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Growth and Development of Academic Pediatrics in North America

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This 81st Annual Meeting of the American Pediatric Society comes in its 83rd year, a venerable age which might suggest impending senility, for institutions, like people, are subject to the processes of differentiation, growth, development, and senescence. American pediatrics, although its birth was postmature, had a vigorous neonatal period and a flourishing infancy when this society came into being. Then followed a rather long latency period, succeeded, especially since the Second World War, by a rapidly accelerating phase of growth. This is shown in Figure 1, depicting growth in the membership of this Society. Even more striking than this recent rapid growth is the fact that, while its early membership comprised almost every physician in North America interested in the medical care of children, including such illustrious figures as Sir William Osler, a drastic change has taken place during the second 40 years of the Society's existence.

Since 1930, there has been a rapid functional differentiation of pediatricians into those in full-time academic pursuits and those involved in the practice of family pediatrics. This functional differentiation has had its structural representation in a series of new pediatric associations. These changes are depicted in Figure 2, which shows the development of three new academic societies and two major academies concerned with practice. The numbers at the right indicate the total membership of each society, and show that the members of the American Pediatric Society now represent only 3% of American pediatricians, and, even with their younger colleagues in the Society for Pediatric Research, the total is under 6%. Since most of the 31,000 physicians in the American Academy of Family Practice look after children, our membership now comprises less than 1% of the doctors caring for children in this country. Moreover, an increasing number of pediatric specialists—cardiologists, allergists, neurologists, and others—are beginning to organize themselves into separate groups.

What does this mean for the future of pediatrics and child health? What is the role of the American Pediatric Society to be, now that other societies are assuming some of the functions stated by its founders in 1888: "The Society has for its object the advancement of the Physiology, Pathology and Therapeutics of infancy and childhood"? Sixty-two years later the revised constitution was more specific. "The objects of the Society shall be to bring together men and women for the advancement of the study of children and their diseases" (note that children come before diseases), "for the prevention of illness and the promotion of health in childhood, for the promotion of pediatric education and research, and to honor those who, by their contributions, have aided in this advancement." This is a broad mandate. The actual implementation of the second and third of these objects has become the primary responsibility of other organizations, which owe their origins to developments in this Society. Thus, "the prevention of illness and the promotion of health in childhood" is the major function of the American Academy of Pediatrics. "The promotion of pediatric education" has become the principal concern of the Association of Medical School Pediatric Department Chairmen, while pediatric research has received increasing, although still inadequate, encouragement from the National Institutes of Health.

Despite these developments, the American Pediatric Society still performs a unique function through its Annual Meeting, which fulfills the first and fourth objects of the Society, as spelled out in its 1950 consti-

tution. The first of these is "to bring together men and women for the advancement of the study of children and their diseases." The importance of coming together cannot be overemphasized. It provides an opportunity to renew old friendships, to discuss problems of mutual interest with colleagues from other medical schools, and to converse with former pupils and teachers. In a time of proliferating committees, advisory groups, study sections, workshops, seminars, and special conferences, a general pediatric meeting such as ours may seem antediluvian. However, to my way of thinking, it is more important than ever to bring together all those in academic pediatrics in a meeting which is not phrenetically focused on the latest advances in an ever narrowing field, but one which provides perspective on pediatric research as a whole.

The second main function is "to honor those who, by their contributions, have aided in the advancement" of pediatrics. This we do in three ways. The first is by selection of a paper for presentation on this program. If this is to be an honor, there must be rigorous selection. We should maintain at least a 1:2 ratio of papers presented to total abstracts submitted, otherwise, the honor of appearing on the platform becomes meaningless. This year just over 40% of the 621 papers submitted to the two societies will be presented, so we are holding our own. The second way is by election to the Society. Here again, we must demand high standards of academic achievement, if membership is to remain the honor that it has always been. Elitism is not a popular credo in this country, particularly among youth, but the standards of a profession have always been maintained by those who aspire to excellence; it is particularly essential that we keep the level of academic pediatrics high, especially with the present pressures to train larger numbers of physicians in less time. Finally, we honor our colleagues by their election to office and by giving the Howland Award to "those happy few" whose contributions to the advancement of pediatrics have been truly outstanding.

The splendid history by Harold Faber and Rustin McIntosh [3] indicates that a perennial problem in this Society has been the struggle of its activist members to direct its activities toward some desirable goal through political action. The attempt has usually failed. This should neither disturb nor surprise us, for political or social action takes initiative, organization, time, persistence, and money, resources which most of the members must husband primarily for use in their own institutions and communities. But there are increasingly effective mechanisms for collective national action on behalf of children. The American Academy of Pediatrics, with its permanent secretariat in Evanston and its new Washington office, backed by the resources of a large organization, which has maintained a surprisingly flexible attitude toward the vexing problems of health care, provides an important means of keeping in touch with and influencing national developments on behalf of child health. A second small group, also brought into being by members of this Society, the Joint Council of National Pediatric Societies, made up of the principal officers of five pediatric societies (American Academy of Pediatrics, American Pediatric Society, Association of Medical School Pediatric Department Chairmen, Association of Teachers of Maternal and Child Health, Society for Pediatric Research)—coordinates their attempts to influence national policies concerning children. American pediatrics can be proud of the cordial relationships between those in academic pediatrics, those in the private practice of pediatrics, and those working on behalf of chil-

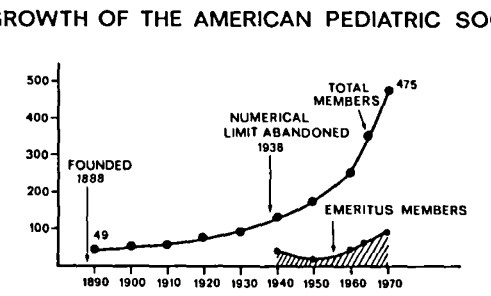

Fig. 1. Growth in total membership (active and emeritus members) of the American Pediatric Society since its founding. The number of members was limited until 1938.

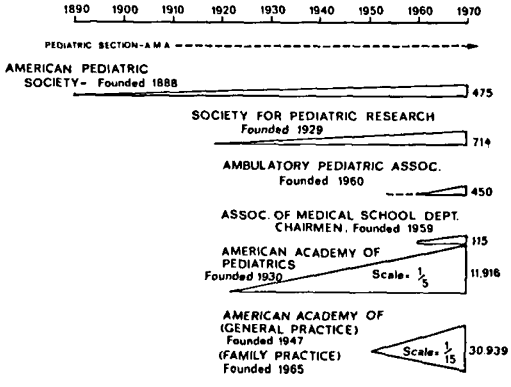

Fig. 2. Growth and development of professional societies concerned with pediatric research, teaching, and practice. Numbers at right-hand margin represent total membership of each society in 1970–1971. American Academy of General Practice was changed to American Academy of Family Practice in 1965.

dren in our governmental agencies—state health departments, the National Institute of Child Health and Human Development, and what was once the Children's Bureau. Much credit for this goes to the American Academy, which has steadfastly kept the welfare of children as its central objective; consequently, it has been able to utilize the academic talent of the country on the one hand, and to work constructively with government on the other.

Active efforts to improve pediatric education and to share experiences in the complex business of organizing, financing, and maintaining a proper balance between patient care, teaching, and research in a pediatric department are the natural province of the Association of Medical School Pediatric Department Chairmen. This started as a rump session at these meetings, but it now conducts an annual meeting attended by the chairmen of all 115 pediatric departments in North America. Academic pediatrics is also linked with medical education as a whole through representation of three academic pediatric societies on the Council of Academic Societies of the Association of American Medical Colleges, a large organization with permanent executive officers in Washington. These national activities become increasingly important, as the Federal government inevitably moves into financing and guiding the direction of medical education to meet society's goals.

Fundamentally, the role of the American Pediatric Society is to promote the advance of scientific pediatrics. It will do this as long as this meeting remains the culmination of the academic year, when we gather to hear about investigations which are pushing out the frontiers of pediatric knowledge, to discuss them critically, and to enjoy the companionship of pediatric colleagues on the golf course, on the boardwalk, and in corridors, restaurants, and bars. The essential purposes of this meeting should remain intellectual, social, and inspirational, both for our younger colleagues, embarking on their academic careers, and for us old timers, who take comfort for the future of pediatrics from those whom Dr. Gamble liked to call "the oncoming young men and women."

I must warn strenuously against allowing formal meetings of committees and special interest groups during this brief period to destroy the relaxed, congenial atmosphere that has always characterized this annual festival, for this meeting is the country fair of academic pediatrics, when the research harvest is in and the fruits of the year's work are on exhibit and often up for bids in the academic market place. Like a country fair, it should be a time for fun as well as business. Thus, I see an increasingly important role for these annual meetings. Through careful selection of papers for presentation, the academic societies can set standards of quality for pediatric investigation. Through a proper mix of general sessions and specialized section meetings, we can both broaden and deepen the impact of advancing knowledge upon pediatric education and practice.

The task of the academic pediatrician is twofold, to teach the best pediatric practice possible with present knowledge, and to make the pediatrics of tomorrow better than the pediatrics of today. The latter depends upon pediatric research, the channel through which advances in scientific understanding are brought to bear upon the health of children, while unique clinical observations upon children are brought back to challenge and enrich the basic sciences. I dislike the invidious distinction often made between basic and applied science, because my experience in two applied research ventures, the plasma fractionation program and the study of immunologic deficiencies, has been that practical problems could not have been solved without theoretical knowledge and advanced techniques but, at the same time, basic knowledge itself was extended by new observations arising in the course of these applied studies. As pediatric clinical investigators, I believe that it is our responsibility to focus on the major, relevant problems of our time, rather than simply to follow all of the paths down which our curiosity leads us, essential as that freedom is for the truly basic scientist. To my mind the "crisis in health care" of today is in considerable part the result of trends in academic medicine during the years since the Flexner report: the tremendous emphasis upon research in the biologic sciences, brilliant as their achievements have been, as almost the sole criterion for academic advancement, even in clinical fields, and the confinement of medical education to the university teaching hospital, where a group of highly specialized individuals concentrates on the treatment and study of a small fraction, a mere 0.1% by Kerr White's estimate [8], of the total ills, which cause our people disease and force them to seek help.

If we are to find solutions for the major problems of child health, we must look out from the teaching hospitals, which have been our castles, and build bridges across boundaries which have tended to limit our vision and circumscribe our activities in the past. The first of these bridges should connect pediatric research more intimately and with a wider spectrum of basic

science than ever before. The second bridge should extend teaching and investigation into the community where illness begins. The third should link our activities with pediatrics in the rest of the world.

For the first of these bridges, the classical biomedical sciences, essential as they are, will not alone suffice. We are faced with a broad spectrum of disease processes affecting the human organism during his period of growth, from conception to postadolescence, which run the gamut from those, such as genetic, immunologic, or malignant diseases, which require the most sophisticated tools of molecular and cellular biology, to those—for example, neurologic diseases, learning disorders, or emotional and social maladjustment—which depend primarily upon the neurosciences, psychology, and the social sciences for their solution. Our task is to promote as close communication as possible, in our own particular academic environment, between scientifically trained pediatric investigators and those basic scientists to whom the problems of health and disease present an exciting challenge.

Now for the second bridge, into the community. In the early 1950's, I became convinced that extensive training in the care of seriously ill children alone was not enough for a profession with an increasing obligation to keep children well. In fact, health supervision, the prevention of disease by immunization and hopefully by anticipatory guidance, and the minimization of disability by early recognition of potentially serious illness had proven themselves to be far more effective than hospital treatment of advanced disease. Accordingly, with the backing of our Dean, Dr. George P. Berry, and a grant from the Commonwealth Fund, we launched a family health care program in 1955, aimed at providing an opportunity for supervised clinical experience, teaching, and research in the community and the home where illness begins [4]. The development of this program was based on certain premises, summarized below.

1. The teaching of health care and child development requires *longitudinal, continuing experience,* with clinical responsibility for a few families over a long period, rather than a series of brief glimpses of a large number of children at particular stages in their development.

2. Health care should be *comprehensive,* including both health maintenance and the diagnosis and treatment of illness, as in private pediatric practice.

3. *Health care involves a team,* headed by a physician, but working collaboratively with nurses, social workers, and others.

4. Responsibility for the health care of families should not begin until *the medical student has acquired his basic knowledge and clinical skills,* so that he can fill his role as a physician with some confidence.

5. If we wish to attract able people into family medical practice, this field will have to have *status in the hierarchy of specialities* which have replaced general practice in this country, and it will have to present *an intellectual challenge* comparable to, but different from, the specialties growing out of advancing technology. This means research into family health problems, a theoretical scientific background upon which such research can be founded, techniques whereby it can be advanced, and opportunities for a new kind of clinical investigation [1].

As this interdepartmental educational program has evolved over 16 years, part-time students in family health care have included most of our pediatric residents, a few medical residents, psychiatric residents learning about so-called "normal families," and a very appreciable portion of successive Harvard Medical School classes. Full-time postresidency fellows have come from pediatrics, from internal medicine, and from general or family practice. A medical care research unit, directed by a distinguished medical sociologist, bears the same sort of relationship to this program as Dr. Enders' laboratory does to the study of infectious diseases in children, and has a strong influence on the teaching program. Recently, formal residency training for a career in family medicine has been developed, and it is attracting first class people, through cooperation between the Peter Bent Brigham Hospital, the Boston Hospital for Women, the Children's Hospital, and the Family Health Care Program of the Harvard Medical School. I do not mean to imply that what we have done has tipped the scales toward a better balance in production between superbly trained scientific specialists and equally well trained family physicians. Things were beginning to go that way, and many academic leaders and many forces, including the present revolution in the social orientation of our young people, have created the pressure for change expressed in the 1966 Millis report [6] and the recent special report on "Higher Education and the Nation's Health" of the Carnegie Commission [5]. But I believe that academic medicine has an important role to play, not only in providing the knowledge upon which modern health care is based, but also in determining how this can best be delivered to the public. We cannot take on full responsibility for public programs, but we should be responsible for the

health care of a defined population of adequate size for purposes of research and teaching in this field.

We do feel that the premises upon which our program was based have been vindicated. There is intellectual excitement and ample opportunity for research in family medicine. The family physician or pediatrician can have the status of a specialist, but a specialist in people, rather than in a particular disease or system. As a well trained specialist, he requires adequate remuneration and professional gratification. This can only be achieved by having his capacities amplified by a team of professional associates, principally by nurses, but also by social workers, clinical psychologists, and other allied health personnel. This should have the added advantage of easing the shortage of physicians and of permitting him to spend more of his time with those patients whose problems demand his own particular diagnostic and therapeutic skills.

Only research, experiment, and time will determine whether primary health care is best delivered in a particular environment by: (*1*) a group practice of pediatricians and internists; (*2*) a group of properly trained family physicians; or (*3*) a group of "nurse practitioners," who provide primary care under the supervision of doctors of either of the two foregoing types [9]. The real problem will be to deliver health care to all of our people, urban and rural, in a way that is most efficient in terms of cost and utilization of scarce personnel, that is most effective in meeting the changing health needs of our population, and that is most satisfying both to the consumers and to the providers, for its quality will depend upon the latter, who will be conditioned to a large extent by attitudes and expectations established during their education and training.

In his 1935 Presidential Address to the society, Dr. Borden Veeder suggested that "in a few years the general practitioner will take over a large part of the work that is being done by the specialist in pediatrics as he now exists" [7]. The growth of the American Academy of Pediatrics, which was founded 5 years before that speech, has shown that the prediction was incorrect for the next three and a half decades, but whether it will prove to be wrong for another three decades will be decided by the ultimate test of all our hypotheses, experiment and evaluation. At least, the quantitative and qualitative aspects of the delivery of health care have become almost as respectable an area for clinical investigation as the applications of molecular biology to the study of disease. Both types of research are essential to the future development of pediatrics, whether it be practiced in the community by nurses, by family pediatricians or family physicians, or in the hospital by consultant specialists.

The third bridge, to pediatrics in the rest of the world, is essential for three reasons: first, because of what we can learn; second, because of what we may be able to contribute; and third, because it provides one way in which, as members of a humanitarian profession, we can work to prevent the most terrible disease which afflicts man and threatens children—war. We have much to learn from pediatrics in other developed countries of the world, in research and in health care, for their health indices are better than ours, and, in most instances, their ratio of doctors to population is lower.

In the developing countries, nearly two-thirds of the world's children are living under the constant threat of malnutrition, parasitism, and infection. Here a small number of pediatricians are still struggling with the type of clinical problems that preoccupied our illustrious predecessors in this Society, problems for which medical and public health solutions now exist, but which, like many of our own most urgent contemporary health problems, are deeply rooted in their socioeconomic and cultural milieu. From the standpoint of learning, my own experiences in some of the developing countries have provided insight into the problems that we face at home and have often suggested better ways to meet them. In addition, a visiting pediatrician may bring something, particularly a more detached viewpoint, as well as research training and techniques, to assist his harried academic colleagues in analyzing the mass of clinical problems which press upon them so heavily [2].

Finally, in a world torn apart by suspicion, threatened with disaster, on the one hand by the population explosion, which inevitably follows rapid lowering of the death rate by public health measures, and, on the other, by man's insane mania for achieving national security by building weapons of destruction, we must forge links of personal friendship with professional colleagues in all countries who share our goals and interest. Modern science and technology, while threatening mankind's common and fragile environment—the atmosphere and the biosphere—have also made national sovereignty as outmoded in politics as cupping and purging have become in medicine. As pediatricians, we are already members of a world fraternity, dedicated to a goal to which all people can subscribe —better health, and a better life for their children.

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