group provides for evaluation of the reproductive potential, in captivity, of several species of small primates. This project is under the direction of Robert Cooper at the Institute for Comparative Biology of the Zoological Society of San Diego. Primates of species whose adult members weigh about 1 kilogram or less may be much cheaper than macaques or baboons to buy and maintain, and may reproduce faster. Representatives of all families of primates with the exception of Pongidae and Hominidae were considered, and, since the beginning of this project in 1962, 13 species of four families have been tried. The principal criteria for success have been high reproductive rates and survival of infants. Only four of these species failed to produce viable offspring in reasonable numbers. These species are *Saguinus oedipus* (cotton-top marmoset), *Aotus trivirgatus* (night or owl monkey), *Cebuella pygmaea* (pygmy marmoset), and *Galago senegalensis* (lesser bush baby). Evaluation of the reproductive potential of *Saguinus nigricollis* and *S. fuscicollis* (white-lip marmosets) was discontinued because these species are reproducing well in one of the other projects. Evaluation of *Leontideus rosalia* (golden marmoset) was discontinued because of impending extinction of the species and lack of breeding stock. The species that are breeding successfully and in which study is continuing are *Cercopithecus aethiops* (African green monkey), *Cercopithecus (Miopithecus) talapoin* (talapoin monkey), *Saimiri sciureus* (squirrel monkey), *Callithrix jacchus* (common marmoset), *Saguinus mystax* (moustached marmoset), and *Galago crassicaudatus* (bush baby). The total production of newborns is about 60 per year, but the number varies because of the experimental nature of the project. All these animals are kept outdoors in galvanized wire cages above a concrete floor. Each cage has a small fiberglass box with a 150-watt electric heater in the floor. The outstanding successes of the project have been the excellent reproduction of *Galago crassicaudatus* and *Cercopithecus aethiops*. The latter species is too large for the purposes of this contract, but the offspring are needed for inoculation with oncogenic viruses in studies at Bionetics Research Laboratories. The females are sent there in late pregnancy and returned to San Diego for breeding. Offspring of the galagos and other species have been used in several collaborative projects which include administration, through inhalation and parenteral inoculation, of Rous sarcoma virus (by F. Deinhardt); administration, through inhalation and parenteral inoculation, of benzpyrene; and treatment with thalidomide.

References and Notes

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Medical Literature: The Campus without Tumult

Many medical journals would benefit from a clearer definition and more active pursuit of their goals.

Franz J. Ingelfinger

About 3 years ago, when I was privileged to succeed Dr. Joseph Garland as editor of the *New England Journal of Medicine*, some doubts were raised concerning the wisdom of a move from a professor's to an editor's chair. The doubters, being professors of medicine themselves, held that the duties of a full-time medical editor were not as rewarding as those of a professorial personage. But they were wrong, I hope. Indeed, in my well-rationalized imagination, I had become a dean, and a dean not only of the campus of the usual medical school, but of the unseen campus of a mighty multiversity to which right now 120,000 students pay tuition. The amount of this tuition, I admit, is a scandalous pittance. In addition, before anyone objects that a medical school deanship these days hardly warrants the word "promotion," let me emphasize the unique advantages of my deanship. Whatever happens to me, it is quite unlikely that my rambunctious students will break down my doors, smoke my cigars, deposit dejecta in the corners of my office, and—on top of it all—throw me physically downstairs.

The comparison of the general medical journal with a medical school is not farfetched. For the primary purpose of the *New England Journal of Medicine*, as an example, is certainly educational, and, like the medical school, the *Journal* has a pedagogic philosophy and a curriculum. It also has its teachers (the authors), its stu-

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dents (the readers), as well as its dean. Its campus, although invisible, is nonetheless real.

As is true of most educational institutions, the faculty generates problems for the dean, but it is really not appropriate to speak of my faculty as a homogeneous body. It actually consists of three factions. In the first place, I have an editorial board, which is in essence an executive committee of senior faculty—its members advise, find fault, and are permitted to make unsubstantiated assertions. The biggest portion of the faculty is made up of younger people who really do the work. They are the authors who are kind enough to send their manuscripts for possible publication. A third group is intermediate and overlaps the other two: it is the cohort of reviewers—an elite group of experts comprising both old and young faculty, usually anonymous but very powerful—the Green Berets, as it were, of medical literature.

In a sense, then, this is not a lecture. Rather it is a faculty meeting. Admittedly it is not a meeting of the dean and his faculty, but a faculty that like the migrant scholars of earlier times exercises its talents in many schools. It is a meeting at which the dean, as usual, will harangue and cajole the faculty with the hope that it will see things his way.

As we enter the 1970's the tangible university is characterized by an affect that values an aggressive exploration of change. By contrast, the invisible campus of the learned and educational medical literature appears quite inert—some are unkind enough to maintain that brain death has already set in. The type of literature I have in mind includes not only general medical journals such as the *New England Journal of Medicine, JAMA, The Lancet,* and the *British Medical Journal,* but also publications for the internist—*Annals of Internal Medicine* and the *American Journal of Medicine,* for example—as well as pediatric and some surgical serials. This group of periodicals must have an immense student body: one or more of them must be seen by every physician who looks at the medical literature—which excludes of course that group of doctors whose horizons of postgraduate education are defined by *Medical Economics.* Yet this vast student body appears content with general medical journals that differ little in orientation, format, or style from their predecessors 10, 25, 50, or even 100 years ago.

Editors and their advisers are of course uncomfortably aware that their publication should adapt to changing times. Something, the editors know, should be done about it. The simplest thing to do is to put on a new cover and to change the page size. A common ploy to symbolize progressiveness when a new editor takes over, is to alter typeface and layout drastically. Such exercises at redecorating a publication's appearance are like playing at curriculum reform. The dean may call what used to be third-year outpatient department, "dynamic interaction for community health," but a visit to the place shows that it is essentially the same old department.

The character of the multiversity of educational medical literature may thus be faulted for complacent acceptance of traditional practices, for preoccupation with trivia of design, and for an apparent indifference to more fundamental issues. Yet this lack of tumult does not indicate an absence of issues. They do exist. Indeed, they are well recognized by individual editors, contributors, and readers. Evolution of individual beliefs into party platforms, however, is difficult for obvious reasons. Medical journals are exposed to no activist society of authors, no organized constituency of readers. Even editors have made little effort, at least until the last few years, to examine mutual concerns, and public discussions among those who produce and those who consume the medical literature are all too infrequent.

For today's agenda, I should like to select three issues that are not shaking the campus of medical literature overtly but are responsible for some incipient tremors. These three are (i) reconciliation of faculty and student goals, (ii) relations between medical literature and medical journalism, and (iii) the promotion of social issues.

As is true of many similar periodicals, the *New England Journal of Medicine* is divided into sections such as Original Articles, Special Articles, and Medical Progress. It is in the category of Original Articles that the conflicting goals of authors and readers (that is, faculty and students) are most painfully evident. When articles are submitted for publication in this section, authors not infrequently engage in a stratagem that clearly derives from one of Aesop's case reports. "Dear Sir," the covering letter says, "Enclosed please find a report of a study which we of course could have published in our specialty journal; but the importance of the subject is such that it requires wide dissemination, and for this reason we have selected your journal, as it is known to have a large and varied readership." The implicit flattery may influence the susceptible editor, but its impact on the hard-headed reviewer will be lost, if only for the reason that he never sees the covering letter.

The point I wish to make about these articles is this—although they are submitted in the express hope that they will reach a varied readership, their style of presentation as a rule could not be more effectively designed to defeat this very purpose. Authors who write Original Articles really do not have a varied readership in mind. To the contrary, they use concepts, language, symbolism, and methodologic descriptions that will attract and impress the coexpert. The reasons for this are obvious. Acceptability of the article for publication will be judged first by reviewers who are specialists, and then by similarly qualified and hypercritical readers. If the peer specialist happens to be a department chief or a man otherwise influential in the reaches of academic medicine, so much the better for the young author's status and his chances for advancement. On the other hand, a fine review, or an interpretative and educational presentation of already published material, is no more rewarding academically than is the good teacher vis-à-vis the good researcher. Will a young and productive author then be motivated to write in the style sanctified by the powerful research establishment—and certainly a good style for peer communication—or will he write to educate? My complaint is an old one; the primary objective of the medical faculty is not necessarily education.

The reaction of many readers is well known: too much esoterica, or—to quote from a recent letter—"Indeed it would be a worthwhile experience if they (that is, investigators) spent some time outside the academy with 'gutsy' everyday medicine. Perhaps then they would appreciate the plight of the practitioner trying to dispense a high level of medicine. In following journals, he is flooded with exotic diseases, tons of theory and detailed reports of little interest except to ultraspecialists. The practitioner clamors for more definitive studies on practical problems (for example, postmyocardial infarction and anticoagulation, the value of cardiac

resuscitation, cardiac shock, definition and treatment of urinary tract infections and specific 'antibiotic' therapy). But the trained medical scientist responds to this need by reporting another new rare chromosomal abnormality." I call this the reaction of "many readers." The trouble is that I do not know how many. If any constituency suffers from having a silent majority, it is that of medical journals. It is part of the inertness of the campuses that these journals comprise. Yet editors must secretly share the reactions of their epistolarian readers. Outside my own "little Luxembourg" of gastroenterologic expertise, I find many articles in the *New England Journal of Medicine* hard going.

What can be done to respond to the needs of both authors and readers? Perhaps nothing—perhaps their goals are irreconcilable, and the *New England Journal of Medicine* and others like it should abandon the printing of original articles. This is what the former editor of *The Lancet*, Sir Theodore Fox, had in mind when he suggested that medical journals should either fish or cut bait. (I am paraphrasing, of course, for no literary Englishman would ever stoop to such vernacular.) Sir Theodore proposed two types of journals: medical records that would record new observations, experiments, and techniques; and journals, which he called medical newspapers, that would inform, interpret, criticize, and stimulate, all with the purpose of advancing medical practice (*1*). A great idea, but one that apparently has not influenced a single general medical journal—not the *Annals of Internal Medicine,* not the *New England Journal of Medicine,* nor even *The Lancet* itself. Somehow these journals not only publish but actually feature—in their very first section—reports of relatively new and original clinical studies.

At this point I should very much like to explain why this is so. I should like to overwhelm you with reasons why the general medical journal continues to publish original articles. In an apologia in *The Lancet* (*2*) I tried to explain, "The original article has an appeal quite different from that of the comprehensive survey. Perhaps it is the appeal of the first offering as opposed to the secondhand. The reader is more involved, his appetite is less dulled by the flavour of predigestion, and his self-esteem is sustained by the fact that his cerebral exposure to the new is direct, not through a dialysing membrane. Or perhaps editors just *think* that their readers, in response to original articles, are more involved, more piquantly fed, and more intellectually flattered."

That does not have the ring of compelling logic, does it? As a matter of fact, I have nothing better to offer now. The explanation why the *New England Journal of Medicine* continues to publish original articles is based, I suppose, on the most persuasive of human motivations, intuitive belief. Without such original articles, editors of general medical journals seem convinced, our printed efforts would become nonviable, gutless shells.

The editor, thus driven by supernatural inspiration on one hand and the pragmatic needs of his readership on the other, seeks reconciliation. Ninety-five percent of our acceptance letters are conditional—some contributors call them threatening—"We will publish if you will reduce length by half, eliminate five of the ten tables, and clarify your rationale." Usually the authors agree—if reluctantly. I suppose if the investigator, his assistants, his technicians, and his human subjects have labored and suffered for 2 or 3 years—all with the support of a hefty $200,000 grant from the NIH that must be justified—it is understandable why he presents his major message in the abstract, in the tables, in the figures, and several times in the text. There is no good reason, however, why repetition and tables presenting the tedious detail of raw data should not be eliminated. Science does not suffer, for satisfactory means exist to make such tables available to the few who need them.

A few journals—*The Lancet* for example—engage in considerable editorial rewriting to make their wares educationally more effective, but the necessary personnel and talent are scarce.

A device favored by the *New England Journal of Medicine* is to make the editorial serve educational purposes. Many of our editorials are therefore in a sense transitional essays intended to make the meaning of an original article in the same issue clearer to the nonexpert. The editorial should elaborate on the rationale, should put the report into context and, most of all, should indicate how the principal finding or conclusion may directly or indirectly affect patient care. Some editorialists whom we invite, you may be surprised to learn, balk at this. They think that they will demean themselves and lose face if they do not discuss the forefront of knowledge. Men with such attitudes obviously do not belong on the faculty of a general medical journal. Fortunately most of those who are on our editorial-writing faculty—possibly by a process of gradual attrition—cooperate with the dean. Did you by any chance see the editorial "Rubbish in the Red Cell" (*3*) in one of last fall's issues of the *Journal*? In this editorial a young and sophisticated investigator in the field of erythrocyte metabolism made it possible for someone like me to see Howell-Jolly bodies, Cabot rings, Pappenheimer bodies, and Heinz bodies, not as mere eponymic monstrosities, but as meaningful defects in the red cell.

Popular belief to the contrary, physician authors with considerable literary talent do exist and, given the opportunity, these men could break out of the exoskeleton that so rigidly determines the shape of scientific medical communication. What would happen, however, if some latter-day Oliver Wendell Holmes or William Osler submitted a manuscript written in his characteristic style? "Revise!" Or some copy editor would unerringly excise all stigmas of individuality. Yet, at least in some areas of medicine, a presentation can be both enticingly educational and scientifically sincere. Whenever I look at the reserve book collection in Harvard Medical School's Countway Library I am impressed that one of the most popular authors, with the largest number of titles on the shelves, is not a physician. It is Mr. Berton Roueché, who writes principally for the *New Yorker.* Yet he has also written urbane and sophisticated detective stories, which in addition happen to be classics of epidemiology. "The 11 Blue Men" is well known, but my own favorite is "The Alerting of Mr. Pomerantz," the story of how the vector of Kew Garden fever, or rickettsialpox, was tracked down.

Wouldn't it be great if some article in the *Journal*, a Medical Progress article describing the components of complement perhaps, were written in the Roueché style? Imagination sweeps me further. Perhaps we could have a socially oriented article dealing with marital infidelity, with case reports written by John Updike. Or Vice President Agnew might contribute a psychoanalysis of the effete snob.

But enough of such chimeras. More realistic solutions are possible. In particular I have in mind the type of presentation practiced by *Scientific American.* By careful writing and edit-

ing, and by skilled use of diagrammatic illustrations, this publication manages to make archeology attractive to the allergist, and cosmology comprehensible to the conservationist. Why do not medical journals take advantage of the same techniques? As a matter of fact, one journal—*Hospital Practice*—does. It happens to be distributed free of charge, but in this instance a throwaway is for keeping.

During 1970, the *New England Journal of Medicine* will experiment with the same technique. Starting this summer the *Journal*'s department now known as "Physiology for Physicians" will have a new subeditor and also a revamped title—"Physiology in Medicine"—a nice example of the face-lifting that is pathognomonic of editor-changing. More important, the new subeditor and I have agreed that we should try the *Scientific American* approach. That we can successfully imitate the style is of course far from certain, but at least the attempt will be made.

Another method to make science more palatable to the medical profession is that of the medical news media, which present simplified but souped-up accounts of the latest in diagnosis and treatment, frequently offered in the same breezy monosyllabic style used by the tabloids in reporting a multimurder or the latest in scandalous behavior. Here is an example. The *New England Journal of Medicine* is publishing an article entitled "Sequential Atrio-Ventricular Pacing in Heart Block Complicating Acute Myocardial Infarction." When essentially the same thing appeared in *Medical World News*, what do you think the headline was?—"One-Two Punch for Heart Block" (*4*). Medical news accounts presented in this style are unquestionably eye-catching and entertaining, and they do serve an alerting and informing function. They are relatively up-to-date, and the professional writer is very much in evidence. That such accounts are widely read and appreciated is unquestionable. Doctors, like anybody else, want capsule news, and they want to read it quickly. Indeed, I understand that a recent series on speed reading in *Modern Medicine* elicited over 30,000 reprint requests.

In contrast to these attractive features of what may be called medical journalism are the characteristics of what may be identified as medical literature—laborious presentation, delayed publication, and a ballast of technical detail. Editors of medical literature desire to be scholarly; they would like to exemplify the truth of the statement that what is needed is not faster reading, but better writing that is worth reading slowly. These goals are not always attained, and one may ask whether for general educational purposes the style of medical journalism is not preferable to that of medical literature.

The major difference, if superficialities are discounted, that separates medical journalism from medical literature is the selection of content. News media feature material that is spectacular, novel, and controversial. Although they pride themselves on reporting accurately, there is no assurance that what they report is accurate in the first place. Speculation is not clearly differentiated from well-documented conclusions, and the unwary reader may get the wrong idea. Thus, a furor has followed an article in *Medical World News* that cited some highly tentative suggestions that cat viruses might infect man to induce leukemia (*5*). It has led to a variety of modifying or contradictory statements. Here is one released by the Massachusetts Society for the Prevention of Cruelty to Animals: "The front-page story (in a local newspaper) was based on a sensational and inaccurate *Medical World News* report of highly technical papers presented at a recent international symposium on leukemia. Implications in *Medical World News* went far beyond the evidence in these papers.

Cat owners are strongly urged not to panic."

Although I have been differentiating some of the features of medical journalism and medical literature, their territories overlap to a considerable extent. Under the protective label of "preliminary communication," an unsubstantiated concept may find its way into the medical literature with relative rapidity. A superb interpretative essay of impeccable science may be the product of medical journalism. Some outstanding purveyors of medical literature, such as *The Lancet*, downgrade the importance of review by peers. An account in a medical news medium sometimes is so complete that subsequent publication of the same material in the medical literature provides no additional information of importance.

The overlapping interests of medical literature and medical journalism bring me to a second major point—the relation between the standard medical journals and the medical news media. If in this respect the campus of medical literature is sensing a few tremors, I may receive a share of the blame, or part of the credit, whichever way you look at it. Here is what the world's most senior medical editor, M. Fishbein, had to say about it: "After 1925, the medical profession became aware of the great public interest in medical progress. Representatives of the press were invited to attend medical meetings; abstracts of manuscripts, and even complete papers, were sent to news media; and members of the press began to be invited to interview speakers who had important messages even before they read their papers to the assemblage. The sunny horizon that appeared with this trend is now suddenly somewhat beclouded. Editorials appearing in the *New England Journal of Medicine* and in the *American Journal of Obstetrics and Gynecology* demand a total halt to this procedure" (*6*).

This comment, salted, one might say, by the exaggeration that marks the authoritative, was caused by two editorials. One was called "Prepublication of Portions of Medical Articles" (*7*), the other was entitled "Definition of 'Sole Contribution'" (*8*). Essentially these editorials maintained that articles submitted as "original" had to be original—in other words, not published previously. That two editors who do not even know each other should independently feel obliged to print almost simultaneously such a hoary self-evident fact would suggest that something was increasingly wrong. It was and it still is.

The nub of the problem, the fault responsible for the tremors, is the publication by medical news media of scientific articles in such complete conceptual and documental form that subsequent publication of the same material in the medical literature merely serves archival, bibliographic, and narrow technical purposes. This practice expresses itself in several forms, which are objectionable to varying degrees.

The expression that I find most offensive is the publication in a medical news medium of an article that has already been accepted for publication in the *New England Journal of Medicine*. After an article is selected for publication in that journal—and I might point out that in view of the *Journal*'s 15 percent rate of acceptance a very important criterion in the selection is that the article has not been published previously—there is an inter-

val ranging from 2 to 6 months before the date of publication. The average interval is 4 months; it could be 3. During this time the author makes revisions, the editing process goes on, a 7-week printing process takes place, and uncertain delays occur because the backlog of manuscripts awaiting publication cannot be controlled precisely.

Imagine the editor's consternation when during this interval the essence of the article, including the most important figures and numerical data, appears in some other publication—perhaps a standard radiologic journal, or in *Hospital Practice,* or *Science,* or in *Medical World News,* or *Medical Tribune,* or *JAMA*'s Medical News section. If the article appears in the standard medical literature, it may be surmised that the author has engaged in a little hanky-panky. If it appears in the medical news media the responsible mechanisms vary. The author may have been guilty of at least some complicity if he has given a public presentation and has, in addition, made his more complete manuscript, including figures and data, available to be used as desired by inquiring reporters. Or he may be quite blameless if a public speech he has made has merely been transcribed by one of the listeners. Or he may even be an unknowing and unwilling victim of the public relations office of a medical meeting that has made the manuscript available, without his explicit permission, to any reporter who wants to see it—a practice that some professional societies not only permit but encourage, but that warrants, I submit, vigorous extirpation.

Whatever the mechanism that accounts for prior publication elsewhere of an article that has already been accepted by the *Journal,* the end result is the same: the *Journal*'s rights, and sometimes those of the author, have been ignored, and one of the criteria used in selecting the article in the first place, has been vitiated. Dr. Fishbein sees no harm in this. He is pleased to remove medical literature from the busy desk and store it on the dusty shelf. The editor of *Medical Tribune,* Mr. F. Silber, likewise sees no harm if his paper gives extensive coverage to an article that is scheduled for publication in the *Journal.* In fact, he sees the practice as mutually beneficial and deplores remarks such as I am making as generating unwarranted competition between medical literature and medical journalism (*9*). This assertion is best examined in the light of copyright laws, devised for the purpose of protecting printed material from unethical competition. According to these laws, a medical news medium, or any other publication for that matter, if it quotes text verbatim or reproduces figures from an article that has already appeared in the *New England Journal of Medicine,* must give due credit, and indeed such credit is usually given. Yet when the chronology is reversed, when a medical newspaper or magazine publishes the same material and the same figures from one of the *Journal*'s articles just before the *Journal*'s publication date, Mr. Silber would argue that this is not competitive. I agree—it is much worse.

The situation is far more complex when a medical news medium presents material that has not yet been offered for publication to the medical literature. Ethical considerations are not at stake under such circumstances, for editors and their advisers can take into account the extent of prior publication when they evaluate any corresponding article that is subsequently submitted. If certain figures have been published, they have at least the opportunity of asking for different ones. In general, the *Journal*'s attitude would be influenced in a negative way if the principal ideas of an article, as well as its crucial data and most important figures had already appeared in a medical news medium—just as the effect would be negative if the identical items had been published by a paradigm of staid medical literature.

There has also been an effort to convince science writers that the attitude of the *Journal* and that of *Obstetrics and Gynecology* is a regressive attempt to interfere with a free dissemination of the news. If science writers had come and talked to me about it, I could have tried to reassure them that the meager paragraphs usually devoted to reporting a scientific observation in a lay news medium never come near qualifying as prior publication in my mind. If on that most rare occasion when a medical scientific report is so important that it is covered extensively by *The New York Times,* then probably the *Journal* is happy to publish the second or third report of that same event. Indeed, a few paragraphs in any publication, including *Medical World News* and *Medical Tribune,* do not concern me. Such reporting of the news is perfectly proper in any medium.

There are of course other, rather ticklish points that agitate the issue. It has been argued that those who make scientific presentations at meetings should thereafter edit and amplify a reporter's account of this presentation to ensure accuracy and comprehensibility. It has also been pointed out that medical news reports are usually not cited in scientific bibliographies, but the practice in this regard is inconstant.

When territory is in dispute, it is always hard to draw a sharp boundary, and the more precise a boundary, the greater the opportunity for unhappy repercussions. I believe, however, that it is time for medical literature and medical journalism to reach some understanding.

It should be accepted, first of all, that material that has already been accepted for publication in the medical literature will be handled in a circumspect and restricted manner by medical news media. In particular, direct quotations, specific data, and figures contained in the manuscript should not be used. At the other extreme, summary statements consisting of two or three paragraphs will not be considered objectionable, particularly if the statements are in the reporter's own words, or if material is quoted from a published abstract.

When an account that has appeared to some extent in a medical news medium is then submitted in more elaborate form to a standard medical journal, decision must be based on individual considerations. In general, however, reporters should not ask for, nor should authors offer, excerpts from the text or the specific figures that they eventually hope to submit to the medical literature.

A modus operandi somewhat along these lines has already been accepted by one of the major medical newspapers. Others, I hope, will follow suit. The issue, however, will not be settled by editors, nor will it be clarified by angry or supercilious editorials. It is you, the faculty (the writers) and the student body (the readers), who will decide upon what is desirable and what is proper in this controversial area. My reasons, as far as the *New England Journal of Medicine* is concerned, are certainly selfish, but authors, readers, and editors face a much larger issue: whether extensive and unrestrained prior publication of medical articles in medical news media will in the long run benefit our ultimate objectives, that is, better medical science and the proper care of patients. What will be

the effect on these objectives if reports of medical research and study are more and more emphasized in news media, uncritically selected and without the benefit of peer review, with the old medical literature types existing as mere microfiches of themselves in some archival repository? If this picture does not alarm you, let me mention briefly a closely analagous problem: namely, that of priority. If A and B discover something simultaneously but independently, and A's findings are reported first and extensively in a medical news journal, and B's at a later date in the *New England Journal of Medicine*, B would make the *Index Medicus*, but the big splash, noted by all, would be made by A.

Let us not, as Art Buchwald says, be over-communicated. Let us insist that policies of pure laissez faire have no place in our complex society, and that all who put the word of medicine on paper—whether litterateurs or journalists —must for the common good recognize and observe certain rules of conduct.

The *New England Journal of Medicine*, you may have noted, likes to present contradictory views—with the conviction, I guess, that no one can be entirely wrong. The *Journal*'s editor reflects his publication's ambivalence, a sort of journalistic expression of that aphorism about ontogeny and phylogeny. For now I want to pay tribute to the medical news media. If it were not for their efforts, the medical profession would be even more ignorant than it is about anything encompassed by the word social—and I didn't say socialistic. We owe a great deal to medical journalism for telling us about economics, ethics, and politics, both national and medical. In this area, by contrast, the medical literature has been woefully deficient. In this area, the difference between the tumult of the tangible campus and placidity of medical literature's invisible campus is most obvious. Does the American medical literature in its overall orientation have its *Ramparts* or its *New Republic*? A silly question. Medical journals don't even have a *Saturday Review*.

In saying this, I am aware that medical student journals, particularly those started by Student Health Organization groups, exist. I am aware of such publications as *Health-Pac*, but these are for the most part parochial and hence restricted in their influence. There are also some rightist publications. One of these is a throwaway called *Private Practice*, which complains about the make-up of the American Medical Association. Why? Because association policies and actions are dominated by educators and researchers. By and large, however, the medical literature in terms of its general attitude and readiness for innovation, consists of just so many *Saturday Evening Post*'s.

Admittedly, this is an exaggeration. Nevertheless, look at any standard medical journal—90 to 100 percent of its contents are directed to the science of medicine or its practical application. Articles on the interaction of medicine with its social milieu are very much in the minority. And in specialty journals, except those devoted to the specialty of making money, such articles are practically nonexistent.

As a result many physicians do not understand what the federal governmen is doing in the field of health. I am not talking about sympathetic understanding; I am talking about simple comprehension. In spite of its fabulous success, the purposes and activities of the National Institutes of Health are little known by physicians except those academically engaged. The purpose and nature of the manifold agencies, task forces, committees—their administrative organization and their specific missions—are complete mysteries to many. Do you know, for example, what the initials HSMHA stand for, or MAAC, or HIBAC? In fact, I've forgotten what they stand for, although I do remember that they represent important administrative and advisory bodies. Necessarily the practicing medical profession knows about the practical details that pertain to the collection of fees under Medicare and Medicaid, but philosophical questions about how the health dollar should be spent are little appreciated.

The dominance of habit is an obvious reason for this state of affairs. The original objective of any trade journal was to promote performance of that trade. Philosophical questions of how that trade meshed with other trades to attain broad humanitarian goals did not appear vital. In fact, it is only recently that society has become aware of itself; that many people, not just a few philosophers or politicians, have become socially conscious. It is thus not surprising that the professional literature of an ultraconservative profession is among the last to respond to changing times.

Another reason for this state of ignorance is that there is no general and unbiased source of information. Doctors, like other citizens, may read about the activities of the Department of Health, Education, and Welfare in the daily press. Fuller coverage, as I have acknowledged, may be found in some of the medical news journals. These, however, usually are descriptions of what was done, not an interpretation of the problems that are being attacked, nor a reasoned explanation of why a certain federal action took place in the field of health. If a more elaborate account does find its way into the standard literature, its purpose is apt to be promotional rather than informational. A functionary in the government, if he has the time and interest to write an article, will usually closely adhere to the party line, that is, his account glows with praise for the federal agency that employs him. The converse obtains when the American Medical Association engages someone to describe a federal activity.

In short, right now, we have no group of authors who have the time, interest, and competence to explain in an analytical manner to the average physician, by means of the standard medical literature, the doings in Washington. No wonder the medical profession distrusts political efforts in the field of medicine. No wonder the doctor fails to get responsibly involved when his literature does not inform him of the variety of problems and alternatives.

In other areas, a faculty interested in the sociopolitical aspects of medical practice does exist, but its output is inferior, at least it seems so to an editor accustomed to general medical trade writing in which concepts are supported by data and an attempt is made at originality and rigorous objectivity. Outstanding vices of this faculty are undisciplined repetition and speculation, endorsement of proposals and schemes without a shred of evaluative evidence, and extrapolation of generalizations from anecdotes. Anyone who reads the literature related to health problems in the United States is well aware that this country's record in infant mortality is relatively poor, that in some regions malnutrition prevails, and that in certain rural and urban areas the unavailability of medical care is critical. Yet the *Journal* continues to receive manuscript after manuscript that reports these points ad infinitum. Perhaps some people feel that truths, like falsehoods, have to be iterated over and over before people will believe them. One writer on prepaid compre-

hensive health provision even had the gall to send to the *Journal* a manuscript that not only repeated the ideas of another article of his that we had already printed, but actually contained paragraphs that word for word were the same. Authors on social topics must learn that their passion for a cause does not give them license to dispense with originality.

Another characteristic of this new and not yet mature faculty in social medicine is its tendency to submit plans for correcting a certain deficiency but without any evaluation of the feasibility or success of that plan. Time after time we find that we must reject articles that consist of enthusiastically presented but totally untried suggestions. In other instances some attempt at evaluation is made, but the evidence is pitifully inadequate. Recently, for example, we had a manuscript in which the authors found that a patient population that was under regular surveillance by a health team required fewer laboratory tests and x-rays than a control population that visited outpatient or emergency facilities on an ad hoc basis. So far so good, but what do you think the conclusion was? It is cheaper to provide planned-surveillance-type medical care than that which is conventionally available at present. This is a startling deduction, but it was reached by simply ignoring the costs necessary to support the surveillance team and its facilities. Even a noneconomist like me can detect some weakness in this balance of accounts.

The tendency of the social medical literature to analyze on the basis of what happens in a single or a few instances is of course a methodologic problem. Quantitative measurement is difficult and intuitive deductions are correspondingly encouraged. Thus the weakness of the faculty in this respect is not personal; it reflects the underdeveloped state of the discipline.

Even reviewers in this general area are soft. They are so emotionally committed to the social goal that they may recommend acceptance of a grossly inferior article merely because it endorses a desirable objective. "I know, I know," said an otherwise skeptical professor of community medicine when I remonstrated with him for recommending a dreadful manuscript, "But the art needs help—you've got to make allowances."

Perhaps general medical journals should engage the services, as science does, of a cadre of reporters whose duty it would be to analyze the social environment of medicine for those who practice medicine.

Last fall M. J. Halberstam maintained that his type of solo practice was just great, that doctors should stick to doctoring and that it was not their business to cure political or social ills (*10*). That doctors should be excused or excluded from the duties and privileges of citizenship is strange argument, but in any case it is irrelevant to the principal reason why physicians must become better acquainted, through the medical literature and other means, with the sociopolitical problems of medicine. One of those endlessly repeated but yet true statements about which I complained earlier is that we are confronted by a "massive crisis" in health care and that "we will have a breakdown in our medical system which could have consequences affecting millions of people throughout the country" (the words are President Nixon's). A physician, like any other citizen, may or may not want to become involved in problems of war, poverty, or school integration. But he must know, if only for his own sake and welfare, how well in the opinion of society he is doing his job. He should have some ideas about the systems that are available for improving his performance, and it is to his advantage to be cognizant not only of the systems that he could voluntarily adopt, but those that he might be forced to accept.

Probably the greatest potential influence on this university's adaptability, its sensitivity to changing needs, is its student body. On the whole the student body (the readership) of the medical literature has been a passive entity that has influenced *Journal* policy but indirectly through its subscriptions. A major problem, I recognize, is that the readership has no means of formulating its thoughts as a body and then communicating them to the editor. Furthermore, I do not wish to give the impression that I am recommending guidance of medical journal policy by a majority vote of the readership. I do wish, however, that the invisible campus of medical literature were wired with a better feedback system involving all of us, for all of us are readers, most of us are writers, and many of us are editors or reviewers.

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