

WHITHER THIS HOUSE—OR WITHER?*

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Dr. William Reeves' introduction, a searing yet loving statement, moves me to propose him as this Society's official roastmaster! It also serves as counterpoint to my remarks today which represent a theme chosen with difficulty, a melody not yet perfected. In fact, I seem to recall while attempting to discuss hemorrhagic fevers with one of his graduate classes that Dr. Reeves advised, "Don't just talk—say something." I intend to try.

Faced with the need to say something, I decided that I must choose among three principal interests: zoonotic virology, the ethos of tropical medicine, or this Society itself. Like all but one of my predecessors, Dr. Martin Young, who was *numero uno* and therefore immune to historical influence, I examined the record.¹ A frequency chart by theme is shown in Table 1. Note that science has been the first choice, and that virologists have been slightly, but not significantly, more likely than parasitologists to discuss philosophy. According to titles, two presidents, Dr. W. A. Sodeman (1953) whose son is currently a member of Council, and Dr. L. E. Rozeboom (1974) who is here today, took our Society as their subject.^{2,3} A reading of their excellent statements, however, reveals that both addressed aspects of broad and worthy societal goals, subjects more properly classified as philosophy of science and medicine. Thus no president has really talked about us. Those of you who know me well may gather and fear that I cannot resist such a temptation. You are right. I submit that the time is also right, and I wish to emphasize that of my three interests during the past 22 years: virological science, medicine in the tropics, and this organization, I care, the most by far, about the Society.

About 33 years ago our Society was formed by amalgamation (or in contemporary parlance,

fusion) of the National Malaria Society (NMS) and the American Society of Tropical Medicine (ASTM). As with the current scientific position of malaria itself, the NMS formally incorporated its genes into the larger plasmid, ASTM. The stimulus for this seminal event seems to have been the fact that NMS had largely discharged its major mission which originated in a predecessor National Malaria Committee in 1916; namely to eradicate malaria from the continental United States. Dr. E. H. Hinman in his 1949 presidential address to the NMS suggested three options:

- 1) Broaden the base of the Society to include other arthropod-borne diseases.
- 2) Fuse (his term) with ASTM; 40% of NMS members also belonged to ASTM.
- 3) Disband NMS because its primary objectives had been achieved. Dr. Hinman did not reveal his preference, but I suspect that he was pleased at the eventual decision.⁴ We are here today because of that choice.

This house

This Society was created to promote health by fostering scientific inquiry in the field of tropical medicine. Whatever the interest of its founders, hygiene, except as an applied scientific component of its activity has not been an integral element. Our Constitution is relatively simple (no bad thing). It provides for a president elected annually, and a council of eight, two persons elected each year for a four-year term. Council in turn elects a Secretary-Treasurer, *Journal* Editor, *News* Editor, and latterly a Scientific Program Chairperson each for a term of three years. All officers are volunteers. The principal functions of the Society are, and always have been, to publish the *American Journal of Tropical Medicine and Hygiene*, and the *Tropical Medicine and Hygiene News*, and to hold an annual scientific meeting. These things the Society has unfailingly done for 33 years. But I submit that we have done very little more, and that the time

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TABLE 1
ASTM and H presidential addresses by topic: 1951–1983

Speaker	Theme		
	Science	Philosophy	Society
Non-virologist	14	9	2
Virologist	4	4	0

has come when we *must* do more or face the real prospect within a decade of doing very much less.

Much has happened since 1951 which affects our Society. The population of the largely tropical Third World has nearly quadrupled! Ecological perturbation occasioned by this explosion of humanity in a sometimes failing effort to feed itself is simply not possible to quantify. Wars fought at the geographic periphery of influence spheres have lent credence to a central tenet of the British historian Arnold Toynbee—that empires reach their apogee and are checked by those in opposition at the edge who simply have not received the word. The impact of Vietnam on our culture is undoubtedly self-evident to us all.

In the past three decades some other things took off, and others went inexorably to pot. I am indebted to Dr. N. S. Galbraith of the Center for Disease Surveillance and Control, United Kingdom, for the following examples:

- 1) Sexually transmitted diseases (Fig. 1).
- 2) International air travel was an explosion even greater than that of Third World population, as illustrated in Figures 2 and 3 which show passenger traffic through London airports from 1929 through 1981, and between British airports and Commonwealth West African countries, 1968 to 1982. In Figure 2, it can be seen that “take off” occurred with the introduction of the jet airplane, principally the Boeing 707, in 1963. The opportunities for carriage of certain tropical diseases throughout the world were increased by orders of magnitude. Have we made effective use of such data as a Society? Figure 3 shows beyond much doubt why the United Kingdom has had by far the greatest problem of any temperate nation with importation of suspected and actual cases of Lassa fever. No other control airport even gets on this scale.
- 3) In contrast to airline tickets, the value of the dollar (and all other currencies) has steadily

declined during the past 30-odd years. Figure 4 tells that story. My reason for this illustration will become evident in due course.

- 4) The American Society of Microbiology (ASM) had 3,900 members, a single journal, and an estimated net worth of \$40,000 in 1952 (Fig. 5). Today, according to Michael Goldberg, Executive Secretary, ASM has about 31,000 members, publishes nine journals and has a net worth of approximately five million dollars. That organization had problems of size in the 1970s. Indeed it has recently endured the defection and establishment of an independent American Society of Virology—which is still delighted to have ASM publish its journal and run interference in terms of public information. But it has fostered annual meetings of divisions and sections such as the International Conference of Antimicrobials and Chemotherapy (ICAAC), and has undoubted clout in the national scientific community.
- 5) The Infectious Diseases Society of America is another growth stock. Reorganized from the ashes of a tired journal in 1962, it began with 200 members and no treasury. Figure 6 shows what has happened. Membership growth was a factor, and the establishment of a formal medical sub-specialty complete with board certification was a guarantee of growth. But the balance sheet which that organization enjoys today is largely the result of vigorous promotion of the *Journal of Infectious Diseases*; superbly managed and transfused by fees from a steady stream of supplements.
- 6) What about our Society since 1951? Figure 7 depicts membership and estimated net worth, by five-year intervals (These data were largely provided by Dr. John Scanlon, Secretary-Treasurer and Dr. Linda Brink, Archivist.). It may be seen that by far the largest percentage increase in fiscal status occurred during the initial five years of our history, that our major growth period in membership, 1962–1972, took place in rough correspondence to the Vietnam conflict and that the past 14 years have seen only a 22% increase in numbers. Data regarding non-member *Journal* subscriptions are not readily available prior to 1969, but they are critical because subscriptions represent the single largest source of income for the Society (an estimated \$97,000 in 1984). In 1969, 1,344 subscriptions at \$18 yielded \$24,000; by 1977 the

numbers were 1,664 at \$30 or \$50,000. Our 1984 receipts were based on a \$60 charge with 1,620 subscribers (I thank Ms. Christine Niemoller, Allen Press, Lawrence, Kansas, for data regarding *Journal* subscriptions.). We have matched inflation during the past 15 years but have attracted no net increase in subscribers in the past decade. Furthermore, if one takes our net worth of \$26,000 in 1957 as benchmark and applies the devaluation index illustrated previously, it is clear that in financial terms we are no better off today than we were then.

- 7) What of tropical medicine as a scientific discipline in this country during the past 30 years? The record of achievement is heavily, but each month less exclusively, contained in the pages of our *Journal*, more than 25,000 of them. I shall not attempt to recount the highlights. They are known to us all. In contrast is the fact that the fiscal footprints of this journey are more fleeting than those of Bedouin caravans of the Sahara. Consider: a) That a soon to be published study by the Office of Technical Assessment of Congress reports data only for the years 1981–1983, with a global estimate of total United States government support of about \$95 million available only for 1981. This compares to a 1979 budget for cancer research of nearly one billion dollars. b) That a survey of parasitological investment by United States government foundations and international pharmaceutical corporations undertaken by Society Councillor, Dr. Joseph Cook, arrived at the figure of \$49 million for 1979, and a lament that prior data for comparison simply were not to be found.⁵ c) That our president-elect, Paul Weinstein, was able to trace National Institute of Allergy and Infectious Disease (NIAID) funding of parasitological research and training for only 8 years, 1963–1970, and found that it had increased just 13% in contrast to about 50% for all of NIH. Dr. Weinstein stated in his presidential address to the American Society of Parasitology in 1973 regarding the fiscal record, "I am certain that even the government itself does not know."⁶ d) That figures recently assembled by dint of truly hard labor by Dr. Karl Western and his staff at NIAID disclosed trends of flatness or decline for two sensitive parameters: International Research Centers (Fig. 8) and the Intramural NIAID Labora-

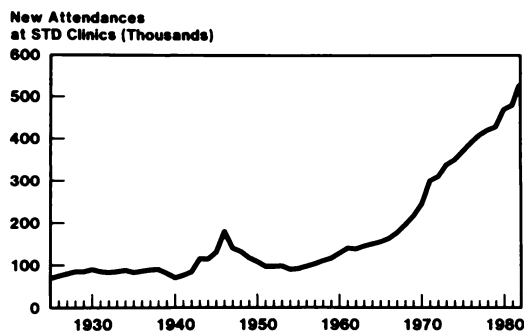


FIGURE 1. Sexually transmitted diseases in the United Kingdom, 1925–1980, based on recorded visits to specialty clinics.

tory of Parasitic Diseases (Fig. 9). Note the pattern: when there are cutbacks, the field and training are *always* sacrificed to preserve the institutional core. e) That Dr. John Pino, Vice President, Rockefeller Foundation, listening to the presentation of information at a Josiah Macy, Jr. Foundation symposium in New York in 1981, was moved to comment in regard to trends in funding for parasitological research: "It is virtually impossible to find total government expenditures for any particular subject . . . There is a definite need here because funding for some areas is falling into cracks."⁷

We may dimly perceive where we are; but it appears that we have little idea where we have been, compared to the airplanes at Heathrow, the population of Nigeria, or the Infectious Diseases Society.

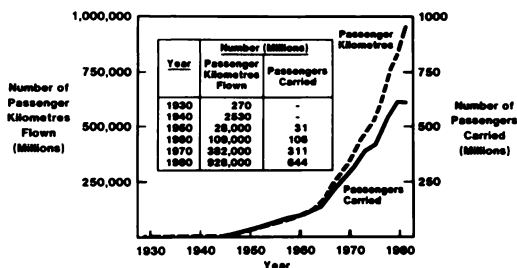


FIGURE 2. Airline passengers and passenger kilometers flown, London airports, 1929–1980. Note the dramatic rate increase in both parameters beginning 1965 shortly after commercial introduction of the Boeing 707 jet aircraft.

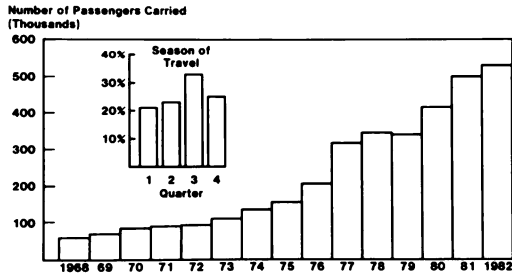


FIGURE 3. Airline passenger travel between London airports and Commonwealth West Africa, 1968–1982. The 8-fold increase in traffic during this interval was accompanied by increased occurrence of malaria and Lassa fever among travelers entering the United Kingdom.

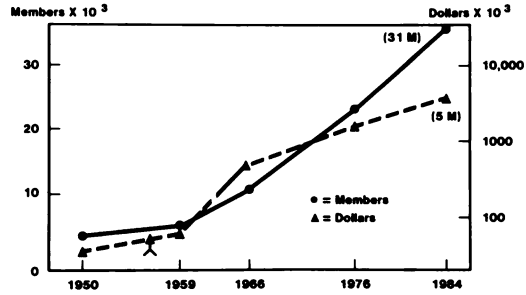


FIGURE 5. Members (●) and estimated net worth (▲), American Society for Microbiology, 1950–1984. The major financial growth spurt beginning 1959 occurred shortly after the advent of professional Society management.

Whithering depths: The problems

Has this Society peaked? Is it destined for a slow decline into musty and genteel obscurity? Perhaps, if we do not tend our garden. I offer the following indictment in all humility, and challenge you all to support, modify, or refute it at the business meeting, and I *mean* business, which follows immediately.

1. The annual meetings of this Society are scientifically far too narrow in scope. I personally believe that this Society should be devoted to improved health in the tropics through science *and* its application. Indeed, many medical scientists in this country have decided that “tropical medicine” is a pejorative term. They have chosen geographic medicine as their banner. The creation of the Office of Scientific Program

Chairperson, the single positive action that I can take some credit for as Chairperson of a Constitution and By-laws Committee more than 10 years ago, has been useful, but not sufficient. We find ourselves today ever more reliant on non-member tropical or geographic scientists to have a successful scientific program.

Disciplines of high relevance to tropical medicine still are not represented within our ranks. Who can argue that diarrheal disease, rickettsiology, leprosy and health care delivery are not important in the tropics? What have we done to bring scientists in these areas into our ranks? The program of this meeting at least bears witness to the reality of such concern and Drs. Carter Diggs, Diane Taylor, and Walter Brandt, our membership committee, are to be congratulated and supported by us all. But I remember a symposium at the Boston meeting in 1971 concerning economics and the role of organizations including

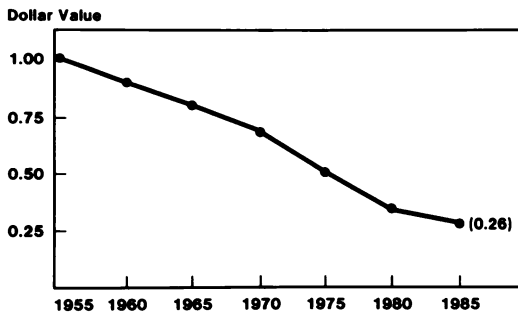


FIGURE 4. Decline in value of the U.S. dollar, 1955–1985. Data are from U.S. Commerce Department and leave no doubt that yesterday’s dollar is today’s quarter.

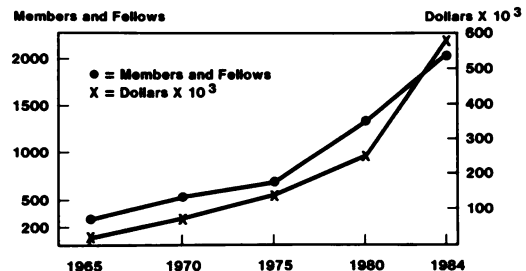


FIGURE 6. Membership (●) and estimated net worth (×), Infectious Diseases Society of America, 1965–1984. Currently volunteer operated, this organization is considering professional management.

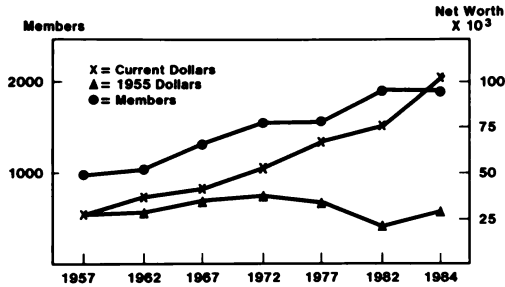


FIGURE 7. Membership (●) and estimated net worth in current (x) and 1955 (▲) dollars, American Society of Tropical Medicine and Hygiene, 1957–1984. Membership increased slowly during this period, but real net worth was virtually unchanged.

the World Bank in international health. It was provocative. A follow-on the next year was deemed unimportant to the managers of the annual program. So an initiative died, but not the issue. Dr. Lee Howard, in a recent address to the 11th International Congress of Tropical Medicine and Malariology in Calgary reported that developing countries spent (1980–1981) less than 1% of gross national product on health services, that four times this amount was spent from private resources and that external help from all directions totaled 15% of all expenditures. Was it well targeted? Was science involved? To what degree? Surely if we are to be responsible, as Dr. Philip Russell suggested last year, we must become involved in such problems.⁸

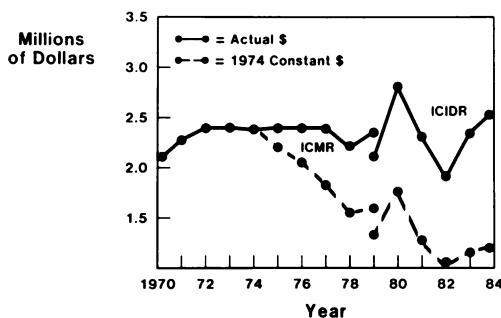


FIGURE 8. Actual (●—●) and 1974 constant (●---●) dollar funding for International Centers for Medical Research (ICMR) and International Centers for Infectious Disease Research (ICIDR), National Institute of Allergy and Infectious Diseases, 1970–1984. True support for these tropical disease field research and training programs in 1984 was less than half of that a decade earlier.

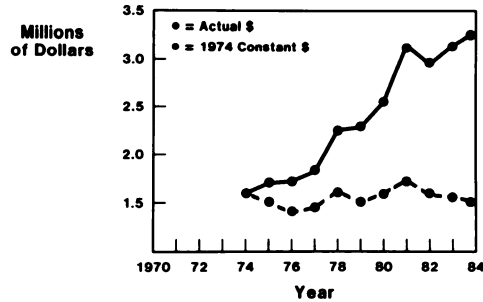


FIGURE 9. Actual (●—●) and 1974 constant (●---●) dollar support for intramural research in parasitic diseases, National Institute of Allergy and Infectious Diseases (NIAID), 1974–1984. In contrast to international field programs, true funding for this endeavor was maintained, if not increased, during the past decade.

2. Our journal does not reflect the burgeoning new science in tropical medicine. The eruption of radical and powerful new technology has largely caught us unprepared. The most cogent evidence for this claim is the birth of new journals in the past 15 years which now compete directly for world attention. Chief among these are the *Journal(s) of Molecular and Biochemical Parasitology*, *Parasite Immunology* and *Medical Virology*. Many of the persons publishing in these journals are not members of the Society; they are disciplinary workers who have seized on *our* microbes for their own nefarious and scientifically profitable purposes. Others *are* members of our Society, which is even more telling. It appears that some of our best scientists publish their work in journals other than our own. Why?

3. The Society has no effective political voice. It has no continuity of expression, only a single council meeting per year, and no reliable entrée into the national political process. It must rely on studies commissioned outside its own resources, and upon ad hoc support generated by a few well-placed members, usually at times of crisis when something important to us is threatened. We have a patchwork defense, but virtually no offense at all.

4. The Society is not, in fact, financially sound. The loss of 15% of its members and 10% of its non-member *Journal* subscriptions would place it in the red immediately. Dues increases may well be needed within the next three years just to remain in the present situation.

Whithering heights: The opportunities

I submit that they have never been greater. If so far I have outlined the worst of times, let me hasten to assert that these are also the best of times. By way of illustration, former president Richard Nixon in an interview published by the *New York Times* on 14 November 1984 told a reporter that the Reagan administration should place all its energy in just a very limited number of efforts during the next four years. High on Nixon's list was a serious development plan for the Third World; an expanded and improved version of the so-called Caribbean Basin Initiative. This stunning statement can only be interpreted to mean that there is growing political awareness of the fact that the status of the majority of humanity is of vital concern to us all.

Another voice is that of Senator John Danforth of Missouri. Writing this summer in the *Washington Post* about famine in Ethiopia he asked rhetorically, "Why bother about Africa?" Then answered, "The answer . . . has to do with who we are and how we perceive ourselves as a country. America is more than a place to hang your hat. It represents a value system most of us believe in very strongly. That value system has to do with the worth of human beings, whoever they are, wherever they are. We believe that lives are worth saving But it is not enough to profess this belief. We must act on it."

Are we truly ready to participate in such endeavors?

We must also regard current events at the Agency for International Development (AID) with at least guarded optimism. After several decades of attempting to solve all major problems of less developed nations in concert, AID has begun to provide modest support for scientific research in, and often by workers of, these countries and to take an interest in categorical, or specific disease problems.

Finally we are on the threshold of access to, and deployment of, a more powerful set of technological tools with which to attack many of the major tropical diseases. Recombinant genetics and cell fusion promise to provide better methods for detection and prevention of protozoal and viral diseases. Understanding of the role of cellular immunology in pathogenesis grows, and the causes and some of the remedies for acute diarrheal disease are found. A vaccine for leprosy may be just around a long gentle corner.

But it is up to us to remold the patterns of activity in our field. It seems that nobody, not academic institutions, governmental agencies, or this nation really knows what is going on in tropical medicine; and this is particularly so in the context of what has transpired in the past. We must, to find our voice, participate in some of the really tough issues, and we must become scorekeepers.

Whither then, this house?

It is time we asked ourselves some fundamental questions. To paraphrase a topical slogan, are we better off today than we were 30 years ago? Is our scientific and political world at all as it was in 1952? Is our relative role in today's world at all similar to that of our predecessors? Are the contemporary and projected purposes of this Society fulfilled by our present organization and financial position? Above all are we able to reaffirm our basic purpose?

I suspect that the answers to these questions are dichotomous. Our Society was founded because one of its parents had succeeded and confronted the question of whether to disband or attempt larger goals. We find ourselves in a very changed world and sense that we have major contributions to make but very limited means; and if we are wise we have reason for concern that voices more sophisticated but much more narrow will soon usurp our turf. If one accepts these premises, and I must emphasize that this is a matter for serious individual conscience, then the following ideas for action are offered:

1. *Recruit new subsets of tropical medical science into the Society.* I believe this is a superior approach to that of the random search for new members because it will be more successful and more beneficial for the scientific health of our House. But we must not only extend an invitation to such groups. We must provide organized access to our scientific program including representation on the Program Committee. Personally, I should like to see this Society become a kind of federal umbrella for a collection of disciplinary and disease groups, each of which functions somewhat along the lines of the American Committee on Arthropod-borne Viruses (ACAV). In the past year I have been surprised to learn how many Society members are unaware of how the ACAV works. It is a truly non-profit body incorporated nowhere, with a treasury in

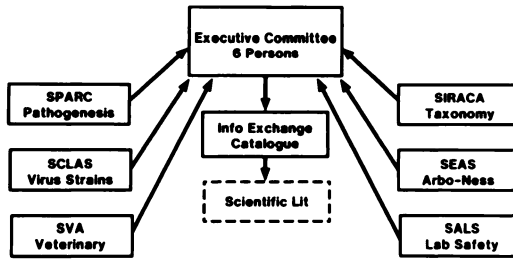


FIGURE 10. Organizational structure of a society within the American Society of Tropical Medicine and Hygiene, the American Committee on Arthropod-borne Viruses (ACAV). The basic structure is detailed in the text. Subcommittees are named as follows: Immunological Relationships Among Catalogued Arboviruses (SIRACA); Evaluation of Arbovirus Status (SEAS); Arbovirus Laboratory Safety (SALS); Pathogenesis of Arboviral and Related Conditions (SPARC); Collection of Low-passage Arbovirus Strains (SCLAS); and Veterinary Arbovirology (SVA).

Berkeley, which I am told is the same thing! It holds a business and scientific session during our annual meeting, has an Executive Committee of six, elected for four-year terms, was endowed more than 20 years ago with \$10,000 from the Rockefeller Foundation, and still has more than \$3,000 of that nest egg. Figure 10 illustrates its several committee activities, most of which find their way into print, either through the *Information Exchange* circulated internationally twice a year, or at greater intervals through its *Catalogue of Arthropod-borne Viruses*, wherein one may find what is needed, even more than one wishes to know, concerning viruses such as Main Drain, Chikungunya, or Bijou Bridge. The record, however, is that of continuous information disseminated over a long time at low cost. Imagine what similar information for malaria, schistosomiasis and other diseases would eventually be worth, both scientifically and when governmental agencies come calling—or we wish to call on them.

The scientific subsets which I propose as prime candidates for friendly leveraged takeover are listed in Table 2. You have heard and will hear more from the diarrheal diseases group at this meeting. If you should get even a faint whiff of a diarrheal person, introduce yourself, smile, ask them back, promise them nearly anything. There is much we can both gain. Rickettsiology represents another growth stock. For the first time

TABLE 2
Scientific groups outside the fold—ASTM and H

Candidate	Appraisal
Diarrheal diseases	Should join
Rickettsial diseases	Should join
Leprosy	Needs courtship
Health care	Amorphous—challenge

in many years we have a well-organized scientific session in this field, the product of interaction between interested scientists and our membership committee. Let's not let them get away. Leprosy is a challenge for the immediate future. The symposium held last year in San Antonio was scientifically exciting. Where's the follow-up? Finally, I believe it is time we faced up to the significance of "primary health care." As pejorative as these words may be to some, I submit that there can be and is some good science in such endeavor and that much public funding is and will be devoted to it. And this field, above all, speaks to what I hold to be the ultimate purpose of our Society. We should endeavor to found and nourish within our ranks an ACPHC, American Committee for Primary Health Care. It's no good just to have a malaria vaccine; when, where and how to use it soon become highly relevant questions: answers to which, just as those illustrated so well for us last year by Sir Ian McGregor in the case of malaria in pregnancy, must largely come from the users rather than the providers.⁹

2. *Restructure our journal* to more clearly identify the categorical and disciplinary sets of information it already contains and to attract contributions of high merit into many of these areas. Actively solicit definitive review articles by internationally recognized scientists and aggressively seek to publish subvented symposia. The goals are to elevate still further the leading status that our journal has long held in tropical medicine and to increase Society revenues through increased non-member subscriptions. I am happy to report that our Editor, Dr. W. D. Tigertt, will speak positively to some of these issues at the business meeting.

3. *Achieve professional management* of the daily affairs of our Society; daily, not annual. By now it should be clear that if we are to vigorously pursue the first two goals we shall be larger, stronger, more complex. We are at the breaking point as a volunteer Society. Just ask our Sec-

retary-Treasurer. Other Societies of comparable size have opted for professional help; notably the Infectious Diseases Society of America which can easily afford it, and the British Society for Immunology, which depending on its politics, possibly cannot. I believe we need: 1) a Society office with a paid executive director; 2) an editorial redaction staff for the *Journal*; 3) professional meeting management (not scientific); and 4) some dedicated effort at liaison with public agencies. I also believe that we should adopt one of two courses for overall direction of our administrative affairs. Either let us make our paid executive director truly responsible for operations and the leadership in Council deliberations, or, perhaps better, let us elect a president for at least a two-year term to steer the ship. In the latter event there would be fewer presidential addresses; but the calendar is already crowded and we have ample opportunity to recognize the scientifically most competent in our ranks. In either case it is continuity of management which is now necessary and which we lack. Do we wish to remain amateur, become professional, or form a hybrid?

OK but how?

Those few of you who have followed the argument thus far must be thinking exactly that. From the financial data provided and the goals enunciated, you must feel like the rural peoples of the Third World which so many of you know: I can't produce and increase my family standard of life without new resources; I can't get new resources without producing more. In short, "Catch 22." This situation is precisely why I chose this topic. I believe it is both crucial to our future success and excruciating to our present sensibilities.

But there are possibilities for resolution of the dilemma. The first is to decide on our minimum goals, then translate these into economic need and go after the funds ourselves. I estimate that the Society office would cost at least \$100,000 annually to operate. We can raise dues, we can increase meeting registration fees, we can recruit new members, we can perhaps even approach government for a contract to provide data regarding national funding for tropical medicine and other information services. Slowly we may

reap more money from the *Journal*. But we need a target, a plan, and a strategy.

A second option is that of our societal parents, to seek a marriage with an organization which already has sound administrative machinery which could meet our needs. The issues, assuming that we have completed the inventory of Societal goals, would be more emotional; who giveth this bride, does she have to change her name, can she still have her own parties? We might be surprised at terms offered by suitors.

Or wither?

In closing I solicit your most careful and serious thought. You have honored me as your president for 1984. I sincerely hope that you have seen that honor is not enough; that I am proud to be a member of this House, vulnerable as a person, and convinced that we have an even better future if we are both tough and caring. I know not whether this house; I ask only that *you* not allow it to wither. There is, in fact, no good reason for that to happen. Our total assets far outnumber our liabilities. Let us reexamine them and take action.

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