

THE THING CALLED CANCER

GEORGE H. MURPHY

IT is a recognized part of wisdom to spy upon the habits and malignance of a resourceful enemy. With all the knowledge obtainable, it may be no easy job to subdue him and place him under such restraint as to procure even a fair measure of safety. In our social life, criminal tendencies are being studied and appraised as never before in the history of our race; civilized people have provided in abundance all manner of reformatories, prisons, and work-houses, in order to check the activities of the evilly disposed, to save human life and to guard the normal progress and happiness of society.

For some reason, in which logic has no part, men and women do not show the same aggressive and protective attitude towards the enemy of controllable and partly controllable disease. And yet the necessity for such action fairly screams for recognition. It is true that in recent times governments are devoting more time and money to control and prevention of disease; and the medical profession, too, is shaking off the obsession of many centuries, that it exists for the sole purpose of curing, not preventing, the ills of the human body. This attitude had some measure of warrant in the centuries when the actual agencies causing most diseases were unknown. They did not know the real cause; therefore, how could prevention be applied? Then came Pasteur, Lister and others, and with them, exact causes of many diseases. On this knowledge was started the structure of preventive medicine. It is a comparatively modest institution yet, but it is growing apace. Its growth depends upon the new truths extracted from nature's hidden store by men of research, upon their application to the prevention of the ills of human beings, and upon bringing these truths home to the public in such a way as to arouse its interest and cooperation. Without intelligent public support, nothing much can be accomplished in preventive medicine. With it, one can see the fulfilment of Pasteur's great message, that it is within the power of man to make germ diseases disappear from the earth.

Take tuberculosis. When we sow cockle, we know we shall reap cockle. When we sow tuberculosis, we reap what we have sown, and the harvest is suffering and sorrow and often death. It is a stupid farmer that carelessly spreads cockle seed in his wheat field. Cockle can come only from cockle; tuberculosis can

come only from tuberculosis. Every victim of tuberculosis grows the tragic crop in his lungs, or elsewhere, from seed he got from somebody with the disease, advanced to the seeding stage. Break the deadly chain between spreaders and prospective victims, and tuberculosis is doomed. Deprived of new soil in which to renew itself, it falls under an inevitable biological law, and dies out. Isolate the spreader; cure him, if that be possible, but see that the seed of his disease is not sown in other soil. This is the whole doctrine of tuberculosis control, and when its operations are perfected, the final result will be extermination of this disease. It is simple in principle, but the operative technique is difficult enough; for it calls for a lot of agencies acting in cooperation with a public well versed in the cause and manner of spread of the disease. Knowing intimately, as we do, the causative organism in tuberculosis, we are building up an aggressive and defensive force aimed at the very heart of the enemy, and it is my conviction that the coming generation shall see, among many wonders, the complete suppression of the great white plague.

But tuberculosis is not the subject of this article. I bring it in for the sake of comparisons. My theme is cancer, the second of the major diseases of mankind. There is an essential difference in our relations to these two enemies. In the former we know the cause, and we know how to prevent it; in the latter, we don't know the cause, and, therefore, we don't know how to prevent it. We are clearly under a grievous handicap from the start. We are obliged to alter our whole programme of warfare, and to depend almost entirely on well disciplined frontal attacks. We can hope only to destroy the enemy after he has taken up a position, and is prepared to fight it out. We can't get back to his arsenals, and his dugouts, and blow them up before he goes into action, because we don't know where they are; up to the present, science has given us no technique for discovering why the first hostile, rebel cell starts in its malevolent career, and the exact nature of its earliest operations.

Sometimes a well-meaning propagandist comes out with the statement that cancer is just as controllable as tuberculosis. It usually makes the front page; but this is too bad, because the statement is not true. The control of cancer comes practically altogether under the ancient tradition and principle of the healing art, namely, *cure*; that of tuberculosis, fundamentally under the principles and practices of *prevention*; the cure of the tubercular person, important to him of course, is but incidental in the great scheme of preventive control now being developed

under the auspices of Public Health. It is just as well that we should get this straight, because spending any part of our time in an illusory paradise is not good for the stiff job we have on hand of forcing from so resourceful an enemy as cancer a reasonable compromise. And with our present knowledge, a compromise is the best we can obtain. But we have a great field for making these terms bigger and better; by well disciplined attacks, by surgery and other agencies under our command, to reduce to a minimum the casualties of the disease, and to make the term of bondage of those we cannot save as satisfactory as may be. Our operations for cancer control lie in this field, and the natural query is, how can we help to save ourselves and others, and deprive this bloody Moloch of his human sacrifice?

I propose setting down in simple speech some of the characteristics and habits of cancer. I apologize at the start to any ultra formalist who may find my narrative shorn of the technical verbiage which, I fear, too often wearies and dulls the best intentions of the average reader. Most of what we know about cancer is really very simple, and easily grasped. Here are some plain facts in the life of this malignant thing.

Cancer is a living cell. The cell is the unit of life in the body. Man's body is but a mass of living cells, varied and collected into organs that grow and act from the infant's first drawn breath until the last gasp of expiring old age. These are the cells as we meet them in our everyday life; in fact their activity comes before this period by some two hundred and eighty days. The cancer cell in its state of innocence belongs to one of these great groups of body units.

For some reason, which we do not know yet, it decides to break away from the respectable community of its kind and begin a career of villainy and lawlessness. It departs from the most perfectly organized economic structure in all creation; for the division of labor, production, social interdependence and harmonious cooperation of all the body units make up that perfection which the Creator Himself knew to be good. The rebel cell goes forth into the surrounding tissue with all its native vigor, and proceeds to create from its own substance other cells of the same character and evil tendencies, and these in turn do likewise, so that, in what may be a comparatively short time, millions of these outlaws are congregated and equipping themselves for the work they have set themselves to. This aggregation of cells is a cancer. In fact the parent cell, once it breaks through into the underworld of lawlessness, is a real cancer, though microscopic in size. Why did this cell behave so?

Whoever answers this question will have solved the mystery of cancer. Research the world over, and the tireless brains of many great men, are bent to this goal. Meanwhile, observation of the enemy's mode of life must be the basis for our defence.

The rebel cell has its analogue in our community and national life. While criminal tendencies often lie in heredity, it is true, nevertheless, that many of our worst malefactors have come from respectable environment, and, before their moral decline, were useful members of society. It seems almost as great a problem to fix causes here as it is in the case of the cancer cell. But Society protects itself by close observance of criminal methods, builds up a gigantic structure of courts of justice, police and detective bureaux, and calls to its aid the moral and religious influence of the nation. All this, while it endeavours to find an essential cause.

The cancer cell, while it works secretly for a time in gathering and drilling its gang, must, like the underworld gangster boss, sooner or later come into the open, and it is at this point we begin our fight. The first move must come from the person attacked. He must seek assistance from those trained and equipped to help him; otherwise he is doomed, for the organized cancer gang never turns back. He need expect no defence from the normal cells of his body, which are so effective in destroying the germs of many diseases. For some reason, the ordinary defence mechanism of the body is stricken in the presence of cancer. I remember a dog I had years ago, that could lick all his fellow mongrels in the settlement, and would tackle the biggest animal on the farm or in the woods, but the smallest snake made him crouch and slink away. The defence cells of the body seem to hold back in the presence of cancer; so we are rather badly equipped. The lines along which cancer cells travel are left open, and they soon take advantage of this easy access to establish colonies in other parts of the body. Once this process is well under way, the golden season for cure is past, and treatment becomes mostly palliative; in other words, the use of measures that smooth and may even lengthen the victim's path, but can never alter its course.

The spread of cancer cells in the human tissue is, like much we know of the malady, simple and easily understood. A farmer with a wheat field by a river bank discovers in the early autumn a noxious weed growing amid his crop and sapping and poisoning his wheat. The weed is not native to the locality, and has not been seen there before. He starts an investigation, and in time learns that miles up the river, or one of its tributaries, this same weed had been growing and causing trouble the previous year, or longer. Then he has the

cause of his loss explained. The stream carried the seed to the edge of his field, and finding soil suitable for its growth, it quickly spread over the ground. He has a real grievance against his neighbors up the river for not destroying the weed before it seeded and prepared itself for spreading and doing harm elsewhere.

Transportation facilities in the human body are about perfect. Water, blood and air are the media. The big lines of bodily commerce are the blood vessels. The smaller system is the water (lymph) system. The latter receives its cargoes from the blood, and runs in a series of fine channels or canals that continuously bathe the tissues and fetch them supplies. These currents of commerce flow on in very definite directions throughout life; so we owe to this great mechanism of transportation everything we are, and sometimes things we don't desire. Cancer is one, because in these currents it may spread throughout the body.

Again the method suggests itself. Our cancer cells are virtually collected on the edge of many small streams; after a time perhaps when they are crowded, they begin to drop into the current, and as there is the freest communication between them, there is no knowing where they will land. The cancer cells have a selective habit, and will stop only in organs and tissues congenial to them, where they may settle down to grow and multiply. These selective areas are very numerous in the human body, and consequently the emigrant rebel has a wide choice of objectives. Cancer colonies may thus be established in the glands, in the liver, the bones and many other places. Each colony retains the character and primary malignance of the parent body. The roving cells may settle down for a time near home, in the first line of lymph glands, and be overtaken here and destroyed; but for the most part, once emigration has begun, the afflicted person is, in current slang, "up against it".

How does cancer kill? By setting up a spurious, low grade growth, or growths, in the body that will take sustenance from the normal tissue stores, and give back to the unwilling host a sort of by-product which gradually poisons his whole mechanism. Note the wasted, anaemic state of the patient with advanced cancer. Other causes may supervene to hasten the end, but otherwise the process of destruction is likely to be slow, and the subject of the disease may be able to carry on a good measure of activity before life's pillars begin to crumble and fall, dragging down in the general ruin their malignant foe. Death blends at last the innocent and the guilty.

Can we do much to fight the enemy of cancer? Yes, a lot, if we keep our heads and go about the job in a practical common-

sense way. A certain element of fear of the disease is healthy enough, because it makes for watchfulness, and enlivens our sense of self-protection. But hysterical dread defeats itself from the start, and makes the imaginary suffering of the person as bad almost as reality. A woman who seeks her dentist for a suspected tooth may hide her knowledge of a growing lump in her breast until the time for cure is long past. Strange this, but oh, so true! "Why didn't you see your doctor about that lump in your breast when you first noticed it two years ago?" I asked in consultation recently. "I was afraid he would tell me I had cancer", she answered. One need not elaborate such psychological types. Enough to know they are not so rare as might be supposed. We must find means to help them, not to blame them. In fighting Society's worst enemy, the utmost frankness and cooperation are necessary. Without such, there is little hope of a reduced mortality from cancer. And so I submit a few principal truths that every man, woman and child should learn and shape their action thereby. They are almost as easily understood as the sign at a railway crossing, and the protective instinct should be no less responsive to the danger ahead. Here they are, in their practical simplicity:

All cancers are essentially curable if they are discovered early enough. The method of cure, whether by surgery, x-ray, radium or burning, is not important so long as this first band of rebel cancer cells are thoroughly destroyed. The whole responsibility for the first alarm rests with the person himself. Better that many unnecessary alarms be rung in, than that one destructive fire should occur. Even our city fire corps maintains its discipline and efficiency by voluntary alarms. To hide a suspected cancer is like blindfolding oneself at a railway crossing so as not to see the approaching locomotive. And so we deduce the fundamental law for the cure and control of cancer. *Report suspected cancers immediately to competent authority.* Without the recognition and practice of this commandment, the word *control*, as it applies to cancer, might just as well be scrapped. We may still cure some patients, but we are but carrying on a rather poor kind of rear-guard action; not the sort of combat the generals of modern scientific advance and a highly awakened social and economic conscience should have to accept.

How are our people to know a suspected cancer in order to seek help? What early signs of cancer are real enough to catch the notice of the average man or woman? Can we look into the inside depths of our bodies and see these colonies of malignant cells I have already described? Does one become conscious of the presence

of the disease in his body before any of the senses are aroused? Can this commandment, which holds life or death for the victim, be worked out into a few simple rules that all can easily read, and quickly apply? With these, and similar questions, we get into a field where simplicity of observation and procedure disappear, and where most of the shortcomings and failures of the best intentioned cancer campaign are to be found.

Even the best trained clinician and scientist may fail to detect the presence of early cancer in the inner parts of the body. In order to report very early, then, the patient would need to have an inner consciousness of cancer invasion, which unfortunately he has not. In practice therefore, and with our best vigilance, there are bound to be deaths through late recognition of the disease. This difficulty prevails most inside the body, the internal organs, and all such parts as we cannot see or feel. Pain, something none of us likes, may often be our best friend, because as a warning signal it directs our attention to the source of trouble. In the early genesis of cancer, it is absent; the secret, insidious foe hides his preparations until he is strong enough to strike.

Are we, therefore, completely foiled in our task of getting early reports of the presence of internal cancers? Certainly not. We can at least improve our position greatly by bringing to the people through organizations, public health officials and carefully prepared literature a sufficient knowledge of the danger signs to fetch them to their doctor, or clinic, for investigation. Much of this is being done; but a wider, more intimate and persistent activity must prevail. Research may come forward any day with a blood test for early cancer. Till then, employment of what means we know is the logic of the situation.

A word now about cancers on the outside of the body. Perhaps I should have said "*in*" the outside, because while cancers may appear as a lump or swelling on the surface, they belong essentially to the tissues of the skin or underlying structures themselves. They grow *in* as much as they grow *out*. They may come anywhere on the skin surface of the body. Favorite sites are where the external and internal skin (mucous membrane) join; such as the lips, nose, etc. Glands everywhere are suitable soil for cancer growth. The female breasts are most frequently attacked.

In a cancer control programme obviously our best hopes lie in external cancers, or, in other words, those that may be seen and felt by the affected one. Hence any painless (or nearly painless) lump or ulcer in the skin, breast, lips, or anywhere, should be report-

ed at once to medical authority. Here, the necessary technique is followed to determine, beyond doubt, the nature of the reported trouble. By such procedures, we get cancer as early as is humanly possible, and permanent cure is well within the scope of modern methods of treatment. It lies within the power of the men and women of our country to see that this sane and simple routine becomes a normal, and almost automatic, part among the important concerns of daily life. Greater vigilance should mark the cancer age—forty-five up—but it should be remembered that no age is absolutely exempt. A cheerful interest in the game of protecting our lives should not be hard for a normal people.

The writer of this article has few illusions regarding the job of arousing and training the public mind in the interest of better health. A few years at the head of a government Department of Health taught him the difficulties involved. He learned, too, that no public health movement can succeed without intelligent public co-operation and support, and he knows that such interest and assistance are within the reach of earnest and capable organization.

Civilization has still the hem of her garment blotched with the primitive instincts and habits of the jungle. She worked her way out thence, but her emancipation has brought her new problems that may be met only by further and further developments of civilized methods. Among these problems are certain diseases of the human body. The old jungle law is a bit antiquated, and nice people would proceed to kill it with innumerable resolutions, were its restoration but suggested. The survival of the fittest can't stand, because most of the time we don't know what is the fittest. In response to a primitive instinct we will save our lives, provided of course the Missourian requirements properly precede the effort. And so, I have tried to press into this article enough to create in the minds of those who know it only in terms of mortality statistics a concept of what cancer seems to be in its essence, and how it behaves. The picture drawn is of the most general character, but enough is presented to suggest the leading qualities of the enemy we are called upon to fight.

This fight must be carried on mostly by the laity, and by that I mean the big public outside the medical profession. The movement to control cancer is, practically, in the domain of public health. Doctors will furnish treatment, give advice and help with organizations; but it is a mistake to assume that all doctors are good public health men. They are often too busy and absorbed in the routine of practice to go out into the lanes and byways to gather in those who will not, or cannot, help themselves. We must have doctors

and clinics to decide and apply the proper treatment to each individual case of cancer; but so long as John Smith and Mary Jones, the one with a lump in her breast, the other with an unhealing sore on his lip, go about quite oblivious of their danger, just so long will attempts at cancer control remain disappointing.

Beware of the cancer expert, be he of the regular profession or charlatan brand, who advertises sure cure for cancer. He can cure you only if you have come in good time; and any reputable surgeon, with access to the modern accessories of treatment, can do this. The fact that we have so called "cancer doctors", who wouldn't know a cancer cell from a pollywog, going about treating "cancer" only emphasises our sad plight, and the need for something better.

We are now entering on a nation-wide plan for cancer control. It is being heralded by the Canadian Medical Association, which officially represents the medical profession in this Dominion. The trustees of the King George V Cancer Fund have offered co-operation and some funds to start organizations in the Provinces that, when effected and linked together, will serve as one big national body. The membership of this big union will be drawn from the people in general. The Canadian Medical Association is well equipped, through experience in administration and trained staffs, to head such a movement. It will endeavour to enlist the active service of all social and philanthropic organizations, as well as individuals prominent in the affairs of our country.

In these times, when certain peoples are suffering for a fight, we in this country might immunize ourselves to such contagion by taking part in a more glorious crusade against a resourceful and pitiless foe.