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"The greatest tyranny has the smallest beginnings. From precedents overlooked, from remonstrances despised, from grievances treated with ridicule, from powerless men oppressed with impunity, and overbearing men tolerated with complacence, springs the tyrannical usage which generations of wise and good men may hereafter perceive and lament and resist in vain.

"At present, common minds no more see a crushing tyranny in a trivial unfairness or a ludicrous indignity than the eye uninformed by reason can discern the oak in the acorn or the utter desolation of winter in the first autumnal fall.

"Hence the necessity of denouncing with unwearied and even troublesome perseverance a single act of oppression. Let it alone and it stands on record. The country has allowed it, and when it is at last provoked to a late indignation it finds itself gagged with the record of its own ill-compulsion."

This was not written yesterday, but 150 years ago in the London Times.

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This quotation appears in an article by Orvin Ben Cooper, Chief Justice, Court of Special Sessions of City of New York, in New York Law Journal, Feb 4, 1959, No. 141, No. 34."
WILLIAM L. BROWN, JR., Associate Curator of Insects  
Museum of Comparative Zoology  
Harvard University  
Cambridge, Mass.  

(Personal communication)

"What else we need is obvious. We need biologists,  
and not administrators or not squirt-gun people, in  
charge of our control programs. Just look at the  
government's own Reports on control of the gypsy moth;  
it seems obvious that no one in authority had a good,  
thoughtful, overall look at those data."
"In our fight against an implacable enemy, perhaps we will learn how to kill with a rapier instead of a bludgeon. Perhaps, too, we can develop rapiers that will do their job on insects but will not affect man and his domestic animals......

It is the men of vision who will win this battle. Too often in the past scientific thinking has had but a single objective among the many aspects of the insect war. Such slogans as "kill all the insects," ... "we must do something quick; never mind the future" and the like have all borne bitter fruit. THERE IS NO ONE ANSWER TO THE 'INSECT MENACE' any more than to the other problems of modern civilization. "Of nothing too much" was the Greek motto.

P. B. Dunbar

(Commissioner of Food and Drugs until retirement in 1951, after 44 years of Federal service.)
Excerpt from "The Growing Resistance of Insects to Insecticides" by Dr. C. J. Breijer, Director, Dutch Plant Protection Service, Wageningen, Holland.

We are going to have to do some very energetic research on other control measures, measures that will have to be biological, not chemical. Our aim should be to guide natural processes as cautiously as possible in the desired direction rather than to use brute force.

We need a more high-minded orientation and a deeper insight, which I miss in many researchers. Life is a miracle beyond our comprehension, and we should reverence it even where we have to struggle against it. It is a fact that the resort to weapons such as insecticides to control it is a proof of insufficient knowledge and an incapacity so to guide the processes of nature that brute force becomes unnecessary. Humbleness is in order; there is no excuse for scientific conceit here.

When we can find the proper methods, such as those described above whereby the golden eelworm was more or less successfully dealt with, it is irresponsible to use insecticides. We should resort to these only when no other solution can be found, and then only with all proper caution. Pressure on the pest population should always be as slight as possible. We are dealing here with fundamental laws of nature over which man too is powerless. All living things strive to maintain themselves against damage and oppression. The strongest and fittest are the ones that survive such struggles. Populations not constantly exposed to pressure are rendered weaker and often become extinct. Evolution and development are unthinkable without what we might call damage and misery. Thus also, the greatest danger to the human race is not its dilemmas, but rather its well-being. We must therefore fear that in a hundred thousand years human beings could become extinct, but certainly not insects.
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Paul Sears:

"Violence toward nature is no less an evil than violence toward fellow man."

"Modern society seems incalculably rich in minds, impoverished in ends."

"I am far less interested in guessing how thickly mankind can be amassed on this planet than I am in the optimum quality of existence for those who do."

"A far more profound threat (than depleting the environment) lies in our power to disrupt its orderly transformations of material and energy."

"As living beings we must come to terms with the environment about us...promoting rather than disrupting those great cycles of nature...that have made life itself possible."

(all quotations from The Steady State)
Excerpts from Ulliyett:

"At the root of the matter is the fundamental greed of mankind. We are not content to share any of our produce with the insects; we are not prepared to make any allowance for them within our environment.

"Our attitude is directly opposed to the events in nature... We blunder blindly along the same narrow path as our ancestors, looking neither to right nor to left, until we shall eventually reach the end beyond which no further progress is possible. By that time, we shall be facing a situation in which our insect competitors have the upper hand. (We can avoid the pitfalls only) "by working with natural forces rather than against them.

"Let us develop the habit of regarding ourselves dispassionately as biotic constituents of our environment and not as superior beings outside of it; and let us be content if we can assume the more natural role of successful competitors for the common food supply of the environment."
WHO ARE THE EXPERTS?

By Irston R. Barnes

Who are the experts? In an era when specialists are making decisions for the individual and the community, this is a question to which we need an answer.

Americans are continually treated to dictation by specialists who seek to assume the role of the expert. Too often these self-styled experts have the authority of a government bureaucracy and a big budget behind them. And too late, the public finds that the trust imposed in them has been grossly misplaced. The public dare not, if it values welfare, health, or indeed, life, defer to these pseudo-experts, these modern-day medicine-men, whatever their official titles.

How may we recognize those who are not true experts? They are typically specialists, rather narrow specialists, in a small area of a quite complex subject. They are interested specialists — with professional repute, job and perhaps personal profits — tied in with their specialty; whether in government or industry, they are "committed" men. They are ignorant of, and indifferent to, the complex of other values imperiled by the projects to which they are dedicated; the cause they serve is paramount in their planning and action. They are not intellectually dishonest, but they are often incapable of dealing with their programs with complete intellectual honesty.

Who are some of the self-appointed experts against whose dangerous councils and more dangerous actions we should be forewarned?

The chemical specialists with their deadly toxic insecticides appear to represent the broadest threat to the national welfare. The arrogant bureaucracy that drenched the Northeast with DDT in the gypsy-moth campaign of 1957 and is now giving the South a bath of death with dieldrin and heptachlor in the fire-ant campaign has probably never been matched for social irresponsibility. The direct deaths among workers handling the chlorinated hydrocarbons and the organic phosphorous compounds and the cumulative effects on every American’s health of ingesting DDT and other poisons with every meal seem to be of no more concern to them than the largely unexplored areas of the effects of their poisons on soil fertility, on the nutritional values of food plants and animals, and on nature’s balance of life. And ironically, as Dr. Breijer recounts elsewhere in this issue, their chemical warfare has, in net effect, only produced more dangerous strains of the very insect pests they sought to eliminate.
The true experts here are not the chemists specializing in poisons, not yet even the entomologists; the true expert must be the broadly trained biologist and ecologist who sees all forms of life, including a healthy human race, in balanced perspective.

Another dangerous specialist may be the atomic scientist who measures atomic fall-out and gives dubious assurance that dangerous levels of radiation have not been reached. He does not indicate what the total fall-out will be, how radioactive materials are entering into food and forage crops, what the differences are between the clean and the dirty bomb, or how a clean bomb may yield a high fall-out if exploded, as many in war-time would be, near the ground. The paramount expert here is not the atomic scientist at all, but the geneticist who gives unequivocal testimony (1) that any increase in exposure to radiation is cumulative and dangerous for the individual and the race, and (2) that the full effects on humans will become apparent only with the third and succeeding generations. In balancing the threats of peace and war, atomic testing may still be necessary, but there should be no false assurance that it does not imperil mankind.

What of other specialists with their claims to expertness?
Is the traffic specialist to be arbiter of our city development, taking parklands at will for superhighways, or is the expert one who understands that recreational opportunities and parks of all kinds are as essential to a liveable city as its highways?

Is the National Park Service official the qualified expert on the proper development and use of park lands? Or is any bureaucrat, responsive, according to Parkinson’s Law, to every opportunity to increase his budget and ready to use a quantitative (the number-of-people-using-the-facility) rather than a qualitative standard, forever disqualified from that more comprehensive and comprehending expertness which should guide the destinies of the National Park Service? The devastation of the C and O Canal Park by the George Washington Memorial Highway is a clear certification that the present National Park Service directorate cannot qualify as expert in this area.

Who are the experts on river development? Are they the Army Engineers dedicated to maintaining a career of dam-building for their corps, or the geologists, ecologists, and soil-and-water scientists who are prepared to manage a river and its watershed without flooding its agricultural lands, destroying its recreational values, or wasting public funds on dams that will soon fill with silt?

In the wildlife field, is the vermin-control specialist or the general wildlife biologist best qualified to determine whether, and by what measures, a wildlife population should be kept within bounds?

Let us be forever on guard to challenge the experts. Let us require them to show their competence in the full range of values involved in these complex problems of man and the natural world. Finally, let us require that our experts be disinterested and objective scientists, not bureaucrats or dedicated specialists.
A study group appointed by the WHO to investigate the toxic hazards of pesticides to man met in Geneva in June, 1956. The group took notice of the problem created by the evolution of resistant strains of insects.

In 1946, resistance had been reported in only one species of importance from the standpoint of public health, but in 1956, resistance had been reported in 34 species of this type.

A year and a half later in November, 1957, an Expert Committee on Insecticides met in Geneva to discuss the problems of insect resistance.

There had been so great an increase in resistance since the last meeting in 1956, in both the number and geographical distribution of insects of public health importance, that the Committee was concerned for the success of its programs for the control of insect-borne disease.

The Committee expressed the opinion that resistance is at present the most important single problem facing vector control programs.

It recognized that these programs had been entered into with little knowledge of the ecology of the vector species.

It explained this situation on the grounds that "the modern insecticides offered an immediate and apparently sufficient method for vector control or eradication."

Although DDT first gave satisfactory control, even though the biology of the species was not known, the Committee recognized that this situation no longer existed.

Control measures, they said, must be applied with considerably more precision and their selection must be based on a thorough knowledge of the biomics of the vector as well as the natural history of the disease of which control is sought.

"As a means of affording maximum benefit from chemical control, attention should be directed towards determining those factors in nature which are important in limiting the population of vector species."

It suggested that the WHO might compile and classify existing ecological data applicable to the control of disease vectors.