news bulletin

The Sanatorium Board of Manitoba

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Dr. E. L. Ross Retires

A bright era in Sanatorium Board history came to a quiet close last month when Dr. Edward Lachlan Ross retired from his post as medical director of tuberculosis services.

At an informal reception in the staff lounge on July 27, scores of employees and Board members paid their respects to the gentle physician who has been a member of our staff for 42 years and for 30 years was medical supervisor of a lusty TB control program that saw tremendous growth in preventive work, the consequent expansion of treatment facilities, and in latter times, following the introduction of effective drugs, a rewarding decline of death and disease.

Dr. Ross joined the Sanatorium Board in 1925 at the very young age of 22. The son of a Morris general practitioner, he had just graduated from the University of Manitoba Medical School and had gone to Ninette to serve, as he believed, a short medical residency under the renowned Dr. D. A. Stewart. Within the year he became so impressed with the work of the sanatorium that he put aside what other plans he had for a medical career and decided to devote his life work to the tuberculosis cause.

In 1926 Dr. Ross was appointed assistant medical superintendent of Manitoba Sanatorium and 11 years later, on the death of Dr. Stewart, he stepped up to medical superintendent. In 1946, with the beginning of massive case-finding surveys and the establishment of an extensive Indian program, Dr. Ross moved his office to Winnipeg and became medical director of the Sanatorium Board.

DR. E. L. ROSS

The supervision of a multi-faceted, province-wide program has been a heavy, demanding task; yet over the years Dr. Ross has always found time to take an active part in clinical work, to write numerous papers on all the aspects of tuberculosis control, and to participate in various professional organizations. He has contributed enthusiastically to the work of the Canadian Tuberculosis Association, is a former president of the CTA and now an honorary life member.

Among other things, he is a past president of the Manitoba Medical Association, an active member of the Canadian and American Thoracic Societies and an ardent supporter of the International Union Against Tuberculosis. For many years, he was the sole Canadian to take part in the Pembine Therapy Conferences which are called each year at Pembine, Wisconsin, to discuss special treatment problems.

Dr. Ross will be remembered for many fine contributions to the tuberculosis movement both at home and abroad. But among those who knew him best, he will be remembered chiefly as an outstanding clinician and a physician with humanity.

For he belonged essentially to a more desperate period when triumphs over tuberculosis were not achieved by rigid chemotherapy, but rather by the warm, sympathetic bond between physician and patient, and the will of both that disease should not be victor. It was at the patient's bedside that Dr. Ross left his greatest imprint.

SERVANT NOT FORGOTTEN

Among the many expressions of good wishes received by Dr. E. L. Ross on the occasion of his retirement from the Sanatorium Board of Manitoba was a particularly warm greeting from the Medical Services branch of the Department of National Health and Welfare. Writes Zone Director Dr. O. J. Rath:

"My staff and I have enjoyed working with a man whose excellent knowledge of all aspects of tuberculosis control has guided and greatly assisted us in the control of this disease among the Indian and Eskimo people of this region.

"The beneficial effects of the programs you have guided in this

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New Service for People With Hearing Problems

An audiology service — which includes the measurement of hearing loss, hearing aid evaluations and rehabilitation for persons with hearing impairments — was opened in Winnipeg this month at the Manitoba Rehabilitation Hospital.

The new facility — an integral part of the hospital's Department of Communication Disorders — is opening its doors to persons in the province whose hearing losses have become great enough to impair their ability to perform well on the job or to communicate adequately with people. To make use of this service, however, persons must be referred by an otologist (ear doctor), who first examines the ear for disease or infection to determine whether or not the condition can be cleared up through medical treatment.

The job of the clinical audiologist in the hospital's new service has two major functions: first, to measure the degree of a person's hearing loss and second, to provide an individually integrated program of rehabilitation aimed at making the best use of the hearing that remains.

The hearing evaluation service complements the diagnostic service provided by the ear specialist. Chiefly, it involves pure tone audiometric tests, for which the patient is fed pure tones (rather than words) at various frequencies and intensities through both the air conduction route of the ear and the bone conduction route of the skull. In addition, speech discrimination tests are given to determine how much the individual under-

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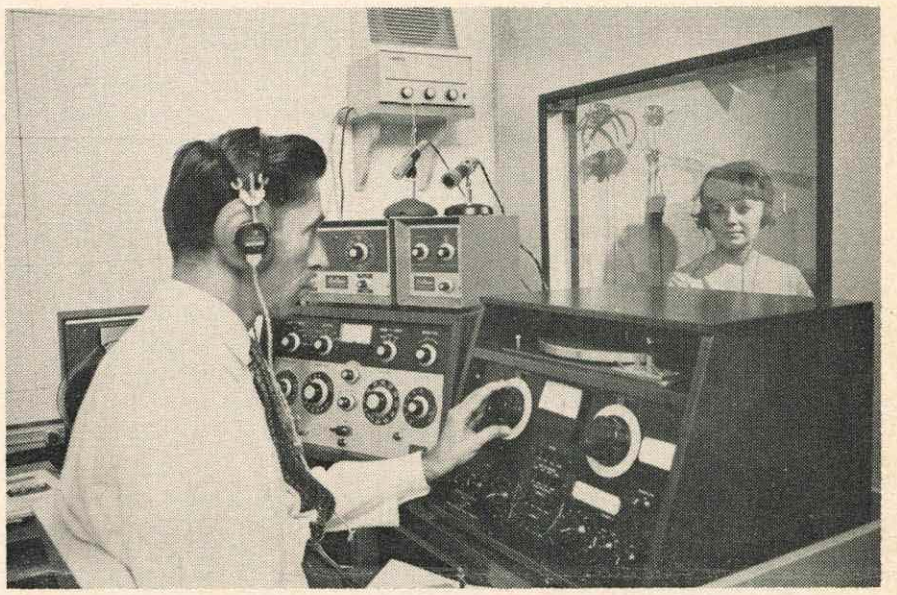

J. Brayton Person, director of the Department of Communication Disorders, and Junior Volunteer Miss Lynn Hilderman (wearing earphones in the background) demonstrate some of the equipment which is being used in the newly opened audiology service at the Manitoba Rehabilitation Hospital.

Address all communications to:
THE EDITOR, SBM NEWS BULLETIN,
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Farewell Address

Dr. E. L. Ross, who retired from the Sanatorium Board on July 31, recalls some of the highlights of his 42 years with the Board, first as a member of the medical staff at Manitoba Sanatorium and later, as Medical Director.

With memories of friends and events of 42 years tumbling kaleidoscopically in my mind, and the thought of no longer participating in the one objective of a lifetime — culminating in your kindness and expressions of best wishes to Mrs. Ross and myself — I could not convey in my brief remarks my true feelings, and cannot even yet. I have so many persons to be thankful to — including thousands of patients, hundreds of staff and dozens of Board members. I hope I did manage to express some of my gratitude to the Board and staff, both now and in the past.

We have had men of dynamic personality as chairmen of the Board. When I joined the medical staff in 1925, John McEachern was serving as fifth chairman of the Manitoba Sanatorium, and in 1929 he became first chairman of the newly constituted Sanatorium Board of Manitoba. I so vividly remember Mr. McEachern as a dignified gentleman with a magnificent goatee and twinkling eyes; a kindly man who was intensely interested in every detail of sanatorium life and who engendered excellent public relations. He particularly enjoyed talking to the patients, and a visit on the wards (which he always made in the company of the Secretary-Treasurer Col. J. Y. Reid) always received top priority on his frequent trips to Ninette.

Mr. McEachern was a member of the Sanatorium Board for nearly 25 years. After his death in 1942 he was succeeded by other men of outstanding ability: C. E. Stockdill, who activities, to me, were always calm, correct and courteous; the distinguished Major G. W. Northwood who worked tirelessly for the tuberculosis cause and indeed, for the betterment of the community as a whole; David L. Mellish, a businessman from Pipestone who came to us from the Union of Manitoba Municipalities, which for many years was the Sanatorium Board's principal partner and financial source; William Whyte, a kind, likeable gentleman whom I had known for years and whose experience as manager of a trust company was of great value to the Board, and the inimitable J. W. Speirs, who resigned the chairmanship last year.

Major Northwood, who joined the Board in 1922 and was our chairman from 1943 to 1949, was a forceful man, and quite unforgettable. He was tolerant and understanding, but his sense of humor was rather unusual. I well recall his delight in "getting someone's goat", especially Dr. or Mrs. Stewart's. He would make some provocative remark, without any trace of a smile, then on the side wink at me as much as to say, "It's all in fun but just let us see what happens". Major Northwood was a man of great vision and it was under his chairmanship that the Board's program was considerably expanded. Mass case-finding programs were initiated, the object being to x-ray everyone in the province every five years. The Indian program was also intensified and as a result of enormous case findings and the demonstrated need for help, the Sanatorium Board extended its treatment facilities for Indians from one hospital at Dynevor to two other hospitals at Brandon and Clearwater Lake.

Each decade had some special program and progress. The 1930's began in an exciting way with the opening of the Central Tuberculosis Clinic in Winnipeg. But a few years later the work of the Board was hit hard by the depression. Services were reduced and our maintenance costs pared to the bone, with the result that for about five years the structural upkeep of the institution was somewhat neglected. To keep going, the Board, like other institutions, was forced to borrow rather heavily . . . a fact that disturbed J. W. Speirs when he became chairman of the Administration Committee. One of his first concerns was to pay off our debts, plan a rigid budget and

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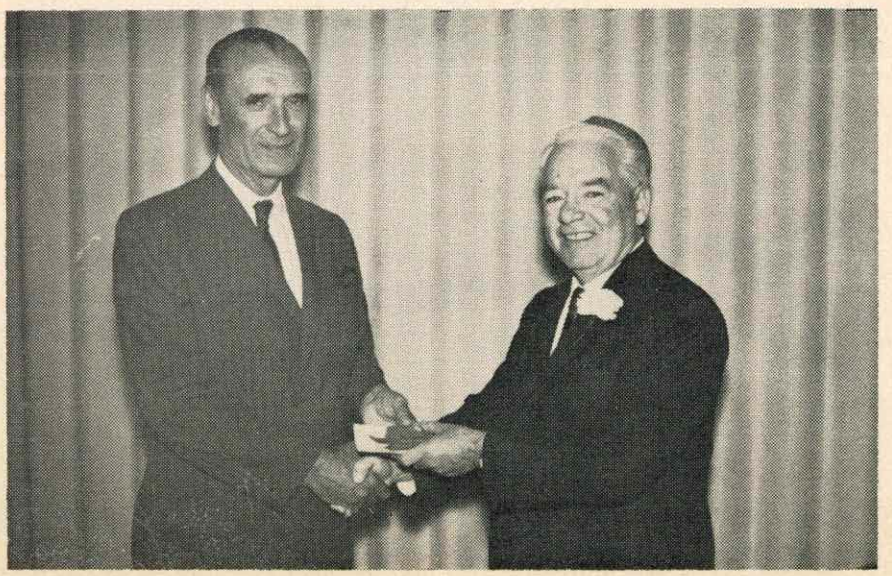

Dr. E. L. Ross, right, receives a gift from Dr. D. L. Scott at a reception in the staff lounge on July 27.

Tuberculosis — Past and Present

BY E. L. ROSS M.D.

Referring to tables of figures seems a dull way to begin a story; nevertheless, the accompanying data do represent a most interesting and humanitarian accomplishment during the last 50 years in Manitoba.

The most striking feature is the reduction in deaths. In 1912 the death rate was 100 per 100,000 population; in 1966 it was only three.

You will also note that, although new active cases have decreased by over 100 percent, the reduction has not kept apace with the decline in deaths. It is apparent that the final hurdle will be most difficult, and although past experience is encouraging for the future, the present amount of illness and the deaths from this disease do not justify complacency or relaxation of control measures if eradication is to be our goal. Even without added infection in the future, the 200,000 people who are now infected can be expected to produce 5,000 new cases of tuberculosis in their lifetime.

DEATH RATES AND DEATHS

	Whites		Total	
Year	Rate*	Deaths	Rate*	Deaths	Rate*	Deaths
1912†	—	—	—	—	99.9	492
1926	334.1	39	56.0	351	61.0	390
1938	1149.9	149	28.3	200	48.5	349
1950	438.0	79	12.8	102	22.8	181
1960	25.0	6	3.8	33	4.3	39
1966	16.6	5	2.5	23	2.9	28

* Rate per 100,000 population.

† No breakdown of figures for Indians or Whites is available for the years before 1926 and there is no accurate record of new cases before 1938.

NEW ACTIVE CASES

Year	Indians	Whites	Total
1938	74	425	499
1940	147	438	585
1945	134	438	572
1948	535	496	1031
1950	239	364	603
1960	66	218	284
1966	54	160	214

These surveys — together with other mass case-finding programs in the Manitoba municipalities — uncovered thousands of people requiring tuberculosis treatment. More beds were needed, and this demand led to the opening of Clearwater Lake Indian Sanatorium in 1945 and the Brandon Sanatorium in 1947. By 1949 there were 1,157 patients in seven sanatoria in Manitoba; nearly half of them Indian or Eskimo.

The Decline of TB

The accelerated case-finding and treatment programs of the 1940's began to show good effects in the 1950's. As fewer and fewer new cases were found, consolidation of treatment facilities became evident. Dynevor Hospital was closed in 1957, and four other sanatoria were converted to other uses between 1954 and 1965. From a high of 1,246 treatment beds in the province in 1953, we were reduced to only 200 beds at Manitoba Sanatorium and the Central Tuberculosis Clinic in 1966.

TB Among Indians

There was no tuberculosis control program among the Indians of Manitoba before the 1930's. In 1935 Dr. A. L. Paine and I carried out a study of tuberculosis among the Indians of Fort Alexander Reserve, in which three percent were found with active infective disease, nearly all of whom were doomed to die of tuberculosis because there was no provision for their treatment.

This specific revelation had a bearing upon the formation of a Dominion Government Committee headed by the chairman of the Sanatorium Board. The committee's function was to make recommendations to the federal government regarding the provision of adequate care for our Indians. Largely as a result of its advice, the first tuberculosis hospital exclusively for Indians was opened at Dynevor, Manitoba, in 1939, and annual x-ray surveys of all reservations were begun.

The decline of tuberculosis is often identified with the advent of the "wonder drugs" in the late 1940's and early 1950's but actually the decline began long before the introduction of chemotherapy. When the first patients were admitted to Ninette sanatorium in 1910, the death rate was over 100 per 100,000 population and nearly the entire public was infected with the tuberculosis germ by the time they reached adult life. By 1950 the death rate was reduced to 28 per 100,000 population, and this nearly 75 percent reduction was largely brought about by earlier diagnosis through clinics and surveys, by adequate beds for treatment and by a steady improvement in treatment methods. Several other

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J. B. Person Appointed Director Of Speech and Hearing Service

Defective hearing is a more common problem than most people realize. According to current estimates, about five percent of our children will require attention for hearing defects at some point during their school years. A similarly large portion of the adult population have some problem in hearing.

Quoting these data as an indication of the big rehabilitation job ahead, J. Brayton Person settled enthusiastically into his new position this month as chief of the Department of Communication Disorders at the Manitoba Rehabilitation Hospital. As such, his immediate concern is to incorporate into the department's existing services, a needed program of hearing assessment and rehabilitation for the people of Manitoba.

A native of Madison, Wisconsin, Mr. Person (pronounced Peerson) comes to his position with an impressive background in audiology and speech pathology. After serving with the U.S. Army Medical Corps in Tokyo, he obtained his B.Sc. in speech pathology from the University of Wisconsin in 1954, and three years later followed this up with an M.Sc. in clinical audiology and speech pathology from Syracuse University.

Between times, Mr. Person accumulated a fair amount of clinical experience. He spent two years at the Crippled Children's School in Jamestown, North Dakota, working mainly as a speech therapist with children who had severe cerebral palsy. From 1957 to 1959 he served as the director of a community hearing and speech centre in Port Arthur, Texas. The program, he recalls with a grin, was in its beginning stages. "We set up headquarters in a roughly converted laundromat . . . and in the absence of proper facilities and equipment, the most we had to work with at times was a ready and willing community."

Later, Mr. Person was graduate supervisor in Clinical Practicum in the Falk Clinic Audiology Department, University of Pittsburgh Medical School. From 1962 to 1964 he held the post of clinical audiologist at the Veterans' Administration Hospital in Cleveland where he was involved in medico-legal compensation testing.

During the past two years, Mr. Person did further postgraduate work in the Department of Special Education at Indiana University. A special study in which he was engaged here concerned methods of remedial teaching among socio-economically disadvantaged children.

Mr. Person has been basically certified in advanced speech pathology and audiology from the American Speech and Hearing Association since 1959. Among other things, he is also a member of the International Society for General Semantics, the Council for Exceptional Children and the American Association for Mental Deficiency.

J. BRAYTON PERSON

We are very happy to welcome him to our staff.

NEW HEARING SERVICE

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stands speech at a conversational level.

The rehabilitation program is a very important aspect of the audiology service. According to the department's clinical audiologist and director, J. Brayton Person, the program centres first of all on interpreting to the patient (and in some cases to his family) the type of hearing problem he has.

In many instances, hearing aids can be part of the answer to a hearing problem, Mr. Person explains. But further programs of auditory training, speech training and speech correction are also important.

Auditory Training

Auditory training, for example, is particularly necessary for persons who will be using hearing aids, for a hearing device is only effective when the user understands it and what it is geared to give, says Mr. Person.

A great deal of instruction and counselling may be needed. Using his new aid, for example, the individual re-learns to interpret speech and to discriminate the spoken word by listening to speech against different backgrounds.

Speech Reading

Some people, Mr. Person points out, will be disappointed when they discover that a hearing aid won't do anything for them. This does not mean, however, that they can't be helped by a rehabilitation program which would include, among other things, individual and family counselling and instruction in speech reading.

People who get only partial help from hearing aid amplification will also benefit from speech reading. Through instruction and practice they learn to combine what they hear through their aids and what they see by "lip reading".

Correction of Speech

Further sessions of speech rehabilitation are sometimes required for people who, because of their hearing impairment, have forgotten how to form words correctly. In this respect, the speech clinician uses such means as mirrors and muscle mechanics to help the patient regain and maintain good speaking habits.

Equipment

The audiology equipment, largely paid for by donations from the hospital's Volunteer Services, includes a pure tone audiometer for both standard and specialized pure tone testing, a speech audiometer for communicative evaluation tests; and a tape recorder which feeds taped speech material into the speech audiometer.

A hi-fi speaker system has been installed in the sound-treated booth to produce a sound field for the testing of hearing aids.

It is stressed that the audiology service does not sell hearing aids. For testing purposes only, the department has been equipped with a selection of the different types of hearing aids sold by the manufacturers. Using the special equipment in the sound-treated booth, the aids are tested on the patient and if it is indicated that he can benefit from such devices, the one that promises him the most help is recommended.

TUBERCULOSIS — PAST AND PRESENT

(Continued from page 2)

factors were involved, such as improved living standards, wider public health services and a better understanding of the disease on the part of the public. Christmas Seals also had an important role, both in the dissemination of information and in providing needed funds for preventive services.

Dramatic events in treatment then appeared on the scene 20 years ago with the discovery of drugs having a more specific effect on tubercle bacilli than any of the myriad drugs tried in the past. Following the introduction of these drugs — Streptomycin, Isoniazid (INH) and Para - aminosalicylic Acid (PAS) — deaths decreased rapidly, from 181 in Manitoba in 1950 to 28 last year. But in recent years there has been a levelling off in deaths, mainly because half of the patients now admitted for treatment have advanced disease and the germs of about five percent are resistant to the drugs.

Case Finding

Early discovery is, as always has been, of paramount importance, not only from the patient's point of view but also from the community's, which is protected from the spread of infection. Our first case-finding program began in 1926 with the organization of travelling clinics. Then about 15 years later, with the introduction of miniature x-ray films at a greatly reduced cost, it became feasible to apply case finding on a mass basis. Plenty of tuberculosis was found at the beginning — one in every 1,000 x-rayed. But now we find only about one case out of every 10,000 to 20,000 x-rayed; so again we have completed a cycle. Even though in most cases the tuberculin test eliminates the necessity of a chest x-ray, the findings are so few that a mass attack is not justified, except in high risk groups.

A New Trend in Treatment

In recent years it has been demonstrated that most tuberculosis patients do not need lengthy hospitalization. A few can be treated entirely as out-patients; most of the others need only a few months instead of a few years in hospital. The old concept of rest and fresh air has practically fallen by the wayside; yet in bygone years thousands of patients recovered on this regime, with the added benefit of such other procedures as pneumothorax, thoracoplasty and lung resection. Resection surgery is still applied in selected cases with excellent results, but this is now less necessary with thorough chemotheraphy. If patien's infected with tubercle bacilli are sensitive to anti-tuberculosis drugs, practically 100 percent can be cured if the drugs are taken continuously in the right combination over a period of two years.

I have not touched on BCG vaccination against tuberculosis nor prophylactic chemotherapy (treatment with drugs of those infected but not having demonstrable disease). These measures may well be the beginning of a new chapter in the story of tuberculosis control and its ultimate eradication. Immunology has resulted in the practical elimination of many other infectious diseases and will no doubt play a major role in conquering tuberculosis, which has been the greatest killer mankind has known.

TB IN CANADA

Newly reported cases of tuberculosis in Canada in 1966 numbered 4,485. There were 769 reactivations.

Ten years earlier in 1956 there were 8,405 new cases and 4,093 reactivations.

NOT FORGOTTEN

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specialized field have been directly felt by the tuberculosis patients with whom you have dealt, and indirectly by all people in whom tuberculosis has been prevented. Although the general populace may not know that they have had such a dedicated public servant in their midst, their lives have nevertheless been touched by your efforts. The Indian and Eskimo people, I am certain, do not realize what you have done for them, but I am convinced that they appreciate the work performed for them on their behalf.

"Congratulations on a job well done!"

Junior Volunteers Offer Help Now—and Perhaps Tomorrow

Recruiting teenage girls for volunteer work, we find, provides an excellent opportunity to publicize the many types of rewarding health careers a hospital offers.

This summer at the Manitoba Rehabilitation Hospital we have had the willing services of some 60 junior volunteers between the ages of 14 and 16. The bright-eyed youngsters have made themselves very useful on the wards, running errands for staff, carrying refreshments to patients and tending their flowers and plants.

Downstairs they have staffed the gift shop and cheerfully answered questions at the visitors' information desk. In the occupational therapy department they have made and served tea to arthritis patients coming down from the wards for the first time. During the noon-hour rush for lunch, we have found them skilfully operating the elevators. And the other day we discovered two of them filling in for secretaries who had gone on vacation.

There are two-way benefits, of course. Both staff and patients delight in the girls' youthful exuberance and harried department heads, faced with a summertime shortage of manpower, are very grateful for their help.

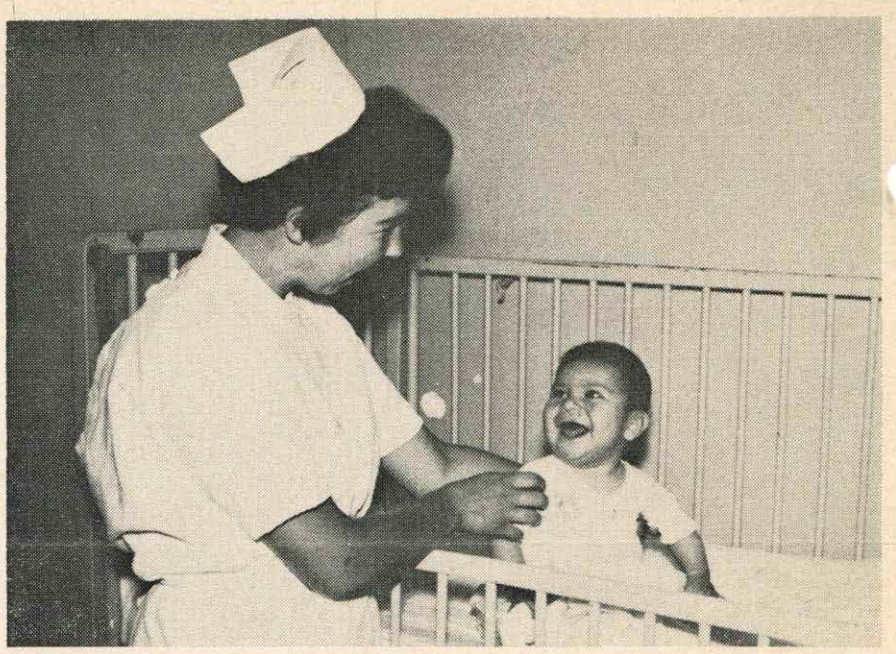
As for the youngsters, just being around a hospital affords them a close look at some of the more than two dozen major careers now available in the hospital field.

Mrs. W. E. Barnard, director of our Volunteer Services, goes out of her way to see that teenagers get the information they want. For example, the girls see a film on physiotherapy and occupational therapy training courses and on request, appointments for interviews and a tour are arranged with the School of Medical Rehabilitation.

The scheme has paid off handsomely, Mrs. Barnard proudly reports. One of our former junior volunteers receives her occupational therapy diploma this year, two are graduating from schools of nursing and two are completing courses in laboratory technology.

Five others are now registered in the physiotherapy training course, four are in the occupational therapy course, nine are student nurses and two are studying x-ray technology.

Now we look forward to seeing some of our volunteers enter such other rewarding fields as speech therapy, audiology, social work and dietetics.



DELIGHTFUL VISITOR — Manitobans of all ages come to our Central Tuberculosis Clinic for diagnosis. Staff nurse Mrs. Shirley Linkaitis is clearly captivated by the bubbling smile of this seven-month-old girl. (Photo by Jim Zayshley).

DR. ROSS' FAREWELL ADDRESS

(Continued from page 2)

restore the structural defects that had accumulated during the depression. Efficiency, high standards, long range planning plus amazing shrewdness were highlights of Mr. Speirs chairmanship of the Administration Committee and later, from 1958 to 1966, of the Board. The most recent accomplishment of his term of office was the building of the Manitoba Rehabilitation Hospital, one of the finest of its kind.

The present chairman, Frank Boothroyd, became thoroughly familiar with the Board's activities through his chairmanship of the Administration and Finance Committee and his term as vice-chairman. I recall his presence at the 50th anniversary celebrations of Manitoba Sanatorium and I am sure what impressed him most was the spirit of the staff and patients. This spirit, often referred to as the "Spirit of the Place", originated with Dr. Stewart and it has been one of our greatest assets for more than half a century. Mr. Boothroyd, I know, will carry on this traditional spirit.

So far I have mentioned only the chairmen of the Board, but all members, past and present, should be singled out for their contributions to the affairs of the Board, for their fulfillment of good citizenship and their faithful adherence to the humanitarian cause the Board represents.

I wish to pay tribute to T. A. J. Cunnings. We first met as doctor and patient 30 years ago. He was very sick for five years, but with characteristic determination, patience and optimism, he made an excellent recovery. I spent many an hour at his bedside discussing problems, one of which was the rehabilitation of patients and their acceptance into the community. After his recovery in 1942 Mr. Cunnings inaugurated the first well organized rehabilitation program in Canada. Events since then are well known. On the death of Col. Reid the only person we knew who could more than fill the position of secretary-treasurer was John Cunnings. This has certainly been proved during his many years as secretary-treasurer and executive director.

I leave my final words for Dr. D. L. Scott and Dr. A. L. Paine. They joined the staff a few years after I did and the three of us have worked in close association ever since. I can honestly say that there has never been dissension among us in nearly 40 years; the welfare of the patients and the program was always uppermost in our minds and hearts. In all this, for the three of us particularly, we owe much to the late Dr. D. A. Stewart. But that is another story . . . as is the account of many of the doctors who have served on our medical staff in the last 50 years and later attained eminence in their profession.

I particularly wish to thank Dr. Scott for his kind words in the presentation to Mrs. Ross and myself.

TB — A Cry for Help from Other Lands

On a world-wide scale the fight against tuberculosis has hardly begun.

In an address to the Canadian Tuberculosis Association annual meeting in Quebec City in June, Dr. Halfdan Mahler, chief medical officer of the Tuberculosis Control Division, World Health Organization, overwhelmed his audience with this description of the difficulties encountered by a human being growing up with tubercle bacilli in a developing country today.

"Our man is born in a hut made of mud or straw and without windows, erected on a few square metres of the earth's surface. Invariably he will be confronted with a hostile environment: disease-causing mosquitoes, contaminated food, etc. Under this biological warfare he has some 40 percent chance of dying during his first 15 years of life.

"During those first 15 years, he has a very big chance of running into aggressive tubercle bacilli. In the first few years of life this encounter carries a high death risk caused by meningitis and miliary tuberculosis. What is worse than death, however, is permanent psychic and somatic invalidity caused by late diagnosis and insufficient treatment. Should our man escape these calamities, he remains nevertheless marked for life as the tubercle bacilli are established in his body and may gain the upper hand under the stress of physical and mental deprivation.

"So, one not so beautiful day we find him weak with fever and cough. Had he lived in Canada he would have been surrounded by some 50 times greater health service pressure which soon would have motivated him to seek medical help. But our friend has neither this pressure nor any financial incitement to get well as there is usually a surplus of manpower in the family to substitute for him. (This is what is euphemistically called underemployment.)

"More important yet is his utter lack of confidence that anyone genuinely wishes him well. Result: he stays in the dark hut giving the tubercle bacilli optimal chances to spread to relatives and visitors.

"Finally, the sheer intensity of his suffering drives him to the nearest health facility where he lines up in a long queue. Arriving at the desk of a harassed doctor he is hardly looked at during an interview lasting one minute or less — just as long, in fact, as it takes the doctor to write 'aspirin and cough mixture'. He returns home and realizes after a few weeks that aspirin and cough mixture do not produce miracles.

"His family decides to borrow money — often at 20 percent interest per annum — to permit him to visit the 'expert' in the big town. As more often than not this expert has a commercial attitude to his customers, the treatment is geared to our friend's economic capacity.

"After some months of temporary relief we find our patient with the same symptoms as before, but more deeply in debt and with less food for his family. In the hope of another period of relief, he seeks another loan, this time at a higher interest rate as he has become a bigger risk. With this money he again consults the 'expert' who gives him another course of treatment — often with drugs to which he has now become resistant. This time there is no temporary relief, and when our friends mercifully dies two years later he leaves behind his family in economic ruins, and two of these household members spitting blood."

This is not a special case, said Dr. Mahler. There are millions of such tragedies scattered throughout the developing countries.

There are, in fact, more than 15 million people transmitting tubercle bacilli in the world today; between one and two million will die from tuberculosis during the next year.

Perhaps, he suggested, it is time that affluent countries do more to help clean up the mess.

"It will cost you sweat . . . plus a couple of million dollars per year . . . to become a full member of the common tuberculosis market. But you will have taken a little step forward in making this world a more decent place to live in."