

REMARKS*

by

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I have been looking forward to this meeting with you for a long time. You have such important jobs that I wanted to see what you looked like. Having seen, I feel better. I think maybe, with you in the front lines, we can win the battle to keep a healthful environment.

It is a tough battle, as you well know. Frankly, the more I learn of its nature, the more alarmed I become. The other day I was talking to a friend of mine, a sanitarian like yourselves, about our rapidly changing environment and the threats it poses. He told me some things that I found downright frightening.

They had to do with micro-organisms and the ability some of them have to change their very nature to adjust to a changing environment. The leopard can't change his spots. Man finds it almost impossible to change his habits. But some of those little forms of life - the viruses, the bacteria, and even some insects - know the trick. Man can change the environment, but he can't change himself. They can't change the environment, but they can change themselves to live in just about any environment we create.

Consider the battle we've been waging against bacteria. When we got the antibiotic drugs, it looked like we could soon wipe out any disease caused by bacteria. But what has happened? When some of these bacteria, such as staphylococci in hospitals, have been bombarded with such drugs, they start to breed descendants that actually thrive on penicillin.

Or again, we come up with a fine insecticide like DDT and dream of world freedom from mosquitoes. And then what do we find after a few years - DDT-resistant mosquitoes!

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I guess you experts are still baffled by those outbreaks of Salmonella Hartford which occurred here in the middle west and in Canada a few weeks ago. This strain has been so rare that only 20 cases of food poisoning caused by it had ever before been reported. Then, suddenly, about 100 cases are reported.

With all these strange occurrences, the sanitarian can no longer rely on the tried and true methods of safeguarding our food supplies. When he does, the results can sometimes be tragic. Probably some of you have heard about those deaths on a mid-western dairy farm. The sanitarian had done his duty. When he found that the cows had diarrhea and that the barn was filthy, he prohibited the farm from selling milk. What the sanitarian did not know, and the doctors did not know it either then, was that this dirty barn was a hazard to humans. In the discharge from the cows, the health officer found a certain strain of Salmonella never before known to be harbored by animals. It was this strain that killed two of the farmer's children who played in that barn.

Increasingly, as we change our environment and the micro-organisms change their nature to adjust to it, we are going to find that what we thought was safe has become unsafe. And who can best discover this first and take preventive action in time to avert tragedy? I believe you can - you, the sanitarians in industry and in health departments. You are right on the scene where it happens. What's more, you have, or you ought to have, the scientific training that helps you to spot it.

The engineers can't do it. Once you spot the hazard, the engineer ought to be able to build it out. But he hasn't the training in biology to enable him to discover it.

The doctor can't perform this role either. When he gets into the act, it is usually too late; human cases have already occurred.

It is you sanitarians who have to be the Paul Reveres, alerting the physician and the engineer. All of you have to play on the same team to catch these hazards before they hit us where it hurts.

Nor are micro-organisms the only invisible enemies we depend on you to protect us from. There are the trace elements of a fast growing number of chemicals. As they build up in our bodies, year after year, what effect do they have on our health? Are they one reason why cancer rates keep rising?

All in all, it is easy to predict that as we use more and more drugs, herbicides, and insecticides to control our environment, there are bound to be more and more surprises in store for us. New hazards will take the place of old ones, especially in food supplies.

So the sanitarian is going to be more and more important. Our very lives depend on him. He has to be sharper than he ever was before. He has to be better trained. He has to be Sherlock Holmes, Dr. Watson, and a modern epidemiologist all rolled into one. He has to keep up with all the researchers who are constantly devising new ways to treat our food supplies. What is even more difficult, he has to keep ahead of those clever little micro-organisms that have proved, time and again, that they can outwit man.

Nor is the direct treatment of food supplies the only front you have to guard these days.

Take air. It is an important ingredient of ice cream and other foods, as you know. If there are bacteria in it, that could mean trouble.

Actually, we need to know much more than we do about what is in our air - particularly the air we breathe. Until recently, this whole problem had been neglected. If the air looked clean and didn't have a lot of soot

in it, we were satisfied. Now we know there is chemical pollution of air. And lately we've learned that air which looks clean can still contain cancer-producing agents.

Auto exhaust is the worst culprit. I am glad to see that the auto makers and the petroleum industry are awake to this fact and are doing something about it. I talked to some of them the other day and I was quite impressed with their efforts. But I still say they aren't doing enough or doing it fast enough.

So I hope you sanitarians are keeping up on the air pollution problem.

Water pollution is your problem too, along with the engineers and other guardians of our health. I don't have to remind you that last year was the biggest hepatitis year in the history of our country. We know that a few cases were caused by polluted water from which shellfish were harvested. But what about the tens of thousands of other cases that just happened, nobody knows why? That's a riddle which must be solved. And when it is solved, I have a hunch it will be a smart sanitarian who provides the clue.

Radiation is another growing problem. The experts are still trying to find out how much more man-made radiation we can afford to let loose on the world. Right now we are like a man who is writing checks without knowing what his bank balance is. I hope they give us the balance before we overspend. But in the meantime, I would like to feel that you sanitarians are on the lookout for any slips that might result in unnecessary exposure. You see a lot in the papers about Strontium-90 and other fallout material in food supplies, but other sources may be even more important. The X-ray

machines in doctors' and dentists' offices can give both the patient and the operator an unnecessary dosage if these machines aren't set and operated properly. The industrial use of radioisotopes - which is growing rapidly - can be a hazard to workers if not properly checked and controlled.

On top of all these specific problems of food contamination, air and water pollution, and radiation, there is the even bigger problem of production management. In this push-button world we are creating, the men at the key control points have more power than those kings in the olden days who could order anyone's head off. A small mistake in a multi-million pound food factory here in Cincinnati, for example, could cause deaths in the Orient. A slip-up in a production process occurring today might not even be known until years later when that particular can or package of food was consumed.

The advent of automation in food production and processing can be a boon only if trained control people establish the basic system. These people must know a lot about processing time and temperature. They must have the know-how to keep the control instruments doing what they are supposed to do. They have to keep the "Frankensteins" out of the system. The biologic factors involved in the production of wholesome food must be interlocked with electronic control instruments. Someone has suggested that this may call for a whole new specialty, probably called "Biological Control Engineering".

With machines doing more and more of the work, you might think the problems of human relationships would diminish. Actually, as you know, quite the opposite happens. Human problems become more, not less, complex. As the work force becomes more highly trained and specialized, the old type of boss-worker relationship doesn't operate. Instead, you need a team approach. Each specialist on the team contributes his particular brand of

knowledge and a joint program evolves. This isn't easy. Sometimes each expert turns out to be a prima donna, figuring that his knowledge is, after all, the most important.

Moreover, as the management of the environment becomes more complex, success depends also on being able to influence people who don't understand these scientific problems as well as you do. Top industry management has to recognize the need to keep their laboratories functioning as proficiently as their sales organization. Government - local, State, and Federal - must be alert to provide the trained staffs, the research, and the facilities for dealing with environmental problems that lie in the realm of public responsibility. And voters and taxpayers need to understand that you cannot control late 20th century health hazards on 19th century-sized budgets. I've been hammering on this for many years in Congress.

What all this adds up to is that, big as your jobs are now, they are bound to get bigger. The days are gone when a sanitarian could be merely a sanitation inspector. Now he has to be a high-powered member of a high-powered sanitation team.

How are we going to get all the high-powered sanitarians we need? As I see it, there are two ways. First of all, we need to pay sanitarians the kind of money they are worth. They are key men in any public health department; but a lot of them are finding that while their responsibilities get bigger and bigger, their pay checks don't. If sanitarians were paid what they were worth, the field would hold more attraction for the bright young men it needs. The second and equally important thing that needs to be done is to see that these newcomers are properly trained. The days are gone when a little experience under the supervision of an old hand could prepare a man to be a sanitarian. Today the sanitarian must be one of the

most highly trained members of the health team. We look to colleges and universities to provide graduate and undergraduate courses that will give men the basic training that will enable them to grow with their jobs.

This Association has a fine reputation for looking ahead. You don't take the narrow view. You know that the sanitarian is a key man in guarding the safety of the modern environment. At this meeting, as in your past meetings, I know you are going to be tackling knotty problems and paving the way for their solution. I wish you great success and, on top of that, "just a little bit of luck", because I think we are all going to need luck to survive in this space-age world.

Before I leave you, however, I want you to know that I have pledged myself to do everything I can to make sure that your Federal government does its part to back up your efforts.

Right now, for example, I am working on a problem that sanitarians and many other scientists have pointed out to me. They tell me that what we need is a national focus for this whole environmental health movement. Plans for that are now underway. We propose to establish a National Environmental Health Center which will do for the environmental health sciences what the National Institutes of Health has done for the medical sciences. This Center would be the headquarters for all the environmental health programs of the Public Health Service. It would also be a training facility where sanitarians and other scientists from all parts of the country could come for refresher courses or to learn about newly discovered techniques and procedures. It would carry out basic and applied research. It would award grants to hundreds of scientists in universities and other research installations to support their research projects. It would finance training programs in all parts of the country and provide technical assistance on control problems.

With this Center, I believe the whole movement to safeguard the environment would pick up momentum. People would wake up. Students would see that this is the field with the big future. Researchers would find ways to replace a lot of antiquated and costly ways of controlling environmental health hazards. And the public would begin to realize that they are living in a world of hidden perils which man must remove if he doesn't want them to remove him.

You know and I know that the time is late. Once radiation is let loose, you can't take it back. Once water sources are exhausted, you can't order the Lord to increase the rain supply. Once the chemicals in air enter our system, you can't remove them. If all the hormones, drugs, additives, and economic poisons we use to treat our food supplies are building up health problems, it will be too late to stop by the time we find out.

Prevention is the sanitarian's motto. If we all work together, we can make it everybody's motto.

I have stressed the hazards of the modern environment, including some rare and unusual examples that suggest future threats more than current dangers. Now let's look at the other side, the bright side. The modern environment has many features that promote positive health. In fact, if we had the same health standards our ancestors had, we might rest on our laurels right now.

The American Public Health Association has outlined four standards of health. Let's see how we measure up to them.

The lowest standard is mere survival. We have made good progress in reaching that level. Man is no longer a helpless creature at the mercy of the elements.

The next level is the prevention of disease and disability. Here too, our record is encouraging. We can drink from public water supplies anywhere in this country, for example, without risk of typhoid fever.

The third level is improvement of performance capacity. Again we can see that we've attained a level that would have satisfied ancient man. Our people are well nourished; they have vitality; they aren't just dragging around.

The fourth level is the preservation of comfort and the enjoyment of living. At this level also, we rate well. No longer must we devote our full time to finding enough food to fend off starvation and enough shelter to protect us from death by exposure. We have leisure and many ways to enjoy it. Our work environment is pleasant and comfortable.

Our very progress at each of these levels, however, has opened new opportunities for further achievements. At the survival level, we still have such problems as death from auto and other accidents. At the preventive level, the subtle relationships between modern pollutants and the development of chronic impairments remain a challenge. At the performance level, noise, speed and other tension-causing factors continue to undermine our ability to perform at top capacity.

And at the comfort and enjoyment level, many people as yet do not even recognize that this is a health standard. This high goal was first set forth in the charter of the World Health Organization. As it is accepted, many features of our environment can be improved whether or not it can be proved that they are harmful to physical health.

You see now why we attach so much importance to your profession. Not only do we depend on you to help screen out from the environment its present hazards; we also look to you to help us move forward toward a future environment that promotes buoyant health and zestful living.

It is a big job. But you have done big jobs before. You are ready to face these new challenges and you are going to win.

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