memory of the late Andrew Cobb, Halifax architect, who was killed last year in a bus tragedy on the Bedford Road. Before his death he completed the plans for the hospital in detail.

Doctor Davis and the late Mr. Cobb visited many large metropolitan hospitals to study and assess differences in design, devices of convenience, and hospital practice. Doctor Davis made another trip with Doctor G. A. MacIntosh, hospital superintendent, now in poor health, for the same purpose.

Aside from some of the more novel aspects of the new Victoria General Hospital, the intention has been to incorporate in it all the best features of leading Canadian and American hospitals.—(*Halifax Chronicle*, February 15).

The marriage took place in St. Paul's Church, Halifax, on March 3rd, Miss Marian Elaine Tregunno, elder daughter of Mr. and Mrs. Fred Tregunn of Halifax, and Captain Charles Alexander Gordon, R.C.A.M.C., son Mrs. Gordon and the late J. S. Gordon, of Campbellton. Captain Gordo graduated from Dalhousie Medical School in May, 1944.

Psychiatrists Give Addresses

Addressing the concluding sessions of the conference of the Nova Scoti Association of Children's Aid Societies held in the Board of Trade rooms o February 17th were four leading psychiatrists, Doctor Eliza P. Brison, Pro vincial Psychiatrist; Doctor Jessie M. Macleod, Consultant psychiatrist a Camp Hill Hospital; Doctor R. O. Jones, Associate Professor of Psychiatr at Dalhousie University, and Doctor Murray MacKay, Medical Superinten dent of the Nova Scotia Hospital, Dartmouth.

Doctor Brison spoke on tests given to determine the intelligence quota of children and adults and stated that it had been found approximately fift per cent of the population possessed average intelligence, with twenty-fiv per cent above average and twenty-five per cent with quotas below seventy which indicated sub-normal intelligence.

"The scientific viewpoint of misbehaviour has changed considerably during the last twenty-five years," Doctor Jones stated, "and the modern viewpoint is that when children misbehave, it is a sign of some maladjustment or some difficulty in the child's life which must be understood and corrected."

In his address, Doctor MacKay discussed the question of senility, emphasizing that it was a natural condition which came to all forms of life and that the problems of old age varied according to the individual.

Sometimes in the rush of modern life, parents do not realize just how much rest their children need, Doctor Macleod pointed out and she stressed that frequent rest periods were a definite need in the life of a young child.—(*Halifax Mail*, February 19).

Lt.-Colonel James Arnold Noble, M.D.,O.B.E., of Halifax and Wolfville, and who prior to enlistment practised in Halifax, has arrived back in Canada, and is at present in Wolfville. He has been in command of a field ambulance unit caring for wounded at the front.

Major Allan Donald MacDonald, R.C.A.M.C., has returned from three and a half years overseas service, and is visiting his parents, Mr. and Mrs. A. A. MacDonald, Waverley Road, Dartmouth. Major MacDonald graduated from the University of London in 1936, and prior to enlistment practised at New Waterford.

Captain Ronald Ritchie, R.C.A.M.C., and his wife, Nursing Sister Ritchie, are both serving overseas with a Canadian hospital. Captain Ritchie is the only son of Mr. and Mrs. R. R. Ritchie of Sydney, and graduated from Dalhousie Medical School in May, 1943. His wife is a native of Kirkland Lake, Ontario.

Hospital Unit in France Is Doing "A Grand Job"

Morale of Canadian soldiers overseas is high and all the men, from privates to officers, are determined to see the enemy "thoroughly finished,

Lieutenant Colonel T. M. Sieniewicz of Halifax said in an interview recently. He reached Halifax on February 22nd on board a hospital ship from England.

Medical superintendent of the City Tuberculosis Hospital before the war and known throughout Canada as a crack marksman, Colonel Sieniewicz was officer commanding the medical department of No. 7 Canadian General Hospital in England and France.

He has been posted to headquarters of Military District No. 6, Halifax, and will begin his duties following a thirty day furlough. Nature of Colonel Sieniewicz's new assignment was not disclosed.

Composed of Nova Scotia and Prince Edward Island personnel when it went overseas, the hospital unit to which the Halifax officer was attached, has functioned at a high state of efficiency, doing "a grand job," Colonel Sieniewicz said, adding "it is one of the best hospital units in France." It was the first Canadian hospital group in France after D-Day.

Despite changes in personnel since the unit went overseas, it still is composed of about fifty per cent of Nova Scotia and Island men, he said. Colonel Sieniewicz went overseas in November, 1941.

Speaking of medicine in war, Colonel Sieniewicz said "the results of war surgery are marvellous and almost startling." He cited air transport of wounded men frow hospitals behind the lines to England as a major development in the war-time medical field.

Supplies of penicillin, sulfa drugs and transfusion supplies sent overseas have been adequate and "never at any time has there been any evidence of a shortage," Colonel Sieniewicz said. He praised the effectiveness of the blood bank system in Canada and felt the voluntary response of donors must be as great as in England, adding that the necessity for blood plasma will continue while the fighting lasts.

Colonel Sieniewicz was named medical superintendent of the City Tuberculosis Hospital shortly after it was built in 1921. He has lived in Halifax for the greater part of his life, and is a graduate in medicine of Dalhousie University, class of 1917.

Interviewed at the home of Public Health Commissioner, Doctor A. R. Morton, a close friend, Colonel Sieniewicz planned to leave for Fredericton to visit his son, James, University of New Brunswick student, and his daughter, Barbara, associated with the New Brunswick Department of Health.

A noted marksman, he brought Nova Scotia its first victory at the Dominion of Canada Rifle Association meet a number of years ago when he won the MacDonald Brier Cup with a score of 120, five short of "possible." As a member of the Halifax County Rifle and Revolver Association before the war, he turned in exceptional scores in revolver meets, once accomplishing the feat of making a "possible," firing six rounds with heavy gun on the target in twenty-five seconds.—(*Halifax Mail*, February 24).

Obituary

MAJOR GERALD POPE TANTON, R. A. M. C. graduate of Dalhousie Medical School in 1935, and second-in-command of a Nova Scotian field ambulance overseas, has been killed during the recent fighting in Germany, according to word received by his wife, the former Miss Helen Scott of Guysborough. Major Tanton, a star of the Dalhousie rugby team in the early 30's, was a native of Summerside, P. E. I. He practised medicine for some years before the war at Port Dufferin, Halifax County. Enlisting early in the war, he went overseas with No. 22 Field Ambulance. He was one of the first Maritime medical men to land in Normandy following the invasion of June sixth last year. He is survived by his wife and several children.

The death occurred in February in New York of Doctor Robert Earle Patterson, son of Mrs. MacGregor Patterson and the late MacG. Patterson of Merigomish, at the age of forty-nine. Doctor Patterson was a graduate of New Glasgow High School, St. Francis Xavier University, attended Dalhousie Medical School from 1915-17, and graduated later from McGill University. He practised his profession in Merigomish for a year following graduation, and later spent three years following the sea, before specializing in the study of the nose and throat. Doctor Patterson is survived by his mother, wife, son and two brothers. The funeral took place at Merigomish on February 23rd.

The BULLETIN extends sympathy to Doctor C. J. W. Beckwith of Sydney on the death of his mother, Mrs. Flora Beckwith, wife of Dr. W. H. H. Beckwith of Halifax, which occurred on February 22nd.

Price Cut Announced for Civilian Penicillin

Ottawa, Feb. 5—A reduction in the price of penicillin to Canadian hospitals for civilian use is announced by Chemicals Controller E. T. Sterne. The new price will be $2.85 per ampoule as from February 1.

Originally penicillin sold for $6.05 per ampoule and recent prices have been $3.50. The price as now announced will be on a parity with those in the United States.

Mr. Sterne said the lowered price follows a reduction in the selling price by the Canadian commercial manufacturer of penicillin (Merck & Co.) which at present is supplying the entire civilian market. Increased production and improved manufacturing methods permitted the reduction.

The entire output of two government-owned penicillin plants is absorbed by purchases by the Munitions Department for the armed services.

(Plans for post-war manufacturing expansion of Merck & Co. Limited were announced at the recent annual meeting of the shareholders. The Managing Director, R. I. Hendershott, stated that the company is rapidly outgrowing its present plant facilities and that a tract of 210 acres has been purchased at Valleyfield, P. Q. This site was chosen because of its prominity to adequate power, water, and transportation facilities and the favorable labour situation in the community.

The company now manufactures at its Montreal location, penicillin, sulfa drugs and vitamins, as well as a number of other fine and medicinal chemicals. While all of these have important uses in the war effort, they are also essential peace time products and the company anticipates a continuation of the normal growth of its business after the war.

The company's penicillin plant was the first in the British Empire to use the deep fermentation method on a commercial scale and it was constructed and put into operation in the record time of six weeks.

Construction of the Valleyfield plant, according to Mr. Hendershott, will be commenced as soon as conditions permit. It is expected that operations will also be continued at the Montreal plant.)