

REPORTS

1950-1975: PROGRESS CONTINUES

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Almost from the beginning, each of the annual symposia on the Biology of Skin has been devoted to a single subject. The format has been fairly rigid: the first paper introduces the chosen subject, which is then discussed in detail in subsequent manuscripts. However, the purpose of this twenty-fifth symposium is not to pour over one cell, one organ, or one mechanism. Commemorating as it does a quarter of a century of biomedical research that was stimulated, wooed, fathered, and brought to adulthood by one man, this symposium marks a 25th anniversary for all of us and stands as a monumental tribute to Dr. William Montagna, affectionately known as Bill, Will-um, Alpha One, and "The Mightiest Primate of Them All."

Sadly for me, my assignment is not to extol our intrepid leader, William Montagna, nor may I succumb to the temptation to reminisce about the origins of what has evolved into the finest annual work session on the biology of the skin. But I hope I shall be forgiven if I make a small concession to nostalgia and tell you of my first contact with Alpha One. I was a callow youth, fresh from the training and stimulation of the Mayo Clinic, voluntarily sequestered in Hanover, New Hampshire where the Hitchcock Clinic and Dartmouth Medical School were giving me the opportunity to develop my interest in human eccrine sweat glands and eczema. Among other things, I had been taught that emotional stress was responsible for some of the eczemas of the hand and ear canal. In keeping with the medical tradition that when science can't explain a disease, we give it a name, such eczema had been labeled dyshidrotic dermatitis. A sneaky way, I must say, to implicate the sweat gland as the villain.

"Structure" and "function" were on the tongues of all young scientists at the time. "Understand the normal and you will conquer the abnormal," we cried. So I rushed forward with my new love, eccrine sweat glands, to conquer eczema. The ear canal seemed a likely and well-contained cavern in which to begin the battle because eczema was so prevalent there. But nowhere in the medical literature could I find the histology of the human ear canal and its glandular structures described. No-

where, that is, until I began to search the anatomical and biological journals. There I found that a biologist at Brown University named Montagna had described exactly what I needed to know. I immediately phoned him, and he enthusiastically and graciously sent me his material on the ear canal and reassured me that eccrine sweat glands were there. This was the beginning of a long, rewarding friendship and collaboration which enriched my personal and scientific life and included those about me.

I have been instructed to discuss dermatologic advances during the past twenty-five years and, since we are all educators, perhaps I should review what we as teachers think is important to other dermatologists and students. Peruse, as I did, the programs of the American Academy of Dermatology over the past 25 years, which reflect the important subjects in our continuing attempt to solve the problems. It is an amazing experience! In all those years, the range of subjects treated has scarcely changed. Naturally, the amount of new information presented about those subjects has increased and new ways to treat the diseases—antibiotics, corticosteroids, and cancer chemotherapeutic drugs—are constantly being devised. And yet, despite a mounting heap of data about the why's and the what's of dermatologic diseases, most of the old diseases and problems are still with us.

Next I suggest that we explore the clinical and basic science journals to see whether any scientific milestones have been recorded. The result is for the most part disappointing. Yet one can sense a progression from the era of "cutaneous medicine" into that of "structure and function," which, in turn has quietly advanced into an era of ever more detailed, critical, and sophisticated cutaneous cell biology, an era in which we still flourish.

The last five years especially are marked by a new excitement and the use of innovative approaches. Clinical correlations of basic science information are more relevant and their application to patient care seems nearer than ever before. Study the programs and abstracts of the Society for Investigative Dermatology, and this impression will be confirmed.

In retrospect, though, hasn't every year in dermatology been an exciting one? I, for one, cannot recall any year that has not. But to obtain a more

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objective view, I divided the past 25 years into segments of 5 years and then looked critically again at the progress which had been made in each. Without exception, each quinquennium was more exciting than its predecessor and was overshadowed by the achievements of the present.

When I review each segment in the light of what and how we taught our medical students, our residents, and ourselves, I find the same new excitements surfacing during every five-year period. To determine whether this astounding progress has been unique to dermatology or whether we were just a small part of a mass movement and development in all aspects of cellular biology, I searched the nondermatologic journals, the programs, and abstracts of nondermatologic clinical research societies for the answers.

We were not alone. In the effort to match quantity with quality, we were neither faster nor slower than the better achievers in other fields. All were using the same techniques, and all were borrowing from and building on the same basic knowledge developed elsewhere to answer similar types of questions. Our limitations, such as they were, were imposed upon us by the uniqueness and complexity of the organ with which we worked, but at the same time, we had the extra advantage of benefiting from its availability. Whatever limitations we had were to be found in the small numbers of workers attracted to our field. Even now, the total number of dermatologists is less than 5,000. Twenty-five years ago, it was one-third that number. Statistically, less than 10 percent of our total cadre are in academic dermatology, and probably only one-fourth to one-half of these are involved in laboratory studies.

During the course of these cogitations, I weighed the wisdom of trying to select the outstanding achievements of the past 25 years. But my own personal interests and prejudices got in the way of objectivity and I decided against such a course. I am intrigued by the eczemas, and my favorite research has been into atopic dermatitis. More recently, studies pertaining to inflammation and immune systems excite me. But I am well aware of the equal, perhaps greater, excitement aroused in others by psoriasis, acne, oncology, and many other diseases.

What about the "keynote" presentation, my assigned task? Since *keynote* is one of those amorphous words that can mean almost anything, I had recourse to Webster's for a precise definition. Skipping over several irrelevant definitions, I found the, to me, most appropriate: "Keynote. The prevailing tone."

What prevailing tone has been ringing in dermatology for 25 years? Without doubt it is *progress!* Continual, increasing, expanding, improving, exciting progress! How has such progress happened? Why has it happened? Of course, people made it happen. But how were they able to do this? The more I thought about the accomplishments and progress of dermatology over the last 25 years, the

more I realized that the individuals who ensured this progress could never have done so alone. Without organization and organizations, without institutions and institutes, we would still be nowhere. Certainly, administration and administrations, with their rules, regulations, and emphasis on accountability can be bothersome at times. But the fact that we create organizations and institutions generally means that we need them. And once they no longer serve this need, they are either changed, merged with others, or abolished. That is the evaluation and history of all human institutions.

As I think about it, I doubt whether any of us gives much thought in our day-to-day work to our dermatologic organizations or institutions. Rather, we take them for granted. We call on them when we need them, neglect them when we don't. Even if we are personally involved in their creation or operation, we are so occupied with their goals and the successful function and administration of the moment that we sometimes lose sight of their value to each of us individually and to all of us as a whole. Sometimes, individually and collectively, we may disagree with what our institutions should represent and impose on us; but, since we are they, we can influence them too.

Since this is a keynote presentation about dermatology from 1950 to 1975, and since I believe that the keynote, the prevailing tone, is progress, I think a review of what our specialty has created in the way of organizations and institutions to make such exciting progress possible is in order. From time to time, we need to remind ourselves that we were not always the way we are today and to realize that we will be a little different tomorrow and very different 25 years hence.

First, let us look at what and where dermatology was in the United States in 1950, and then look at where and what we are in 1975 and how we got there. In 1950, we were a small specialty of medical practice consisting of about 1400 dermatologists. We had an accreditation board, four societies, two journals, a handful of training centers or departments with full-time faculty, and many more departments staffed exclusively by volunteer faculty, a few accredited dermatologists with both M.D. and Ph.D. degrees, and even fewer full-time Ph.D.'s in departments or divisions of dermatology. Other scientists—physiologists, environmentalists, microbiologists, and anatomists—were also interested in working on the skin. In industry, scientists were working on wool, leather, and cosmetics. But for the most part, the dermatologists and these basic scientists had not found one another. This was the situation a few years after World War II: dermatologists picking up momentum after that hiatus in scientific productivity, which was, nevertheless, a period of mounting experience and learning in different parts of the world.

In 1950 the American Dermatologic Association was 75 years old and claimed a limited member-

ship of the old and new leaders in the specialty. It was a scientific forum intended mainly for clinical research and reports. We also had a Section on Dermatology as a branch of the American Medical Association, which met during the annual meeting of the American Medical Association and was the only national forum with unlimited attendance available for the presentation of new and original clinical reports. The American Academy of Dermatology and Syphilology, which had been founded to provide an entirely different type of meeting, was 12 years old. Its programs were designed to be instructional, and included graded laboratory courses, lectures, symposia, and informative discussion groups. Unlike some societies, which are exclusive by intent, the Academy was intended to be inclusive so that its benefits would be available to all honorable physicians practicing the specialty. Emphasis was placed on serving the youthful, not merely those young in years but also those young enough mentally to be hungry for knowledge about the most recent advances in therapeutic and diagnostic methods as well. Reaching out to those still in training, this organization, which in 1950 numbered 1400 members, supplemented the training given at the large training centers.

Even before 1938, research-oriented leaders had recognized the need for a new dermatologic society and a new journal which would emphasize investigative rather than purely clinical work. By 1950, the new Society for Investigative Dermatology and its semiannual publication, *The Journal of Investigative Dermatology*, were publishing the 15th and 16th volumes. Our other journal, the *Archives of Dermatology and Syphilology*, was publishing its 61st and 62nd semiannual volumes in 1950.

By 1950 the American Board of Dermatology and Syphilology, an accreditation board founded to maintain and elevate the standards of the specialty, was 18 years old. It sprang from a growing awareness that specialism in medicine had to be based on adequate training, experience, and competence. It was and still is basically an examining and certifying body for physicians who voluntarily seek recognition as specialists in dermatology. Establishing minimum requirements of education and graduate training, this Board takes a keen interest in developing the facilities to provide adequate training.

By 1950, another need was making itself felt among a few young dermatologists who were interested in clinical and basic research, the need for direct encounters with scientists from nondermatologic institutions. This need led to the development of the Annual Symposia on the Biology of Skin.

Thus in this country by 1950, we had four societies, two journals, and an accrediting board. We also had leaders, each of whom contributed uniquely to further some aspect, to meet some need, to solve some problem. Time does not allow me to enumerate all of these men and women who

had the perspicacity to see each of our needs as a specialty.

Under the aegis of many strong leaders in the field, the clinical and educational aspects of dermatology were moving along well by 1950; but to initiate the basic research aspects of the specialty, to help them grow, and to supply the information needed for the practitioner and the educational programs posed special problems. At that time, only a few centers were equipped to quicken the research momentum slowed down by World War II. These few dermatologic institutions located in New York, Pennsylvania, Illinois, Michigan, and Minnesota were really the only base we had. Others were struggling for existence, and still others needed to be created and developed. All needed help, especially the most recent and those located in the more obscure centers. They also needed critical review, stimulation, and support in funding their ideas and institutions. Of/all of the many great leaders who answered these needs, I will discuss only three who became very special to us over the next decade, Stephen Rothman, Donald Pillsbury, and Marion Sulzberger.

In 1964, Bill Montagna and I chose to dedicate the proceedings of that year's symposium, called "Epidermis," to Stephen Rothman [1]. "This book is dedicated to Stephen Rothman, who directly or indirectly sired much of what is new in modern dermatology. Those of us who have known Dr. Stephen Rothman are uniquely privileged. He was a great teacher, scientist and physician, an ornament to the human race and a patron of mankind. He zealously guarded everyone's freedom in science and championed and encouraged the young. He respected authority, but he never revered it. His keen intellect, encyclopedic knowledge and great wisdom gave him an unrivaled critical judgment. His criticisms of the faults of others, however, were always tempered by his great heart.... The many of us who have had the joy of knowing him say, 'Thank you, Stephen, for enriching our lives.'...In the annals of dermatology, this is the era of Rothman."

In the 1950s, Rothman was the idol who inspired us to work, but it was Donald Pillsbury and Marion Sulzberger who made it possible for us to do the work. Except in a few well-endowed institutions (and even some of these were self-supporting), no money was available for dermatology. The federal government was just beginning to show some interest in and assume some responsibility for biomedical research and education. The military experiences of World War II had shown that dermatologic diseases could be major and disabling. Pillsbury and Sulzberger, who were serving in the Army and the Navy, respectively, emphasized the government's responsibility to aid those suffering from skin disease and began knocking on doors in Washington.

Pillsbury summarized that period very well in his Prosser White oration, delivered in 1961 [2],

entitled "On Nourishing Dermatologic Research." "The influence of the medical experience in the war upon dermatology may be summarized as follows. It impressed a very large number of physicians, both civilian and military, with significant potentialities of disease affecting the skin and producing prolonged morbidity and ineffectiveness. It convinced many future leaders of medicine that more attention to this ought to be paid in the future...."

Later in his address, Pillsbury declared, "Dermatology fared very poorly during the initial years of the National Institutes of Health, and there were reasons for this. There were few medical institutions with the facilities in dermatologic departments to justify the submission of any grant-in-aid request with any hope of success.... The second factor was that the study sections and the councils were more properly interested in other fields. During these initial years, certain members of the medical family, including dermatology, were forced to stand by more or less quietly in the queue." Then, when the National Advisory Council undertook to survey the imbalance in research support which had developed by 1954, Pillsbury was privileged to present the case for dermatologic research before the council which acknowledged that our specialty was indeed a "neglected area." Because of his efforts, a policy of stimulating research in dermatology was initiated. Without men like Pillsbury working for us, we might have been left high and dry with the mainstream of scientific support rushing past us.

By the mid-1950s, then, we had found our research legs and were off and running. Later when the NIH training grants became available, we received more support and began to raise several generations of bright, intelligent, eager young academicians. Recruitment of the top people in biomedicine into dermatology began to accelerate and continues today.

Research contributed to our education programs in many ways. Pillsbury put it very well when he said: "Those trained in a department where an active investigative program is being carried on, even though some may not be actively engaged in the research itself, will benefit even more by being raised in the stimulating atmosphere of doubt and inquiry."

That decade of 1950-1960 was one of getting started, of development, of establishing research and educational centers. Departments and divisions of dermatology increased in number and in quality. All the while, we continued with our established organizations and institutions, creating no new national organizations in the United States in that decade. These would come in the 1960s.

By 1960, an interesting trend was developing in academia. For the first time in several decades, medicine was looking quizzically at the quality and type of education it was offering. Dermatology was no exception. To meet this new challenge to

upgrade the quality of dermatologic education and training, we needed a new vehicle, a new institution or organization which would focus its attention on the goal of increasing the productivity of dermatology departments and thus of enhancing the academic reputation of dermatology.

The proposed organization was to be called the Association of Professors of Dermatology. Those who conceived this new organization went to the American Academy of Dermatology for help. Thus, under the aegis, sponsorship, and support, both intellectual and financial, of the Academy, the Association of Professors of Dermatology was established in 1961. It developed special Spring workshops devoted to all aspects of education and it met annually with the Academy. Early in the 1970s, it extended its sphere by meeting annually with the American Association of Medical Colleges. Last year it was standing on its own feet as a full-fledged, self-supporting corporation.

It was soon apparent that as the specialty grew in size and responsibility, even more needs would surface. In mid-1963, a few dedicated dermatologists began discussing the possibility of organizing a foundation as a unifying force and as a fund-raising group for the advancement of dermatology. The specialty had ceased to be the "neglected area" of a decade earlier. The time had come that we could help ourselves. The Dermatology Foundation was incorporated in late 1964 and immediately began to disperse its income to achieve its goals. Now it funds over \$100,000 annually in grants and fellowships. The Foundation's income comes mainly from the private sector. Many of us here have not only contributed to the Dermatology Foundation but have been recipients of grants and fellowships as well. This is a beautiful example of our specialty helping itself to improve, and not a moment too soon since federal funds for education and research have been drying up.

The small specialty of a few years back now numbered around 4,000 diplomates. But the 1960s were to prove an even greater era of self-improvement.

You will recall that in the mid and late 1960s all of medicine was caught up in a whirl of rapid scientific progress and steady socioeconomic change. In 1967, Dr. Shannon, who was serving his last year as Director of the National Institutes of Health, raised the question of whether medicine or any branch of it could plan its own future and guide its own destiny. This was no rhetorical question: he wanted this information available for his last meeting with the Congress in the spring of 1968. The challenge was thrown out to three of the smaller specialties on the premise that they could respond more quickly than larger ones. Dermatology was one of the three.

This challenge reached the American Academy of Dermatology at its annual meeting in December, 1967, just weeks before Dr. Shannon was to report to Congress. By now, the Academy, under the

presidency of Clarence Livingood, was acknowledged to be the most comprehensive and representative of all dermatologic organizations in the country. The specific need was to undertake a systematic survey of the health needs of the American population with respect to skin disease and to evaluate the present and future functions of the specialty that must cope with them.

Once again dermatology went to work. The president of the Academy formed an *ad hoc*, the 12-member Joint Committee on Planning for Dermatology whose task was to draw up a formal report evaluating the status of dermatology in patient service, education, research, and administration measured against the health needs they were designed to meet. It was to include sound, specific proposals to assure the realization of all goals and objectives. All dermatologic institutions became involved. From its earliest days, the joint committee received the official endorsement of the American Board of Dermatology, the American Dermatologic Association, the American Professors of Dermatology, the Dermatology Foundation, and the Society for Investigative Dermatology. With the financial support of several of these organizations and the efforts of over 100 individuals, the preliminary report was completed on time. Named the National Program for Dermatology, this plan stated as its major goal the conquering of disabilities which are due to skin disease through patient service, education, and research.

To ensure the future of this vital plan, the Academy at its December, 1968, meeting undertook to sponsor it and took steps to implement it. It was agreed that it should be funded by an additional assessment of all the members. This was the first time a medical specialty had, on its own initiative and at its own expense, analyzed its response to the health needs of the nation and undertaken a program that would meet these needs more completely. However, our National Program for Dermatology continues today as an active and vital program of the American Academy of Dermatology.

Recently, new national societies, like the Noah Worcester Society, the Society of Tropical Dermatology, the European Society for Dermatological Research, and the International Contact Dermatitis Group have developed. Postgraduate and continuing education courses, usually university sponsored, became and continue to be available on every subject, in every season, and everywhere throughout the nation. All are always oversubscribed. New journals, such as the *International Journal of Dermatology*, *Cutis*, *Contact Dermatitis* and *The Journal of Dermatologic Surgery*, appeared on the national and international scenes.

By 1968 the Society for Investigative Dermatology had expanded its forum and influence. In addition to its annual meeting associated with the Section of Dermatology of the American Medical Association, it now holds Spring meetings in association with those of the American Society of

Clinical Investigation and the American Federation for Clinical Research. Regional meetings are held in conjunction with the "Young Turks" sectional meetings. Every three years the Society for Investigative Dermatology meets jointly with the European Society for Dermatological Research in Amsterdam, and both societies are involved in cooperative publication of *The Journal of Investigative Dermatology*. The SID also offers and sponsors postdoctoral research fellowships. Laypersons afflicted with diseases have formed such foundations as the Psoriasis Foundation, The Acne Foundation, and the Scleroderma Foundation. Now, to help exchange educational experiences in developed nations and to assist developing nations, we have a newly formed Foundation for International Dermatology Education.

Most recently, to ensure our preeminence and to recognize our expertise in dermatopathology, the American Board of Medical Specialists permitted the American Board of Dermatology and the American Board of Pathology to jointly establish a subspecialty board of Dermatopathology. This is a "first" for this type of interboard cooperation.

Never have so many done so much for so many, and it's getting better every minute. Our young scientists are incredibly "beautiful people," well motivated, more numerous, and more skilled than we ever were. The specialty certainly is in good hands for the next quarter of a century.

In closing, let us go back briefly to the beginning of this era, which for my peers has been the Rothman era. He was the president of the Society for Investigative Dermatology in 1949, just a decade after its founding and the year before the beginning of this quarter of a century that we've been talking about. His presidential address was entitled, "Basic Research in Dermatology." Here are a few gems from it [3].

"Modern dermatology has been built on the solid pillars of precise macro and microscopic observations, accurate recording and meaningful interpretation of data. This progress has been accomplished by the 'observers.' The 'experimenters' also use observation, recording and interpretation, but there is one crucial difference between the two approaches. The observer registers what occurs under highly complicated natural conditions and in his interpretation tries to reduce the complex phenomenon to its elementary parts. The experimenter creates or arbitrarily chooses his own conditions under which he wants to make his observations. He likes to keep all factors as constant as possible and varies only one factor the effect of which he wishes to examine. The observer tries to read natural phenomenon correctly. The experimenter actively asks questions from nature."

Rothman went on to say, "Of course, one has to ask intelligently; nature will not answer silly questions."

"The contradistinction of descriptive and experimental methods does not imply that one is superior to the other....Moreover, contrasting descrip-

tive and experimental work does not imply contrasting clinical and laboratory work...a great amount of purely observational work is done in the laboratory.... In true 'clinical investigation,' work on the patient and in the laboratory is so...intimately interwoven that in many cases no sharp borderline can be drawn...."

Later Rothman stated: "Basic research in medicine can be defined as research with the purpose of unravelling simple, elemental biological facts. It need not have the purpose of applying the resulting knowledge to a clinical problem. As a matter of fact, in basic research we never know in advance whether there will be any application or whether there is any, when it will come or to what it will apply. Basic research is inconceivable without experimentation because simplification of complicated natural phenomenon requires establishment of arbitrarily chosen conditions...."

Next Rothman emphasized that "...The most important part of experimental work is brain work. Setting the problem clearly, inventing a working hypothesis, choosing the right methods and evalu-

ating the results require, in addition to clinical and laboratory experience, quite a bit of thinking."

He went on to scold us and to plead that we sit down and spend more time thinking and trying to figure out ways and means of studying the etiology of our common skin diseases. All this in 1949!

I think Stephen Rothman would be pleased and proud to see how well the specialty with its strong cadre of keen "observers" and "experimenters" has followed his advice over the last quarter of a century. Whether we call this the Rothman era, the era of cutaneous cell biology, or the era of continuing progress in dermatology, I believe we will all agree that the products of the first 25 years of these symposia under the direction and inspiration of Bill Montagna are proof that we are progressing.

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