

THROWING DOWN THE GAGE^{1, 2}

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That the business of doing mosquito control has radically changed within the memory of many of you here assembled is such a truism that the only shock value it has is from hearing such a banality uttered on this platform today. However, this historical commonplace does have relevancy for what I intend to say, since parallel with the changes that have taken place in mosquito control operations have been changes in the business of administering mosquito control operations, changes I would like to see better reflected in the pages of MOSQUITO NEWS as our journal responds to the concerns of mosquito control today.

For better or worse, the mosquito control director, manager or superintendent is not what he once was. In years past the superintendent was a man who spent as much time as he could in the field close to the problems he had to solve. The office was there, but that was not where the action was; and if there is one thing the superintendents of the past were, it was active. A cursory glance at the early issues of MOSQUITO NEWS will reveal the extent of their field association.

Well, times have changed. The proportion of field time to office time has been reversed as the superintendent finds himself enmeshed in regulations so as to allow his personnel to do mosquito control. He reads legislative indices to see what bills have been introduced, he reads guidelines to understand the effects of laws that have already been enacted, he loses circulation in his ears from conferring on the telephone with his colleagues in formulating responses to these new

challenges, and he goes to so many meetings that he feels the word "meathead" needs respelling and redefining. He responds to groups that are less than anthropomorphic in their orientation and learns, much to his surprise, that he is not an environmentalist after all since people now seem the least important factor in the environmental equation. He must become a master of the impedimenta that are part of the business of doing business, business for which he has a mandate, business which he would be more than remiss if he failed to do.

There has arisen, as a result of these evolutionary changes, a new constituency in the world of mosquito control. Where once there were mosquito control workers—the operational constituency of which the superintendent was very much a part—and the mosquito researchers—the scientific/academic constituency—there is now a mosquito managerial constituency whose interests and concerns are of necessity different. The mosquito manager must still be aware of the latest research as it may affect operational procedures and he must also be alert to the latest technical innovations that can make his operation more effective or more efficient. But, however important these findings are, they may only help him slightly when the time comes to deal with conceptual problems that do not fit the procrustean format of the research paper. The issue he is concerned with may not even have a solution; it may be a consensus, subject to change as various social, intellectual, environmental or political pressures affect the thinking of a particular time or place.

"Well," you say, "all of this is obvious, but what does it have to do with anything?" My answer to this is a challenge—at least I hope it is a challenge. In line with the changes that have taken place in the man-

¹ Gage: a token of defiance, specifically a glove or cap cast on the ground to be taken up by an opponent as a pledge of combat.

² Invitational paper, Chicago meeting, April, 1978.

agerial area of operational mosquito control, I would like to see a corresponding change in MOSQUITO NEWS so that it serves as a forum for the exploration of conceptual or controversial issues that are of importance to the management and carrying out of mosquito control activities today.

I have been told that MOSQUITO NEWS does this and that my criticisms are unfounded or too harsh. I would not dispute the justice of the second charge (it is the nature of the beast), but until the current issue with the late Maurice Provost's vigorous article on saltmarsh management practices, I would have said that there was not enough discussion that was contentious and that the majority of articles dealing with conceptual issues could have been hurled into the void for all the response they have engendered. I have seen no answer to Richard Peters' stimulating "Which Way AMCA?," and surely there must be one or two who disagree with his ideas. Similarly, A. S. West's challenging paper, "AMCA—Foxes or Hedgehogs?," has evoked no noticeable response so that if someone were to ask were we hedgehogging it or still foxing around, I could not give a good answer.

Messers Peters and West raised important questions for the AMCA as an association and by extension for mosquito control as well. There are other questions that are abroad today in our mosquito world, and these are issues of some significance for today's mosquito managerial constituency. MOSQUITO NEWS should be reflecting and responding to these concerns as this new and vocal—at least I hope it will be vocal—group discusses and debates strategies to respond to current managerial needs.

Today our paramount concern is regulation and our position *vis-a-vis* the regulatory agencies that inhibit our work or in some instances cut it off altogether. Perhaps legal studies are in order to investigate this confrontation of legislative mandates. I might also suggest that serious studies are called for because of ques-

tions raised by the misanthropic attitudes of regulatory agencies. The importance of water management to our work and its relation to the regulatory agencies make it imperative that Dr. Provost's paper should be first of a series that explores this area thoroughly, not only for saltmarsh but also for upland freshwater areas.

DeBoord and Axtell raised questions about the costs of coastal mosquito control, and there have been scattered answers to their evaluation, Dr. Provost's being the latest. There should be more studies dealing with cost-benefit ratios in mosquito control. And, while on the subject of costs, we might well study Gil Challet's fine work in the Directory; this is a mine of information awaiting exploitation.

Wagner and Magee's paper on mosquito control benefits to New Orleans presented at last year's meeting is the very model of what a manager should have in the way of supportive historical, socioeconomic information if he wishes to upgrade or expand his program to match the needs or growth of his district. The historical element of his paper raises another question: how many of today's mosquito workers are aware of the work of their predecessors and what they achieved in far different circumstances? Are they aware of old strategies that may be applicable to new times?

Since I am not so parochial as to presume that all critics of mosquito control reside in New Jersey and since there may be people who view your work on their behalf with less than pleasure, I wonder how you respond to them. Can you cite chapter and verse on the benefits of mosquito control activities as they relate to the citizens for whom you work? Districts generally do such a good job of mosquito control that their work is no longer obvious, and providing relevant information is made all the more difficult by the good work that has been done. John Q. Public would probably not relate well to a chromosomal map or the fact that the genitalia of some exotic species

rotate 178° instead of 180°. Now, while such information is important in its own right and while such basic, though for some of us rather esoteric, research should be a part of MOSQUITO NEWS, I would like to see more information that relates to what is happening in the trenches.

Another area that could be explored in the pages of MOSQUITO NEWS is the varying philosophies (by which I mean a system of thought that governs a course of action) that guide mosquito control agencies throughout the nation. These vary as mosquito control agencies respond to different external pressures and needs and they may also differ because of particular internal pressures and biases. What are these philosophies and how well can they stand up in the marketplace of ideas?

The first question that could be asked is what is the rationale for mosquito control and the corollary question of how much control is enough. Our efforts are based primarily on a concern for the overall quality of life of which health is one part, for if we were responding only to health criteria, a figure, say, of 20 mosquitoes per trap night might not be an acceptable level of control. Thus, in the face of increasing demands for citizen tax dollars, mosquito control administrators must be well informed and able to inform well on the benefits their work brings. I am sure that directors in Florida, for instance, carefully remind those who need reminding that economic improvements are to some degree attributable to the efforts of mosquito control that have made that state a better place to live, work and relax in. Wagner and Magee similarly state the case for mosquito control in New Orleans, and Arlowe Hulett has given us a lively picture of mosquito control benefits in Wyoming.

It is noteworthy that such mosquito control benefits were not achieved overnight, and I think it is important to bear in mind when talking about health and mosquitoes that public health activities are often dramatic, large-scale responses to

isolated series of events. If there are people sick or dying in numbers, things happen that could not occur otherwise. It is the difference between control and extermination.

Since we have a rationale for mosquito control, we should have a methodology. Again, an utterly banal statement, but in these well regulated times the question of methodology is hardly banal. The fundamental tenet of mosquito control has always been source reduction; after all, mosquito control efforts started well before we had such an arsenal of chemicals for control purposes. However, some agencies have sold off their water management equipment and have turned totally to insecticides despite the hazards of cost and resistance because there are just too many impediments to doing water management.

The question of methodology is critical, and the AMCA has expended much time in studying the effects of regulatory agencies on our work. Control procedures to respond to these strictures or, better yet, strategies to counteract them should be presented in MOSQUITO NEWS so that the whole mosquito control community can benefit from the best thinking our Association has to offer.

Having looked at how to do it, we might look at how much it costs to do it, and here the Directory provides some interesting information. When, dividing operating budgets by district populations, you find costs that range from .3 of a cent to \$116.90 per person, you have to ask what are the reasons for such a wide range. The average cost per person is \$3.17 and the median figure in the \$1.01 to \$1.25 range. To be sure, these are raw figures with no explanatory information, but such figures should make us ask what priorities agencies are responding to and what values districts place on mosquito control activities.

Related to costs and benefits is the question of what could be called the spin-off values of mosquito control. Usually the law is precise in defining our operation, but our water management work,

when we can do it, and our insecticiding activities can have very real benefits for wildlife interests, improved real estate values, tourism, improved working and living conditions or increased agricultural productivity. How are these issues to be weighed or used in preparing mosquito control strategies or in determining priorities? Surely, here is an area that could profitably be explored in the pages of MOSQUITO NEWS.

As noted above, the relation of operational to regulatory agencies is a problem of major magnitude. All too often regulatory agencies are staffed by personnel who are (we hope) well intentioned but (we fear) not too well informed about the history of, the nature of and the need for our work. They may not understand our practices and principles; their training may be, and often is, in a discipline that has different values from ours; their exposure to the field under mosquito conditions may be fragmentary at best; and, with all these qualifications, they tell us how to do our job. How do we respond to them? Better yet, how do we get them to respond to us in an informed manner? The core of the problem is, as usual, communications, and the person who solved this riddle in the pages of MOSQUITO NEWS could receive the Association's highest awards and still not be well enough rewarded.

What I am asking for, then, is a sense of engagement and occasionally a sense of outrage, a feeling of commitment to issues that have a vital bearing on our work in mosquito control. I should like to see the significant discussions move from the halls and hospitality suites to the podium and to the pages of MOSQUITO NEWS where all can profit from them. Above all, what I am asking for is a willingness to communicate, a willingness to speak out when circumstances demand it.

There is no question, even among those who wished to change its name, that MOSQUITO NEWS as a journal responds well to the needs of the research community; and more recently, thanks to the fine work of the Operational Articles

Committee, it has been printing more material in this area. Now, I would not want it said that I feel MOSQUITO NEWS never has any conceptual material in it or never has any material that is of value to today's mosquito managerial constituency; however, like *Oliver Twist* in the orphanage, I say, "More, sir."

MOSQUITO NEWS is indeed the Journal of the AMCA, the whole AMCA, and those of us who are involved in the business of doing mosquito control should be speaking up on the issues that are of importance for us. Thus, I would put it to you that MOSQUITO NEWS is the proper, is the only vehicle for such conceptual deliberations; such historical, socio-economic studies; and such counter-legislative strategies as will make for stronger, more effective mosquito control throughout the country. I would further put it to you, managers, directors and superintendents, that no one will do it for us.

Who will rise to say, "Hell no, we won't go to WHO, not even to PAHO!"? Who will rise to speak for the foxes? Who for the hedgehogs? Who will rise to redress regulatory restrictions? Who, indeed?

Gentlepeople, I throw down the gage.

Who will pick it up?

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