

A Society Without an Obvious Future: Can Elitism Help?

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Addressing an alert group of scientists is a privilege, even if the topic of discussion will only be about science rather than investigation per se. Although I was eager to pursue this challenge, I wondered if any topic that was not centered on stimulating clinical investigation, cell biology, receptors, molecular biology, or recombinant DNA would be met with indifference by a group such as ours. My answer was no, it would not. Our interests are catholic and varied. Still, we consistently ask others to protect us. Although we pride ourselves on application of philosophical logic to develop new knowledge, we rarely use it to defend any but the most direct or the most obtuse threats to the provision of the wherewithal to perform science. When a few of us reach out beyond the laboratory to apply the scientific method to literary, sociologic, or ecologic concerns, we frequently scorn the postulates or dismiss the efforts and premises of such outliers.

Much as we might want to isolate ourselves from the real world, it continually intrudes upon our precious privacy. The plight of the medical scientist at Stanford University working without an academically oriented administration was recently depicted in *Science* (1). The research enterprise is now being described by some as an obviously "bankrupt organization." We are all aware that the number and

proportion of physician-investigators among all "first time" principal investigators directing National Institutes of Health research grants has fallen from 43.9% in 1966 to 23.3% in 1975; that the number of physicians reporting research as a primary activity has decreased from 15,441 in 1968 to 7,944 in 1975; that the number of M.D.'s in research training programs has fallen from 4,600 in 1971 to 1,800 in 1977; and that of 28,000 faculty now in clinical departments, only 52% have had research training. We are equally aware that the proportion of medical students whose interest will focus on research is dwindling. For instance, 49% of students at Harvard University were interested in a research career in 1963; 13 years later only 2% were seriously considering academic careers (2). Our future is threatened; can we divert it from its present course?

Last year Dr. Wilson discussed one element of the effectiveness of The American Society for Clinical Investigation (ASCI), the enviable performance of its journal. Today allow me to ask you to consider what you as members and nonmembers, as scientists and administrators, think about the state and purpose of our organization. What kind of an organization do you want, and has it a function that is more than maintaining a journal? Do we want to just perk along? Would you like the ASCI to address additional

substantive issues such as I have mentioned? Do you think that this aging organization, now entering its 7th decade, has the vitality to define its status and exercise its potential influence for everyone's good? I have preliminary answers from you on all but the last of these questions.

As a new chairman, I have come to realize that the incessant pressure upon a representative of a group is "to take middle grounds." To yield to this pressure is antithetical to the nature of a scientist and, I submit, damaging to the successful future of our society. I do not believe that the ASCI as an organization has given up its interest in exploration and can continue to say nothing. I am concerned that we take stock of where we are, what we want to be, and how to get the most out of our organization to the advantage of all who share our goals.

We have first to define what the organization is and has and what it can, under the best of circumstances, expect to do with what it has. Most of us have the impression that the ASCI is generally thought of as an elite organization. I would like to borrow from the students of elites to determine whether the characteristics of the ASCI are to any extent analogous to those of indisputable scientific elites. Are we a quaint elite, an anachronistic group, or a part of a strong strategic elite? If we are the latter, we must take seriously the fact that we are expected to serve as leaders, as guardians of the values of scientific research for its own sake, and as guarantors of the contributions that science can make to society. I have chosen to address the question, "Can a society without an obvious future be helped by being elite and using elitism?" I believe so.

History of elites

Let me briefly define elites and review some of their natural history, define some of the documentable roles of elites, and then compare these histories with the ASCI's.

All elites have some type of social function (useful and/or destructive) that is characteristic of the group. Who, if any, among the following should we identify with? Ivan the Terrible? English nobility such as King Edward VII? A baseball player? Movie stars? The Supreme Court? Nobel laureates?

Definition of elites. The term "elite" derives from the Latin word *eligere*, "to choose," and referred originally to the choice part or "flower" of goods for sale. By the 18th century, French usage of the term had widened to include distinction in other fields. In social science, its emphasis has shifted from choiceness to eminence or prominence (3). As possibilities for personal recognition of excellence and quality have declined in complex societies, the term "elite" has come to represent that part or parts of society that exercise the greatest influence over personal choices. Elitism

should not be confused with snobbery. In the context of this talk, the two could not be farther apart. Today consider elitism synonymous with groups that can effectively discharge responsibility or appropriately use influence.

The early elites were the priests, elders, tribal chieftains, warrior kings, and legendary sages and heroes who came to power through their observably superior spiritual and/or physical strength. The relationship of these elites to their publics was strong and direct. More sophisticated elites—the ruling castes, ruling classes, first estates, and aristocracies—derived their power from noble birth, inherited property or wealth, or reflected ancestral glow. These elites, as de Tocqueville said, were "easy to touch and difficult to strike" (4). They were observable, but less dependent on the approval of their subjects than were their primitive counterparts. Like the tribal chiefs, they controlled all the important functions of society but were—by virtue of their numbers, economic strength, and powerful legends—far less vulnerable to criticism and dispute of authority. The survival of the British nobility into our own time, although the titles are empty of authority, attests to the grip such aristocratic legends have on society. "You should study the peerage, Gerald," said Oscar Wilde. "It is the best thing in fiction the English have ever done." (5)

The ruling elites of today also have certain fictions on their side. But there is no single figure or stratum monopolizing the key social functions. Instead, there is a constellation of what are termed "strategic elites" (political, economic, religious, military, artistic, athletic, intellectual, etc.). Each is supplied by personnel from several social strata, and rewards are based for the most part on competence related to occupation (although certain family names still work their customary magic). In general, for members of strategic elites there is no permanent station and none of the sanctioned leisure enjoyed by the aristocracies of old. Elite status and influence must be earned. Suzanne Keller states in *Beyond the Ruling Class*:

Selection on the basis of individual competence implies dismissal for incompetence, and this principle links modern elites to the primitive institution of chiefship, where the chief may be killed if he fails to bring about the desired end: peace, harvest or health. (6)

The use of elitism requires forethought to be optimal.

Another of Keller's assertions is that "corporation executives must work longer and harder than factory workers" (7) to maintain their positions. While the definition of "hard work" is bound to be subjective, it is at least true that elites are increasingly required to work at being what they are and defining what they want. In addition, they have, as always, a fundamental

obligation attached to their roles: to organize society toward its collective goals. Elites who have ignored the concept of noblesse oblige have been harshly judged by posterity and have perished.

The ASCI owes its existence to the need for recognition of the profession and the professional as a means of perpetuating its most honorable and cherished goals. It is thus part of what is known by sociologists as a "segmental elite." That is, it exercises influence in a specific, limited domain or segment of society but has little or no power over society as a whole. The Nobel laureates are the ultra-elite of this segmental scientific elite. The growing interaction between science and government, and specifically the pressures for politicization of science, are drawing more and more members of the scientific segmental elite into the strategic elite, whose judgments, decisions, and actions have important and determinable consequences for many members of society. Science's influence is still exercised most commonly by individuals rather than by some identifiable, monolithic "scientific establishment" (8), but the intermeshing of business, politics, science, and culture calls increasingly for broad management skills and concerns in each realm. As society grows and fragments into specialized units, the strategic elites become more vital as connecting bridges between specialties.

"If Socrates had lived in Scarsdale," reads the title of an indictment of modern urban life,

he'd probably never have known Aristophanes or Xenophon or Plato because that crowd of writers and intellectuals all lived in Greenwich Village, and he wouldn't have known Pericles and Aspasia and that government bunch because they all lived in Washington. (9)

The separate concerns and claims of the various elites may at first seem to make a farce of collective goals. It is no longer possible to ascribe to society a core value system, morality, or conscience. The lack of communication, understanding, and ideological focus inside or outside elite ranks is taking its toll in confusion, suspicion, insecurity, and deteriorating morale. Elites have traditionally been looked to as personifications of aims, attitudes, and aspirations of the public; they are understood to be both symbols and managers of the popular will. In fact, they are one of the only palpable means of accomplishing collective goals. Yet some of their favorite pastimes today are hiding, abdicating responsibility, and speaking in private tongues. For instance, does anyone really believe the energy companies when they explain why the gas shortage at the pumps does not match the trivial decreases in imports? In the ASCI Council, I can sense some movement to correct such purely self-preserving tendencies. We seem about ready to use our elitism if we have it.

Strategic elites are not required to impose some arti-

ficial moral and material order, but rather to be concerned for what the consensus is. A substantial, creative consensus naturally exists, but it exists covertly. The task of elites is to be sensitive to it and interpret it. As Noam Chomsky points out in a recent article in *The Nation* (10), the quietude of the American population—compared with the continual political and cultural upheaval abroad—cannot be taken for proof of actual harmony. He notes the reluctance of both elites and nonelites to ask questions. Such an observation does seem to apply to the ASCI. Suzanne Keller (11) writes that what the public wants to know of the great and famous man is not so much "Who are you?" and "What exactly are you doing?" but "What can I believe you are? What can you help me feel and be?" The public's need to believe is a powerful tool in the hands of the elite. When the public begins not to believe, as it is doing loudly since Watergate and now since Three Mile Island, the real dependence of elites on their public becomes clear.

The Boston Brahmins are a ready example of what may befall elites who fail to fulfill their symbolic function when they lose touch with the public's expectations. By excluding the Irish and Italian immigrants and standing aloof from people with alien customs and tastes, the Brahmins isolated themselves from the pulse of the community and became, despite continuing economic power, social anachronisms who play a minor role in the public life of Massachusetts today (12). Is there any analogy with the ASCI?

Selected societal functions of a scientific elite

At one time the economic elite of the United States, pursuing its own interests, appeared to represent the general interest. That is no longer true. Today's economic goals are not necessarily compatible with each of the military, diplomatic, scientific, educational, ecological, and other groups' goals. Competition exists between all elites for the allocation of national energies and resources. This competition requires that all elements of a segmental elite use their collective effectiveness to win overall appreciation of that segment's goals.

The function of science is to develop new techniques and controls over nature and to adapt and use these means toward generally agreed upon ends. For the second time in history, science is leading to critical conflicts among elites. In the 17th century, Galileo's science threatened the Church. In the 20th, science is itself a religion that steadily modulates the State. It provides the expertise on which politics, military planning, economic expansion, and a host of other matters depend. Thus, the potential functions of an organized scientific elite are clear: (a) to decide when and how resources are to be used; (b) to fit the functions

of science into the general framework of society; (c) to serve as models symbolizing the purposes and prizes of social commitment; (d) to become accountable agents for the success or failure of scientific endeavor; and (e) to serve as a communication link to other elites.

Is the ASCI a scientific elite?

There are clear evidences of scientific elites. Their characteristics are definable and what they do is analyzable. How does the ASCI measure up?

Harriet Zuckerman, in her study of the Nobelists, shows that criteria for an effective strategic elite of science can be defined. There are objective indicators of prestige and of the uses that can and are being made of that prestige. I would not have the temerity to suggest that there should be deep similarities between ASCI or the National Academy of Sciences (NAS) and Nobel laureates. Nevertheless, these groups are seen as comprising the top portion of a broad-based pyramid of scientific stratification and thus as having certain shared goals and characteristics.

According to 1976 data, for every Nobel living in the U. S. (77), there are (beginning at the top of the pyramid): 13 members of the NAS; 24 members of the ASCI; 2,400 scientists holding a Ph.D.; 2,600 scientists listed in *American Men & Women of Science*; 4,300 scientists identified in the *National Register*; and 6,800 self-defined scientists (in 1974 national census). (13)

The Nobel Prize is undoubtedly a universal measuring rod for scientific standing of nations and organizations. The steps ascending to the prize can be discerned and have been described. For example, 42 Nobelists had their work recorded in *Scientific American* before their prize was conferred. According to a 1967 report, 36 out of 45 U. S. scientists who had won the Nobel Prize since 1950 were elected to the NAS before winning their prize. By 1976, it had elected 58 out of 77 before the Nobel award. Scientists who win the Nobel Prize have been cited in the *Science Citation Index* almost 40 times as often as the average author whose research has been cited at all. This citation rate placed 85% of the laureates-to-be among the top 0.2% of authors cited in scientific literature in 1965. In short, the work of the Nobel laureates has been enormously influential before they received their prizes. If we are concerned about our selection process, the same type of accomplishments could be studied in our membership, but there have been no such studies to date.

Zuckerman (14) finds that the doctoral work of the scientific elite is concentrated in a few places. 13 elite universities granted degrees to 85% of the future laureates, 80% of the future members of NAS, and 55% of other scientists receiving degrees at the same time.

More than one-half (48) of the 92 laureates who did their prize-winning research in the U. S. by 1972 had worked as students, postdoctoral fellows, or junior collaborators under older laureates. 48 future laureates worked under 71 laureate masters. 10 of the laureates helped to train 30 eventual laureates. Determination of the distribution of degrees granted to members of the ASCI and a determination of whether members or nonmembers were the trainees of most of our members would provide reasonable comparative criteria for judging the effectiveness of our selection process.

We have conducted a survey to provide much of the data that follows. A randomly selected group of 650 current and emeritus members of the ASCI, 115 people who were put up for but did not attain membership, and 45 chairmen of departments of medicine who were not members of the ASCI were sent a crudely designed survey that, I hope, was constructed so as not to give away the "right" answers.

The questions we asked were designed to determine whether objective operations and functions of undebatable elites would compare with what the ASCI was doing. 78% of the questionnaires were returned. Generally, equivalent percentages (72% of members; 78% of nonmembers; 90% of Chairmen) were returned from each canvassed group. The data are not being reported with statistical analysis, but whenever there is a twofold or greater difference in the percentage of difference between groups, there are statistically significant differences between the two groups. At the least, we are dealing with some unequivocal statements that are representative of some of you in the audience.

The survey that we will discuss more extensively below shows that approximately 40% of those members who responded were not trained by present or past members; that the number of American trainees of ASCI members was equivalent to that of nonmembers; and that 11% of individuals trained by members became ASCI members themselves, whereas 4.2% of trainees of nonmembers eventually became members. Although only members can nominate candidates, there does seem to be a tendency toward concentrating members trained by members—a characteristic of elites (Table I).

All evidence points to the importance of the Nobel laureates in generating riches: connections, power, and financial aid. They also have enormous influence on the quality of their students' work and publications. Statistics show no great difference in the average number of single-authored papers published by future laureates in their twenties and those published by a matched sample of productive scientists. The surprising lack of difference in the publications of Nobelists and of members of other elites has been attributed to the demanding standards of the mentors of the eventual elite: the exacting standards could shorten the list of

TABLE I
Selected Demography

	Members	Nonmembers
Trainees/person	8.8±1.1%	7.55±1.3%
Members ASCI	11%	4.2%
Trainees with laureates	15%	3%
Manuscripts before election year	9±1.6	15.6±5
Manuscripts since election year	12±1.8	24.2±6

publications but strengthen the impact of what was published. Thus, the biologist Seymour Benzer reports Nobelists Max Delbruck's insistence that he stop publishing so much, a friendly suggestion that was communicated in a note to Benzer's wife that read:

Dear Dotty, please tell Seymour to stop writing so many papers. If I gave them the attention his papers *used* to deserve (presumably when Benzer limited his output), they would take all my time. If he must continue, tell him to do what Ernst Mayr asked his mother to do in her long daily letters, namely underline what is important. (14)

In our survey, we found approximately the same results as were posted for Nobelists. Nonmembers said that they published 15.6 papers per year, what they considered excellent articles per person per year, whereas those who were to become members said that they published on an average of 9±6 papers per year. After election, both groups continued to be prolific. Those rejected published 24.2±6, and those elected, only one-half the number or 12±1.8 manuscripts per year. These data are hard to believe and may have been an artifact of the survey. Nevertheless, the weight of papers (so often conceived of as the dominant determinant of membership) was not the criterion for membership. Instead, a candidate's lack of overt independence seems to be an overriding deterrent to his membership. Nonmembership far from reduced the chance of publication of the investigators' "best works." The Council of the ASCI spends untold hours assessing and justifying the value of the candidate's bibliography and his independence. Apparently it has done so in a manner consistent with the selection of undoubted elites.

Elite institutions have a distinct advantage in the race to make an early identification of potential elite scientists and retain them until they become certified elites. Of 53 laureates whose first jobs were in one of the elite American universities, 40% (21) were inbred, versus 5% (1 in 21) of those whose first jobs were in other universities. We have not analyzed the ASCI in the same way. But we could. According to the data available since 1930, 65% of laureates acquired their first jobs in the top 13 American universities. In the ASCI, only 25% (150 out of 600) of active members

are in the same 13 elite institutions. What is the meaning of this?

The obvious weakness in the selection system of any elite group is that every year more scientists are eligible for Nobel prizes than can win them. The same is true of the ASCI. However, those who qualify for the prize but who do not get it are said to occupy the "forty-first chair" like the "immortals" who happened not to have been included among the "cohorts of forty" in the French Academy. 30% of people proposed for the ASCI are ultimately rejected by the Society.

Thus, the selection system of the ASCI is not nearly as exclusive as the system of the two elites we are considering. Yet the ASCI system does share some common features of other elites when it comes to tolerance of certain types of errors in selection of membership (Table II). Errors of omission are made when deserving people are excluded from membership. Errors of commission occur when truly unqualified people are asked to join the Society. Nobel selection committees strive toward a low rate of commissive errors and a high rate of omissive errors. According to Dr. Handler (President of the NAS), so does the NAS. Our Council may not strive toward such goals but they apparently do not shun them. Thus, for both (members more than nonmembers), commissive errors are considered to be relatively rare, omissive errors common, and members at least seem to be generally satisfied with this pattern. This despite the fact that most (members more than nonmembers) think that the process of omission hurts the careers of omitted academicians.

To what extent does the ASCI share the privileges and burdens of scientific strategic elites? 96% of the Nobelists have been members of the NAS. 40% of the M.D.'s in the NAS are or were members of the ASCI. Thus, there seems to be considerable overlap in expectations of the qualities of a member of the three groups we are comparing.

TABLE II
Perceptions of Errors in Selection

Belief that	Members	Nonmembers
	%	
Commission occurs often	26	27
Omission occurs often	87	67
Omission is greater than commission	96	100
Omission has negative effect on ASCI	26	76
Commission has negative effect on ASCI	49	30
Omitted candidates are hurt in careers	78	32

TABLE III
Meaning of Elite to Members

	Members	Nonmembers	Department chairmen
	%		
Organization positive	76	54	
Regards ASCI elite	85	67	80
Thinks ASCI wants to be elite	21	80	
Supervisors as arrival	85	84	100
Selves as arrival	31	61	60
Others think ASCI is elite	44	75	

There can be no doubt that there is overlap among some of the characteristics of the ASCI with those of undisputed scientific elites. Let us explore further (a) whether the members consider themselves to be elite; (b) whether they consider themselves to be elite and share attitudes of membership that are expressly shared by established elites; (c) whether they carry the responsibilities of members of elites to their own society and to functions that the society could and should be held accountable for, e.g., do they train people? (d) whether the society has developed a social conscience that parallels that of other strategic scientific elites.

If the ASCI is making reasonable judgments, one could rationally expect the membership to respond to some of the social obligations that other segments of the strategic scientific elite do. Yet all of these assumptions are shown to be incorrect (Table III). Our survey indicates that the ASCI considers itself a positive organization and an elite organization, and that others perceive us as being elite.

Perhaps members of the ASCI do not perceive enough personal benefits from their membership to chance diverting the attention of the Society to other

TABLE IV
Positive Effects of Being Selected to ASCI

	Members	Nonmembers	Department chairmen
	%		
Promotions	68	67	0
Publishing	89	20	
Papers before election year	9±1.6	15.6±5	
Papers after election year	12±1.8	24.2±6	
Funding	34	7	80
Respect for ASCI members	44	95	95

TABLE V
Perceived Effects of Elite

	Members	Nonmembers	Department chairmen
	%		
Distribution of assets	22	0	0
Accelerated promotion	66	60	60
Trainees directed toward membership	69	40	40
Diminish nonresearch contributions	11	0	100
Decreased committee assignments	5	0	100
Greater expectation of membership	53	20	20
Higher pay	48	25	25

people. Such does not seem to be the case. Members and nonmembers (as well as some chairmen) as an aggregate and in different combinations feel that members receive special consideration for promotion, publication, funding, and respect of their peers (Table IV). Likewise, a substantial percentage of members feels that they have trainees directed to them, higher pay available to them, and greater academic expectations made of them than nonmembers (Table V). Chairmen say that they often accelerate the promotion of members of the ASCI and that they ask less administrative help from them.

Perhaps, then, the reason that the ASCI does not do much more than run an excellent journal and select good scientists is that it does not care about the societal functions as other elites do, even when it comes down to self-preservation. Again, that assumption seems to be incorrect (Table VI). An overwhelming segment of our members and a substantial percentage of people

TABLE VI
Functions of Elites vs. ASCI

	Members	Nonmembers	Department chairmen
	%		
Promote human health and welfare	41	53	80
Honor scientific achievement	72	58	80
Interact with government groups that affect the course of science	92	75	100
Concern with medical education	57	48	40
Concern with medical practice	23	28	

who are not in the Society tell us that they expect the organization to interact with government groups that affect the course of science. They want it, but we (or they) are not doing it. I submit that organizations rarely express themselves in a single voice, but the ASCI has just done so. To ignore that voice would be unconscionable. The data related to the threats on science, data related to our will to do something about our fate, demand that we do something about our future. Last night our Council reviewed the data of this first survey of our constituency about our use of elitism. The Council is seriously committed to active participation that extends this year's work beyond a promise.

Conclusion

The ASCI appears to have enough objective characteristics of other scientific elites to be considered one by members and nonmembers. We presumably like being what we think we are; members are three times more likely to train future members than are nonmembers; we are more tolerant of omissive than commissive errors in judgment about selection of our members; our productivity has risen in terms of what we consider our best publications after membership (in contrast to that of NAS members or nobelists but not to that of nonmembers); we want to respond to societal needs in regard to medical science; and we appear to be ready to come to our own rescue automatically and to the rescue of other medically oriented societies. If we are a part of the other strategic scientific elite, we should be interested in and able to help ourselves and others. Yet we are not functioning as the most notable of other strategic scientific elites that we respect. We may be an elite, but I think that we are tenuously poised on the threshold of oblivion. With the exception of the admirable function of our journal, we appear to be much more of a symbol than an operating group. Until the survey that I have just presented, one could only surmise whether members thought that they were or wanted to be elite. There are good reasons for declaring our goals and our intentions of meeting them to ourselves and others.

I submit that a goal of the highest priority should be to make a forthright declaration of our intention to use our potential influence for the general good of a field threatened by other strategic elites (namely, political and health industrial elites). We might want to formally adopt a goal similar to that of the NAS. The NAS states that its purpose is to contribute intelligent advice to the nation on matters of scientific importance. That topic is too all-encompassing for an organization such as ours. But we are in a position to commit ourselves to the development, nurturing, and protection of the priorities of medical biology in its broadest sense.

We are in a position to interface with the effective elites that subconsciously or overtly divert attention and resources from our purposes. We are in a position to initiate ideas and introduce policy to the nonscientific elites that are winning societal priorities because we are not competing with them. Yet we have made only abortive and *ad hoc* attempts to interact with governmental groups that affect the course of biological and medical science, even though overwhelming numbers of our members and nonmembers ask us to. What attempts we have made have been made only by groups of emeritus members!

For secondary goals that will strengthen the composition and stance of the organization, I suggest we reexamine some of our guidelines. Are they really what we want them to be? We are not considering all the potential candidates who are responsible for the development of medically crucial biological information. Should Ph.D.'s and non-Northern American scientists who are making substantial contributions to medical biology be able to become members of the ASCI? I submit that we have not registered our concern for nominations for membership by our most productive biological scientists. We have not made concerted efforts to develop some who, although acting as individuals, create a reputation of effective communication with the activities of other elites. If we are really trying to create a core group that is unequivocally able to represent medical biology to any constituency, we might amend our bylaws so that outstanding mentors of medical biologists and clinical investigators throughout all America are directly approached to nominate candidates for the ASCI.

The Council is beginning to respond to some of these challenges. It is ready to create a working committee to interface with other strategic elites that affect our destiny, whether these be other scientific elites or governmental elites. If we are aggressive and effective, we could begin to be recognized by others as more than an old (or young) persons' club; then we would be able to develop areas outside of medicine that contribute to clinical investigation in its broadest sense; we could identify and help direct the most promising trainees to the most scholarly mentors so that the rarest commodity we teach can receive the best possible chance to develop new information; we would come alive with purpose and promise.

There have always been, and always will be, those who argue that the scientific elite is unique by virtue of its primary obligation to scientific truths, regardless of their implications or applications. But primary obligations are by no means sole obligations. We are in the nuclear age, confronted with hostile but potentially malleable realities. There can be little support for an argument that keeps us from preserving our

ability to do what only we can do. At a time when communication between elements of society seems key to survival, we should be doing much more. Heed Ralph Waldo Emerson, who claimed, "Once we had wooden chalices and golden priests; now we have golden chalices and wooden priests."

Although ASCI members are justly proud of being in the "club" as far as scientific criteria are concerned, they might be prouder still if the club were trying to fulfill, or better yet, were plainly fulfilling some worthwhile goals with respect to younger scientists and the support of biological science.

I wish us well at this time, and I fervently hope we will take the actions that will make us a young, vital, and effective elite in our old age.

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REFERENCES

1. Knox, R. A. 1979. Stanford medical school suffers fiscal and ideological crisis. *Science (Wash. D. C.)*. **203**: 148-152.
2. Brewer, G. J. 1977. Clinical investigation: is it in a fatal decline? *Am. J. Hematol.* **80**: 77-80.
3. Keller, S. 1963. *Beyond the Ruling Class*. Random House, Inc., New York. 25n.
4. *Ibid.*, 30.
5. Perrot, R. 1968. *The Aristocrats*. Weidenfeld & Nicolson Ltd., London. Epigraph.
6. Keller, *Beyond the Ruling Class*, 32.
7. *Ibid.*, 57-58.
8. Zuckerman, H. 1977. *Scientific Elite*. The Free Press, New York. 13.
9. Keller, *Beyond the Ruling Class*, 152n.
10. Chomsky, N. 1979. Ideological conformity in America. *The Nation*. **228**: 77-81.
11. Keller, *Beyond the Ruling Class*, 162-163.
12. *Ibid.*, 162-163.
13. Zuckerman, *Scientific Elite*, 10.
14. *Ibid.*, 89, 148.