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Death & the Physician

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*But at my back I always hear
Time's wingèd chariot hurrying near.
And yonder all before us lie
Deserts of vast eternity.*

ANDREW MARVELL

FOR MOST of us in the Western world, premature death is no longer imminent. The death of infants is unusual, the death of children rare, and the death of young adults so improbable that it must be removed from the realistic possibilities of young life.

There are few new things in our world with such wide personal, social, and cultural meaning as the loss of the imminence of premature death, a phenomenon which is unique to the generation born since the 1940's. For young men's lives, "Time's wingèd chariot" no longer hurries, and the picking of rosebuds may be done at one's leisure. In essence, the young now have "limitless" time.

But this dramatic change, won by the control of disease—primarily infectious disease—has a further implication: if disability or disfunction occurs in an individual now, the cause will more probably arise from within the man than from disease striking from without.

I do not think that the meaning of this change in the pattern of disease and the availability of time can be overemphasized. To document it, let us look at what has happened to the patterns of disease in the last few decades, and sharpen the point by contrasting our present disease pattern with that of the so-called "developing" nations.

Before the 1930's, the chance that a patient would have his disease improved decisively by a visit to a physician was very small. Except for the surgeon, whose basic tools have changed little, the physician's bag held more comfort than cure. The drug formulary contained a few specific cardiac drugs, thyroid extract, insulin (in 1925), something for gout, a few other specifics, and then a thousand things for the relief of symptoms, some effective, some not. Men made reputations

as pneumonia doctors for their ability to sit through the night at the patient's bedside, waiting for the crisis to pass. Ears drained endlessly, the mastoid scar was commonplace, and sinus trouble held the danger of meningitis and brain abscess. Postoperative pneumonia was a dread complication, and infection and the real limitations of anesthesia tied the hands of surgeons. Even in the 1930's, syphilis was still the great mimic, and the majority of urban adults had evidence of past tuberculosis, although both diseases were already on their way out. Bellevue at that time had a whole ward for erysipelas (a disease most people have never even heard of today).

In short, the everyday burden of illness was considerable and an expected commonplace of life. The role of the physician was to comfort, to relieve, to diagnose, and to prognosticate. There was, however, a close correspondence between what patients expected of the physician and what he could in fact deliver.

Today, by contrast, the physician can help as never before. The chances are overwhelming that the course of a patient's disease will be decisively affected by a visit to a physician. From antibiotics that banish infections to tranquilizers that banish straitjackets, an aura of effectiveness has been created. But in this time of greatest accomplishment, the widespread expectation of cure has created an oddly paradoxical gap between what is expected of physicians and what they can deliver. We shall return to this point later.

The incidence of infant and child mortality in a society provides a useful criterion for the comparative study of disease patterns. In many developing nations, the death of children is pitifully commonplace. In the United Arab Republic, for example, one out of five children dies between ages one and fifteen. In Mexico, one out of 30 will die in the same period. But in the United States, only one child in 130 dies between the ages of one and fifteen.

What are the causes from which these children die? When a child dies in the United Arab Republic and Mexico, the death is generally due to an infectious disease (bronchitis, intestinal infections and diarrhea, and pneumonia). When a child dies in the United States, he generally

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dies of an accident, a congenital malformation, or cancer. We have been made aware of infant mortality in this country because we are distressed that ours is not the lowest rate in the world (and it is not). The infant death rate for the United States as a whole would be lower were it not for the fact that among the indigent it is much higher than among the remainder of the population. Thus here, as in other examples of disease, it is possible to have an underdeveloped area exist as an island within a highly developed society. (A striking example of such backwardness existing amid advance is the shocking and primitive disease rate of the American Indian.) It is equally possible, of course, to have islands of advance amid general backwardness, and that is why it should be noted that in discussing premature mortality, we are talking about the Western world wherever it may exist—in the United States, England, or even among the wealthy in India.

THE DIFFERENCE in causes of death between countries is also seen in the United States between generations. Our daily experience tells us how different things are from what they were before. Although the infection itself is still common among both children and adults, who can remember somebody dying recently of a "strep" throat? There is some evidence that, while streptococcal infection may occur in all classes of the population, serious complications arising from it are virtually limited to the indigent. The mortality statistics for pneumonia are similarly revealing: in 1935, the death rate from pneumonia in children ages one through four was one in 1,100; in 1961, the death rate in the same age group was one in 7,000.

Not only have the infectious diseases become less common, but where they remain, their fatal potential has often been diminished. Measles is an excellent example. In 1964, the United Arab Republic reported 14,000 cases of measles with almost 8,000 deaths. In the same year, in the United States, 458,000 cases of measles were reported with only 451 deaths. (A note of caution is necessary before such data can be taken too literally. The difference in numbers of cases is due to population differences, but also the relationship between actual numbers of cases and reported cases tends to be less meaningful where public health services are not highly developed. Nonetheless, the trend and the lesson are clear.)

It is generally believed that differences in mortality rates from diseases such as measles are primarily due to nutritional differences. Certainly, the child suffering from protein-calorie malnutrition has a much greater risk of dying or suffering serious complications from the common contagious diseases of childhood than do our children. But it is important to realize that other factors are at work here too. The recent epidemic of "Hong Kong" influenza makes the point most

sharply. There are many now alive who remember the influenza epidemic of 1917-1918. They would have no difficulty recalling young friends or relatives who died during its ravages. But what young person (and for the purposes of this argument, we can define "young" as under forty) does any of us know who died during the present epidemic? The fact that we have to search our minds for an answer is itself an indication of how radically things have changed. Those few people who did die during the 1968 epidemic were probably already suffering from some other condition to which influenza was terminally appended. Statistics confirm this observation: the death rate from influenza in the period 1921 through 1925 was one out of every 1,000 population; in the period 1956 to 1960 (encompassing the last previous Asian influenza epidemic) the death rate was one out of 50,000.

Although there is some dispute over the matter, in general scientists do not believe that the 1918 variety of influenza virus was more deadly than the present variant. Rather, in the post-World War I setting, which included crowding, poor hygiene, and other factors that seem to make disease worse, influenza infection prepared the way for bacterial complications. In the days before antibiotics, those bacterial complications (pneumonia, bronchitis, ear infections, meningitis, for example) were not infrequently fatal. It is hard to document which feature of society was most responsible for the high fatality of the "flu" of that era, because so many things in our lives contribute to our pattern of illness. Although it sounds unscientific to say so, it appears to be true that present times are simply healthier than past times. Health is a concatenation of effects, with good health promoting good health and disease promoting disease. At this juncture in history, our society's "resistance" to infectious diseases is high.

Still, while our illness pattern has changed drastically, and the change comes from the way we live rather than from any single factor in our lives (including antibiotics—though they have certainly made a big difference), it should be stressed that the change is reversible. In a sense, like "the antiseptic baby and the prophylactic pup," we live in a large "astrodome" with the infectious diseases kept out by an invisible shield. The shield, however, is as fragile as our social stability. The infectious diseases lie in wait for war, natural disaster, or starvation to prepare the way for their inevitable return.

The changes that have occurred in the patterns of illness and death are not limited to the young. For the aged, too, things have changed. That we all die remains true, but the when and the how have shifted.

What is "old" now? A generation ago, the seventy-year-old man was a relatively uncommon creature, considered old by himself and his family. The life expectancy of the aged has increased

