

Victorian Cancer News

*A Quarterly News Letter issued by the Public Education
Sub-Committee of the Anti-Cancer Council of Victoria*

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THE CENTRAL CANCER REGISTRY CARD LIBRARY AIDS CANCER RESEARCH

A collection of over 55,000 record cards, each representing the case-history of a cancer patient, is coming to play an increasingly important role in the campaign against cancer in Victoria.

This extensive card index, accumulated over the last twenty years at the Victorian Central Cancer Registry, makes cancer the most thoroughly documented disease in the state. A team of medical and clerical personnel, dedicated to the highest standards of accuracy in the recording, classification and collation of data, is constantly engaged in adding to these basic records. All members are aware of the importance of observing the most exact precision and uniformity in their work, for inaccuracy or mistakes in the parts, as in a giant jig-saw, will distort the appearance and nullify the value of the whole.

RESEARCH CLUES

It is in line with modern trends in cancer research that this comprehensive collection of case-histories, embodying "the funded experience of many observers over many years," should be available for statistical study and analysis by medical scientists. By means of skilfully devised retrospective or prospective studies, and with the aid of up-to-date mechanical techniques for data retrieval and analysis, the research worker is able to arrive at tentative solutions to some present questions and to discover new aspects of old problems.

From these surveys come the vital clues which are pursued by further clinical or laboratory studies. Much important evidence relating to the etiology, treatment and control of cancer has been provided in this way.

CONTROVERSIAL ISSUES

The most striking use of the Registry's records occurs when matters of public controversy can be settled or at least clarified by reference to the information contained in its files.

Thus, the establishment by the Victorian Health Commission of an expert Committee to study the association between smoking and lung cancer, and the publicity given to this problem in recent months by the press, radio and television media, has necessarily involved reference to local cancer statistics.

How many people in Victoria die from lung cancer each year? Is the incidence of the disease increasing? At what age do people generally contract it, and what is the average age of death? What are the chances of cure? These were some of the questions asked; the answers were found in the Registry's records.

Another question recently debated in the press concerned the supposed rise in the incidence of leukaemia in the state over the past few years. An analysis of the Registry data, however, showed that in fact no significant increase had taken place.

EARLY HISTORY

Credit for the initial organisation and planning of the system of records that makes the Central Cancer Registry the valuable research tool it is today belongs to Dr. Robert Fowler, F.R.C.S., a foundation member of the Anti-Cancer Council and its first Honorary Registrar.

Wholly financed by the Anti-Cancer Council and jointly sponsored by the State Health Department and six associated public hospitals, the Registry came into being on January 1st, 1940. Apart from a wartime break of 4 years it has continued in operation ever since.



CENTRAL CANCER REGISTRY STAFF are continually adding to the medical records on file at the Registry. Facts brought to light by statistical study may be applied to present techniques in diagnosis and treatment, and may suggest new lines of approach to scientists studying various aspects of cancer causation and prevention.

With headquarters housed originally at the Royal Australasian College of Surgeons, and now situated at the Council's offices in East Melbourne, the Registry began by planning a statistical survey of cancer patients at six major metropolitan hospitals — the Royal Melbourne, the Alfred, St. Vincent's, Prince Henry's, the Royal Women's and the Austin. From 1955 onwards these were joined by the Peter MacCallum Clinic and the Queen Victoria, Royal Children's and Royal Victorian Eye and Ear Hospitals. With the exception of the Peter MacCallum Clinic and the Austin Hospital all associated hospitals are University clinical schools with professorial units established at five of them.

The inclusion of the Peter MacCallum Clinic has had a marked effect on both the number and nature of registered cases, since registrations from this modern radiotherapy institution include patients seen at branch clinics in provincial centres, and a high proportion (44 per cent) of dermatological cases.

RECORDING INFORMATION

An important decision facing the founders of the Registry concerned the type of information that should be recorded, bearing in mind that ideally it should continue to be useful in 20, 40 or even 100 years' time. From the start no attempt was made to cover the incidence of cancer in the community at large, but in practice it has been found that most Victorian patients are treated at some stage at one or other of the member hospitals.

It was decided that the Registry should collect, classify and analyse data from hospital case-histories relating to the frequency of occurrence of newly-diagnosed cancer in the various anatomical sites, and in relation to the age and sex of the patient. Other details to be recorded included clinical data concerning diagnosis, the expected results of treatment, actual results, the eventual cause of death and autopsy findings.

Since 1958 the abstraction of the necessary medical information from hospital records has been the responsibility of two permanent medical officers, Dr. F. Kerr of the Anti-Cancer Council and Dr. D. Rankin of the State Health Department. Overall supervision of the Registry's work is exercised by the Council's Medical Adviser, Dr. E. V. Keogh, through whom all requests for information are channelled.

MECHANICAL AIDS

Working closely with the medical officers are the Registry's own clerical staff and the Cancer Clerks at the member hospitals. The latter separate cancer cases from other hospital admissions, enter personal identifications on registration, "follow-up" and abstract cards for each patient, and then pass abstract cards and case-histories to the medical officers for clinical annotation. At the



Coded punch cards are sorted by the Statistician, Mr. P. J. Guilfoye.

end of the month the registration and abstract cards are sent to the Registry for filing and coding.

The rapid and cumulative increase in the size of the card "bank" has made mechanical aids for the sorting and tabulating of data essential. Accordingly a system of numerical codes has been adopted whereby information from the abstract cards can be coded and transmitted on to punch cards which are verified and filed, and are then ready for immediate statistical sorting. Without such aids, the complex mass of statistical data would be such as to defy effective organisation and analysis.

THE "FOLLOW-UP"

An essential part of the system, and perhaps what constitutes its greatest value to the clinician and epidemiologist alike, is the organised "follow-up" of all registered cases, which occupies much of the time of the Registry's staff.

Under this scheme, a continuous, up-to-date and completely confidential record is kept of the welfare and whereabouts of each and every patient. A monthly list of changes of diagnosis, additional clinical information, dates of discharge from hospital or transfer to another institution, dates and causes of death, etc., is compiled by the Cancer Clerk at each hospital and the information recorded on the appropriate card for each patient.

Even after a patient's discharge from hospital his card remains "alive" at the Registry until such time as he is known to have died, from whatever cause. It is

the proud claim of the officer-in-charge of the Registry, Mrs. Jean Higginbottom, that no case is ever considered "not traced," although it may sometimes be necessary to obtain verification of death from interstate or even overseas sources.

WEALTH OF STATISTICS

The wealth of clinical statistics now on file has proved an invaluable source of information for assessing the relative effectiveness of different methods of treatment and the comparative cure rates for the various forms of cancer, particularly in relation to the stage at which treatment is commenced. Its value became apparent during the 1960 Victorian Cancer Congress, when the Statistician-in-Charge, Miss Cynthia McCall, and the Registry staff were called upon to prepare numerous statistical tables and charts for presentation at the Congress.

In one major investigation the records of over 2,000 patients suffering from lung cancer were reviewed in order to determine the results of treatment of this disease in Melbourne from 1946 to 1960. Much material was provided also for a skin cancer survey undertaken by medical officers of the State Health Department in collaboration with the Council.

As the facilities and services offered by the Registry became more widely known, the demands made upon it have markedly increased. In recent months requests for information have come not

only from local physicians, surgeons and research workers, but also from a number of overseas countries, including the U.S.A., France, Germany, Norway, Sweden, Bulgaria, Poland and Japan.

CONTINUING RESEARCH

The exacting task of compiling information in statistical form is at present in the hands of Mr. P. J. Guilfoyle, who succeeded Miss McCall as Statistician in 1961. In addition to compiling yearly totals of cancer patients treated at the various hospitals, divided according to age, sex, type of disease, and so on, it is his task to tabulate and analyse the data on file in response to the medical and statistical enquiries received.

The figures required range from survival rates in cancer of a particular organ in relation to the type of treatment given, to the compilation of tables for use by lecturers at a Cancer Symposium or Congress. Yearly reports need to be prepared in connection with international investigations into the incidence of leukaemia and the results of treatment of cancer of the uterus.

A recent development is the issue of a quarterly statistical review dealing with particular aspects of cancer in Victoria and based on the information contained in the Registry's files. Linking the future with the past, the Registry's founder, Dr. Fowler, has consented to edit these reviews, of which two, "Cancer Registration in Melbourne" and "Cutaneous Melanoma," have already appeared.

MR. HUGH LINAKER

It is with great regret that we note the sudden and unexpected death of Mr. Hugh Linaker, J.P., at Ballarat on 29th November, 1962.

Mr. Linaker had been Chairman of the local Regional Cancer Committee since the 1958 Cancer Campaign, and had played an active part in the National Heart Foundation Appeal held last year.

His honorary work on behalf of these exacting community services was willingly undertaken notwithstanding his busy and responsible task as Ballarat Branch Manager of the State Electricity Commission.

He will be profoundly missed not only by his business colleagues but even more so by all those who have had the privilege of being associated with him in the various community activities in which he took such a keen interest.

Mr. J. F. N. Williams, Superintendent of the Ballarat and District Ambulance Service and Secretary of the Regional Cancer Committee, sends this tribute:

"Mr. Hugh Linaker was Chairman of the very successful 1958 Cancer Appeal in Ballarat and since that time has held the reins as Regional Chairman.

"A Cancer Education Week was held in this city under his guidance last year and it was Hugh who arranged for the accommodation for these meetings, co-ordinated the various speakers, and when there was work to be done he was always there and willing to take off his coat and do more than his share.

"Once again when an Anti-Cancer Exhibition was held at the Ballarat Town Hall in March, 1961, Hugh Linaker was the leader who arranged the accommodation and personally helped to set up the exhibition.

"Recently he had the responsibility of arranging the showing of anti-cancer films in the secondary schools at Ballarat with great success."

MISS JEAN MACKENZIE

Her many friends will have heard with deep regret of the death of Miss Jean Mackenzie, following a long illness. Jean Mackenzie was an enthusiastic and hard-working member of the 1958 Cancer Campaign staff, and was in charge of the fund-raising programme in the schools. When the Campaign closed she remained with the Anti-Cancer Council for several months to help develop the public education programme.

For a number of years Jean was Secretary of the Food for Peace Campaign sponsored by the Brotherhood of St. Laurence, and more recently has been Editor of "NOW!", the journal of Community Aid Abroad. Her devoted work for C.A.A., continued despite the increasing severity of her illness, has been an inspiration to all who knew her. Her death is a great loss.

MOBILE UNIT AT COUNTRY SHOWS

Hopes that the Council's new Mobile Unit would lead to an expansion of the public education programme outside the metropolitan area have been amply realised. In addition to taking part in Education Weeks organised by the District Cancer Committees at Colac, Yallourn and Yarram, and visiting Castlemaine, Ouyen and Murrayville with display panels and film projection equipment, the Unit has been represented at the Royal Melbourne Show and the annual Agricultural Shows at Ballarat, Colac, Horsham, Mildura and Shepparton.

The Literature and Information Stall carried by the Unit proved a very successful innovation. Country people welcomed the opportunity to obtain authoritative information about cancer, and many thousands of items of literature have already been distributed.



The Literature and Information Stall at the Mildura Show.

SMOKING AND CANCER OF THE LUNG

GOVERNMENT ACTION SOUGHT ON SMOKING

An expert medical Committee set up by the Victorian Commission of Public Health has reported that conclusions of the Royal College of Physicians of London on the relationship between cigarette smoking and lung cancer are valid and "apply with equal force to Victoria."

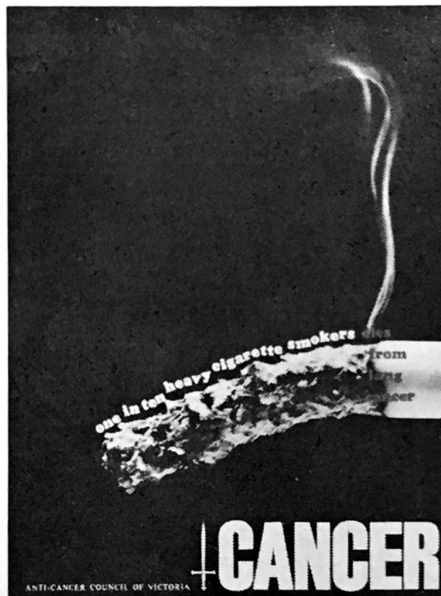
The College said in its Report on "Smoking and Health": "Cigarette smoking is a cause of lung cancer and bronchitis and probably contributes to the development of coronary heart disease and various other less common diseases." It added that the chance of dying in the next ten years for a man aged 35 who is a heavy cigarette smoker is 1 in 23 whereas the risk for a non-smoker is only 1 in 90.

The Victorian Committee recommended that the programme to educate the public, particularly schoolchildren, on the hazards of smoking should be intensified; that more effective restrictions should be placed on the sale of cigarettes to minors; and that consideration be given to the restriction of tobacco advertising.

Following consideration of the recommendations by the Victorian Cabinet, the Minister for Health, Mr Mack, said that the State Government supported the Anti-Cancer Council's education programme in the schools, and would intensify it if necessary. The Assistant

Chief Secretary would examine the present legislation banning the sale of cigarettes and tobacco to children under the age of 16 to see if it could be more effectively enforced.

Cabinet had made no decision on the recommendation for restricting advertising, said Mr Mack, as this was more a matter for the Commonwealth Government to decide. However, he would write to the Federal Minister for Health, Senator Wade, enclosing a copy of the Melbourne report.



Anti-Smoking Poster issued by the Anti-Cancer Council

MEDICAL ASSOCIATIONS ISSUE WARNING

The following statement on the relationship between cigarette smoking and lung cancer has been issued on behalf of all major medical organisations in Victoria:

"Lung cancer is increasing in the community.

"It is proved that this disease is associated with the smoking of cigarettes.

"The more cigarettes smoked, the greater is the risk of death from lung cancer.

"There is danger in the smoke of all cigarettes, filtered and unfiltered.

"A heavy smoker who stops smoking lessens the risk of cancer developing.

"The young should be warned of the danger and advised not to smoke.

"Adults are urged to curb the habit for their own safety and as an example to the young.

"This advice is supported by medical opinion throughout the world."

The statement was signed by:

Dr. Kevin Brennan, Chief Health Officer and Chairman of the Commission of Public Health.

Dr. Stanley Williams, President of the Victorian Branch of the Australian Medical Association.

Dr. Julian Smith, President of the Royal Australasian College of Surgeons.

Dr. T. H. Steel, representing the Royal Australasian College of Physicians.

Dr. E. V. Keogh, Medical Adviser, Anti-Cancer Council of Victoria.

Dr. Henry Shannon, Chairman of the Victorian Faculty of the Australian College of General Practitioners.

Dr. J. P. Madigan, representing the College of Radiologists of Australia.

Dr. John L. Holme, President of the College of Pathologists of Australia.

Mr. V. H. Arnold, Government Statist and Actuary.

"GREATEST PROBLEM OF PREVENTIVE MEDICINE" Scientist's View

The following letter from the Director of the Walter and Eliza Hall Institute of Medical Research, **Sir Macfarlane Burnet, O.M.**, appeared in "The Age" on November 30th. Sir Macfarlane, who received the Nobel Prize for Medicine in 1960, was replying to a letter from Mr. P. D. Finch, Senior Lecturer in the Department of Statistics, University of Melbourne, questioning whether "the evidence now available does in fact support unreservedly the claim that smoking is a cause of lung cancer."

"SIR, — It will be most unfortunate if P. D. Finch's letter should raise doubts about the scientific validity of the conclusions on the causal relationship between cigarette smoking and lung cancer which have been reached by all responsible groups that have studied the evidence.

"As Dr. Summons pointed out, both the Medical Research Council of the United Kingdom and the Royal College of Physicians have unequivocally accepted a causal relationship after full consideration both of the observed facts and their statistical evaluation by two of the world's most distinguished medical statisticians, Sir Austin Bradford Hill and Dr. Richard Doll.

"We do not fully understand the chain of events which leads to cancer of any type, and all who are interested in the problem will admit that the precise mechanism by which the observed relation between the number of cigarettes smoked daily and the increasing incidence of lung cancer is produced is unknown.

"As in most medical problems we must use all relevant information to reach the most likely conclusion, and when this calls for positive practical action we must pursue this action for as long as its results indicate that it is justified.

"Along with the great majority of medical scientists, I believe that the still-rising incidence of lung cancer, plus the increase in deaths from coronary disease also associated with cigarette smoking, represents the greatest problem of preventive medicine at the present time.

"The need to dissuade children from starting to smoke is at least as important as to see that they are immunised against polio, diphtheria or smallpox.

"Equally important is the responsibility of leaders of the community to set an example that will help the gradual development of an atmosphere of public disapproval of smoking. After all, it took only a quarter of a century to change spitting in public from accepted behaviour to a gross breach of decent manners.

(Continued at foot of next column)

N.S.W. SURVEY LINKS SMOKING AND CANCER

A 12-month survey of 400 lung cancer patients in Sydney hospitals has shown that the incidence of the disease in New South Wales is increasing yearly and that its association with smoking follows a similar pattern to that established by overseas surveys. **Almost two-thirds of the patients smoked more than twenty cigarettes a day, and only 28 (seven men and twenty-one women) of the 400 were non-smokers.**

The report was issued by the Lung Cancer Registry at Royal Prince Alfred Hospital, and was based on the case-histories of lung cancer patients registered in the past year at Royal Prince Alfred, St. Vincent's, Royal North Shore and Randwick Chest Hospitals. There were 351 men and 49 women among the cases studied.

Information on all points thought worthy of future investigation and research was recorded and made available for statistical analysis by means of a punch card system.

The investigation revealed that the peak incidence of the disease occurred in late middle life between the ages of 50 and 70, and that the incidence was highest in males who smoked over 20 cigarettes a day. **A direct relationship between lung cancer and many years of smoking, and to a lesser degree with atmospheric pollution, was proved beyond doubt.** The report added that while two-thirds of the cases registered were beyond cure, it was probable that the actual picture was even blacker than appeared from the Registry's records, as many hopeless cases were not referred for specialised investigations and treatment. Hospital records show that 90 per cent of all lung cancer cases in Sydney die within two years.

Sir Macfarlane Burnet (Continued)

"Whether a smoker decides to stop or to continue is his own decision, which is bound to be influenced by emotional factors as much as by consideration of the evidence or respect for authoritative opinion.

"I can only make two comments — first, that my own attitude was fixed by the death from lung cancer within a few years of five friends, all eminent in medical science and all heavy cigarette smokers; and, second, that when a heavy smoker breaks the habit his expectation of life is significantly increased beyond that of a person of the same age and smoking habits who persists.

F. M. BURNET."

CANCER SOCIETY WILL TALK WITH ADVERTISERS

Following a meeting of the Australian Cancer Society at Canberra on 7th December, the President, Councillor W. J. Kilpatrick, announced that talks would be held with the tobacco industry regarding cigarette advertising. The Society hoped that by mutual agreement the present advertising of cigarettes could be modified so that advertisements which appeared to make a special appeal to young people to smoke could in future be avoided.

Action along these lines has already been taken in Great Britain, where the tobacco companies have voluntarily withdrawn all cigarette advertising on television until about 9 p.m. They have also agreed to exclude any advertisements that can be seen clearly to come within the following broad classes:—

(1) Advertisements that greatly over-emphasise the pleasure to be obtained from cigarettes.

(2) Advertisements featuring the conventional heroes of the young.

(3) Advertisements appealing to pride or general manliness.

(4) Advertisements using a fashionable social setting to support the impression that cigarette smoking is a "go-ahead" habit or an essential part of the pleasure and excitement of modern living.

(5) Advertisements that strikingly present romantic situations and young people in love, in such a way as to seem to link the pleasures of such situations with the pleasures of smoking.

The new rules are already in operation, and all advertising on British television is now in line with them.

EDUCATION DRIVE BEGINS IN BRITAIN

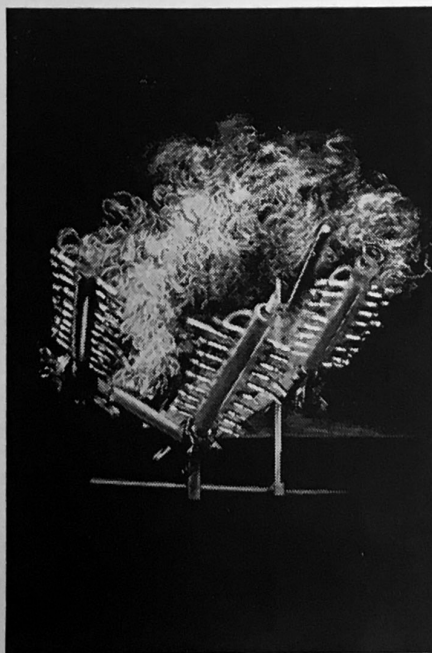
The Central Council for Health Education, with the aid of a grant from the British Ministry of Health, has purchased and equipped two mobile vans which will tour England and Wales to help local authorities inform the public about the health risks involved in smoking. University graduates trained to talk to schoolchildren, teachers, youth and com-

munity groups about the dangers of smoking will man the two vans, which are equipped with film and film-strip projectors, tape recorders, posters and exhibition material, including specimens of cancer-affected lungs.

Inspecting the vans before their departure, Mr. Enoch Powell, the Minister of Health, commented that his Government accepted the evidence as demonstrating "crushingly and irrefutably" that cigarette smoking was the cause of the vast majority of cases of lung cancer. **"But for smoking," he said, "relatively few people in this country would be dying from this disease in one of its most horrible forms."**

Mr. Powell remarked that the behaviour of the public had never been more paradoxical than in the face of the facts about lung cancer and smoking. People scanned with anxiety the figures of deaths on British roads — an annual total of about 7,000 — but looked with apparent unconcern on the rising deaths from lung cancer, now over 25,000 a year, all but a tiny fraction of which would not have occurred but for smoking.

The two campaign vans have already been booked by local authorities for over 600 operational days, and the introduction of additional units is under consideration.



This American "robot smoker" enables scientists to collect the tarry condensate from cigarette smoke for research purposes. Fractions of the condensate are painted on the skins of laboratory animals to determine whether cancer-causing constituents are present.

(From "Smoking and Your Health," an Anti-Cancer Council Publication)

NEW BOOKS ON CANCER

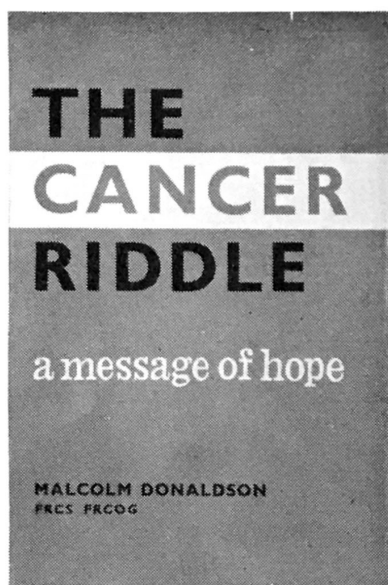
An indication of increasing public interest in cancer and the measures being taken to combat it is the steady stream of books now being published dealing with various aspects of the disease. These are not works for the medical specialist and the scientist, but histories, biographies and general scientific works written specifically for the lay reader.

Carlotta Kellaway here reviews three recent publications, all written by experts in their particular field, which are of particular interest.

THE CANCER RIDDLE:

A Message of Hope

by Malcolm Donaldson
(Arthur Barker Ltd., 1962)



Dr. Donaldson, a member of the Grand Council of the British Empire Cancer Campaign, has been active in the fight against cancer for 40 years, and is a recognised authority in cancer education of the public.

In this valuable survey he brings together the essential facts about the disease in a straightforward fashion that will be readily understood by the layman. Beginning with a concise account of the history and nature of cancer and the process of normal and abnormal cell growth, he goes on to discuss briefly what is known about the cause of cancer and the theories underlying present-day research.

Believing that "knowledge is the antidote to fear," Dr. Donaldson devotes by far the largest section of his book to the clinical aspects of the disease. Wider public knowledge of the principles governing diagnostic and treatment procedures, and the early signs and symptoms suggesting the presence of cancer in the various body organs, will, he thinks, provide the layman with an impetus for prompt action should the occasion arise.

The particular value of the book lies in its "message of hope," strongly emphasised by the author. There is, he suggests, an increasing probability that a definite cure for cancer may be discovered. More important, there is the certainty that existing methods of treatment **can cure the majority of cancers today** if fear and ignorance do not prevent the sufferer from seeking medical advice **in time**.

It is the layman's responsibility, stresses Dr. Donaldson, to ensure that he, his friends and relations do not delay when cancer is suspected. Figures quoted by the author show that in cancer of the breast the average delay is over 6 months, and in cancer of the rectum over 5 months. Delay is not only dangerous, it may be fatal, allowing a potentially curable cancer to progress to a stage at which treatment can no longer be effective.

Dr. Donaldson does not attempt a detailed analysis of the underlying causes of delay but assumes that "fear" and "ignorance" are a sufficient explanation. Undoubtedly each plays its part, but one may venture the suggestion that "cancer-phobia" is a more complex psychological problem than is implied here.

However, this is a minor criticism of a work which will do much to relieve the average person's worry and anxiety about cancer. Not only is it full of useful information and knowledge, but it puts cancer in perspective and leaves the reader encouraged and hopeful.

To make the book more readily available to the general reader, the Council's Public Education Committee has decided to donate copies to every public library in Victoria.

THE FIGHT AGAINST CANCER

by Charles Oberling
(Andre Deutsch, 1961)

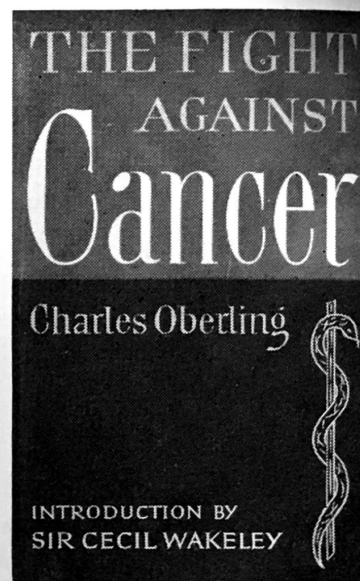
This is not so obviously a book for the lay reader; at least, it is not the type of approach to the reading public that is often adopted in the English-speaking countries. We are more familiar with the writer who seeks to simplify the problem, to describe the complexities of basic research in any scientific field in the words of the average man with little or no technical knowledge.

Professor Oberling, one of Europe's foremost cancer specialists, ardently believed that the public should be as fully informed as possible about the research being carried out, the theories held, and the discoveries made by scientists in their attack on the disease. But rather than reduce the complexities of the subject to some artificial lowest common denominator, in this book, completed shortly before his death in 1960, he uncompromisingly confronts his readers with the difficulties and complications of the problems met with in cancer research.

Only when these difficulties are fully understood, he says, will the public cease to condemn the research worker for not yet having found the answer to the riddle, and will come to the conclusion that "in spite of all disappointments, the brilliance, persistence, and ingenuity which have been displayed in the struggle constitute a permanent memorial to the human spirit."

Much of the detail in this book may prove hard-going for the non-scientific reader, but the excitement, enthusiasm and idealism of the writer makes the effort well worthwhile.

Covering a period which begins with the work of Bernard Peyrilhe in the eighteenth century to the time of the author's death, the book surveys the main fields of modern cancer research.



Accounts of early experiments and theories are contained in the first two chapters, although, says Oberling, it was not until the early days of the present century that science had advanced sufficiently for a successful experimental assault on the cancer problem to be possible. Milestones such as the first use of the mouse as an experimental animal make fascinating reading when one remembers the crucial part this little animal plays in present-day research.

"The short life of the mouse and its great capacity for reproduction make it possible to investigate the inheritance of cancer with absolutely sure methods," wrote Borrel, one of Pasteur's last pupils. "A year's observation of the mouse is equivalent to a century's observation of man. Cheap, easy to handle, undemanding in diet, the mouse is the ideal experimental animal; thousands can easily be kept in a limited space. They can be divided into groups of various sizes — corresponding to hamlets, villages and towns — and subjected to different conditions." It would be appropriate, concluded Borrel, for the International Committee for Cancer Research to adopt the mouse as its emblem out of gratitude.

A comprehensive and detailed discussion of the 5 major fields of modern cancer research makes up the bulk of the work. There are chapters devoted to Radiation, the Parasites, Heredity, Hydrocarbons and other chemicals, and last and most significantly in the author's opinion, the Viruses. Professor Oberling's observations on scientific discoveries in all these fields and his numerous accounts of classic experiments provide lively and interesting reading.

For example, there is the story of Dr. Fibiger's rats, a kind of scientific odyssey about which there still clings an almost miraculous flavour. After years of vain searching for a particular tumour-inducing parasite, Fibiger at last discovered a colony of rats infected with the parasite in a Copenhagen sugar refinery. Only days later, the refinery went up in flames, but experiments with a few infected rats saved from the fire enabled Fibiger to make striking observations on parasite-induced stomach tumours. His investigations, some of the most remarkable in the history of cancer research, earned him a Nobel Prize in 1926.

The attack on seemingly insoluble problems is a recurrent theme of the book. A classic example is the work of the British scientist Dr. E. Kennaway and his colleagues in identifying a whole series of cancer-producing hydrocarbons in tar, a substance which includes hundreds, perhaps thousands, of similar compounds. Years of systematic work by this team finally solved the problem.

Professor Oberling seeks to discover a connecting thread between the multitude of facts which he has presented in the section on Viruses. The only logical answer to the problem of cancer is, in his opinion, to be found in the virus theory of causation. This alone, he believes, is really causal, the other factors involved acting simply as precipitating or activating agents.

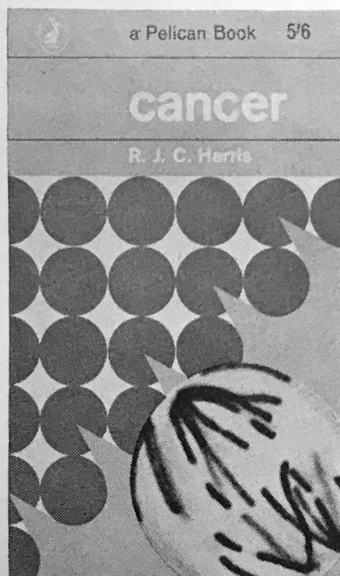
Do viruses play a decisive role in all cancers? Professor Oberling believes that the theory conflicts in no way with what is known about the causes of the disease, while neither radiation, parasites, chemicals nor heredity can be proved to be primary factors in malignant growth. On the contrary, he points out that carcinogenic chemicals and all forms of radiation possess the capacity of favouring the development of virus infections, while parasites, as is now generally recognised, can act as viral inoculating agents. Nor is there, he says, any contradiction between the virus theory and heredity; indeed, there can be no better illustration of the connection between virus infection and heredity than the mammary cancer of mice, which, despite the prominent role of inheritance, appears to be determined by a virus.

Whatever the reader's view of the plausibility of this personal interpretation, we may well agree with the author that even if viruses do not play an equally significant part in all carcinogenesis, the present importance of the virus theory can be gauged by the fruitfulness of the work which it has stimulated.

CANCER: The Nature of the Problem

by R. J. C. Harris
(Penguin Books, 1962)

In this short account of "the experimental as distinct from the clinical aspects" of cancer, Dr. Harris likewise presupposes a certain amount of technical knowledge on the reader's part. Although he attempts to set out in the first two chapters on "The Cell and Cell Division," and "Normal and Abnormal Growth," a framework within which the rest of the book can be understood by the layman, it cannot be said that he is fully successful. The reader with no biological or scientific background will, I think, find it difficult to assimilate the information required for the rest of the book to become really meaningful.



For the reader with some pre-existing knowledge, however, and particularly for scientists, medical students, nurses and others, this brief yet authoritative survey is invaluable. Dr. Harris has spent the past 15 years on the study of nucleic acids and cancer-producing viruses and his extensive experience in attacking cancer problems on a broad biological front endows his description of current theories with added interest.

The key to the problem of cancer may come from almost any branch of science, and the author poses many questions that concern the biologist, physicist, chemist and virologist alike. Why does one cell or small group of cells start to grow at the expense of all others until, unless checked, it ultimately destroys the body as a whole? Is it due to some genetic predisposition, to mutation, to transmission of an acquired virus, to physical irritation, to an alteration or breakdown of the body's endocrine pattern with advancing age, or to some unfortunate combination of two or more of these varied factors? No-one yet knows, but as Dr. Harris clearly demonstrates, medical science has accepted the challenge to elucidate the nature of the disease, to unravel its causes, and to discover more effective methods for its treatment.

The chapters on "Human Cancer" and "Occupational and Environmental Cancer" are perhaps the most interesting to the non-technical reader. The instances he cites showing racial differences in the incidence of certain cancers and the presumed relationship to certain environmental factors are fascinating.

Thus in cancers of all types from South India, Travancore, Madras and Ceylon, cancer of the mouth accounted for 91 per cent, 38 per cent, 42 per cent and 32 per cent respectively of all types of cancer, and it is in these areas particularly that the habit of chewing betel-nut is so widespread.

At the opposite extreme is the fact that males of the orthodox Jewish faith who undergo circumcision very early in life are practically immune from penile cancer, while even more significantly, no single case of lung cancer has been discovered among Yemenite Jews in Israel in the last fifteen years. These latter do not smoke cigarettes but do smoke a narghile — an oriental pipe in which the tobacco is drawn through water.

On p. 42 Harris discusses smoking and lung cancer which is, he says, "one of the most topical issues in cancer research today." He points out that in the United Kingdom between 1944 and 1955 the number of lung cancer deaths nearly trebled in men and doubled in women. This rapid increase in a relatively short period could not be accounted for simply by an increase in the age of the population or by better diagnostic facilities.

Harris concludes from an examination of the statistical and experimental evidence that while there is a clear association between mortality from lung cancer and the smoking of cigarettes, the relationship is certainly not a simple one. Other factors, such as atmospheric pollution, are also implicated. However, his personal view is that **"the banning of tobacco now would almost certainly lead to a reduction of some 80 per cent in the male lung-cancer rate twenty-five years hence."**

He does not advocate that this drastic action should be taken, but suggests a nation-wide campaign to inform smokers of the risks they are running and an accelerated research programme by the tobacco companies on the production of "cancer-free" cigarettes. **Effective** filter tips, he says, would help to reduce the amount of tar inhaled, and it may also be possible to reduce the amounts of cancer-producing substances in the smoke either by removing their precursors in the tobacco, or by changing the temperature of combustion, or both.

The author, as we have seen, concentrates on the experimental aspects of the cancer problem. The picture which emerges of present progress in research is at least encouraging. By bringing together all the relevant facts Dr. Harris has performed a useful service by showing the extent of the knowledge that has already been gained, and suggesting a number of directions in which future research offers hope for the eventual conquest of the disease.

THE EILA AUBREY OFFICER MEMORIAL HOSTEL

The gracious old house with its wide, cool verandahs and spacious lawns, nestling in the shade of gum trees, could be a country homestead in any part of Victoria. In fact, it is less than ten miles from the heart of Melbourne, but the roar of the city-bound traffic on the highway outside scarcely disturbs the quiet calm of the old-fashioned, high-ceilinged rooms.

The men and women who sit chatting like old friends round the blazing log fire, or who on sunny days stroll leisurely through the gardens amongst the gums, appreciate the rural atmosphere to the full. They are all cancer patients from country areas attending the Peter MacCallum Clinic for treatment, and their "home-away-from-home" is the Eila Aubrey Officer Memorial Hostel in Upper Heidelberg Rd., Heidelberg.

Purchased by the Anti-Cancer Council in 1955 with the aid of a bequest from the late Mr. H. S. Officer, the Hostel provides accommodation for country patients who do not require hospitalisation and who have no friends or relatives in Melbourne with whom they can stay during the period of treatment. To simplify management the ownership of the property has been transferred to the Cancer Institute Board, which provides both the nursing and domestic staff to run the twelve-bed Hostel, and a daily transport service to and from the Clinic for patients receiving regular radiotherapy treatments.

Freed of the worry of finding suitable accommodation with strangers or at some impersonal hotel, and with no transport problems to cause anxiety, patients can rest and relax during their stay in town. Sister H. M. P. Davies, the sister-in-charge, and her staff take pride in the friendly, homely atmosphere the Hostel provides. Their warm welcome and genuine concern for the welfare of all who come into their care help to put newcomers at ease from the moment of their arrival.

The patients themselves are the first to say how much they appreciate the congenial surroundings. "I've never been better treated in me life", says an elderly man from Wangaratta, whose memories go back to the days when the Kellys roamed the ranges of the North-East. "I told Sister I like it so much here I'm coming back for Christmas."

A lady from Bendigo joins in. "There just isn't anything good enough to say about the way they treat us", she says. "We have everything we could wish for — breakfast in bed every morning, and lovely home-made cakes baked by Sister herself."

"We're all country people", sums up a third patient, "and have such a lot in common. Why, it's just like home."



THE HEIDELBERG HOSTEL
A "home away from home" for country folk.