

Historical Perspective

The American Society for Neurochemistry (ASN): Antecedents, Founding, and Early Years

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Abstract: Events leading to and the influences on the founding of the American Society for Neurochemistry are recounted, with emphasis on early activities of neurochemists in the United States, as well as the international activities, that led to the founding of both the International and American societies (in 1965 and 1969, respectively). The founding of the American Society for Neurochemistry in the pe-

riod 1968–1969 and its first annual meeting in 1970 are described, together with significant developments during the early years of the Society. **Key Words:** Biochemistry—History—Neurochemistry—American Society. **Tower D. B.** The American Society for Neurochemistry (ASN): Antecedents, founding, and early years. *J. Neurochem.* **48**, 313–326 (1987).

In the decades between the two world wars a number of dedicated investigators studied the chemistry of brain and nerve. We recall today such pioneer neurochemists as Hans Winterstein and Ernst Klenk in Germany; Aleksandr Palladin in the Soviet Union; Judah Quastel, Rudolph Peters, and Henry Dale in Britain; and Ralph Gerard, Harold Himwich, Warren Sperry, and Irvine Page in the United States—to cite just a few. Winterstein (1929) and Page (1937) published reviews of the state of neurochemical knowledge at the time. Despite the considerable data available, Page contended that: “It is difficult to understand why the chemical constitution of the brain has remained practically uninvestigated. The economic liability of nervous and mental disease is in a social sense so vast, one might have anticipated that every avenue of analysis would have been followed to solve these problems.” (Page, 1937, p. vii).

In fact it was not until after World War II that neurochemistry emerged as a distinct discipline and that neurochemical research achieved the momentum with which we are now familiar. In company with science in general, postwar neurochemistry shared in several major developments that greatly facilitated its

growth. One surely was the introduction of important new or improved methodological and technological tools—chromatography; electrophoresis; radioisotopes; electron microscopy; subcellular fractionation; tissue culture; microcytochemical procedures; lipid extraction techniques; immunocytochemistry; the availability of special biochemicals, enzymes, toxins, and exotic species (such as giant squid and electric eel); and increasingly sophisticated instrumentation to complement them (Tower, 1981).

A second major development was the provision, beginning in the 1950s, of significant resources for funding biomedical research and for the training of young investigators. In the United States these research grant and fellowship funds have come primarily from the U.S. National Institutes of Health (NIH), notably the National Institute of Neurological Diseases and Blindness (NINDB) and National Institute of Mental Health (NIMH), and the U.S. National Science Foundation, but there have been various other sources, both public agencies (such as the U.S. Veterans Administration) and private foundations (such as the National Multiple Sclerosis Society, the Muscular Dystrophy Association, and United Cerebral Palsy).

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Abbreviations used: ASN, American Society for Neurochemistry; IBRO, International Brain Research Organization; ISN, International Society for Neurochemistry; MHRF, Mental Health Research Fund; NEI, National Eye Institute; NIH, National Institutes of Health; NIMH, National Institute of Mental Health; NINCDS, National Institute of Neurological and Communicative Disorders

and Stroke; NINDB, National Institute of Neurological Diseases and Blindness (predecessor of NINCDS); UCLA, University of California at Los Angeles; WFN, World Federation of Neurology. *Note* that the NIMH was authorized by the U.S. Congress in 1949 and the NINDB was authorized in 1950. The NEI was created in 1968. The NIMH ceased to be part of the NIH in 1967; it is now part of the U.S. Alcohol, Drug Abuse and Mental Health Administration.

Comparable, albeit more modest, funding for biomedical research has been provided by analogous agencies in other countries. Thus, the availability of new technologies and of funds for research combined to provide rapid and steady growth of both established and new fields of biomedical research. Neurochemistry shared most definitely in this postwar expansion phenomenon.

But these factors alone would not have sufficed. The other essential ingredient was the development of the neurochemical "community." It is in this development that the antecedents of the American Society for Neurochemistry (ASN) reside. And it is in keeping with Page's contention, already quoted, that the beginnings stemmed from concern over problems of clinical neurology and mental health, in many cases by physicians turned neurochemists. To appreciate these developments one must look both to the United States and to Europe and to the events leading to the foundings of both the International Society of Neurochemistry (ISN) and the ASN. Folch-Pi (1983) and McIlwain (1985) have each discussed this subject with respect to the founding of the ISN. Here the events as they relate more specifically to the founding of the ASN have been emphasized.

ANTECEDENTS

The first such specific occasion in the United States was the 27th Annual Conference of the Milbank Memorial Fund held in New York City in November 1950 on the subject "The Biology of Mental Health and Disease" (Milbank Conference, 1952). Although not exclusively a biochemical conference, it had a strong biochemical orientation and attracted most contemporary North American neurochemical investigators. Comparable moves were afoot in England. British neurochemists held a symposium in 1951 in London under the aegis of the Biochemical Society (Williams, 1952), and this was followed in 1952 by two neurochemically oriented meetings sponsored by the Mental Health Research Fund (MHRF) (McIlwain, 1985). The first, on "Prospects in Psychiatric Research," involved mostly British contributors, but the second held at Bristol (after the Paris International Biochemical Congress) was deliberately oriented to neurochemistry with participants from the Milbank Conference, the Biochemical Society symposium, and the earlier MHRF meeting. McIlwain (1985) has characterized the Bristol meeting as the first international neurochemical meeting. A specific consequence of discussions during this meeting was the designation of an international committee to organize a series of symposia, the first of which was held under MHRF auspices at Oxford in 1954 on the subject "Chemistry in Relation to the Development of the Nervous System" (McIlwain, 1985).

Five such International Neurochemical Symposia were held: at Oxford in 1954 (Waelsch, 1955); at Aar-

hus, Denmark in 1956 (Richter, 1957); at Strasbourg, France in 1958 (Folch-Pi, 1961); at Varenna on Lake Como, Italy in 1960 (Kety and Elkes, 1961); and at St. Wolfgang, Austria in 1962 (Richter, 1964). The original organizing committee comprised Joel Elkes, Louis Flexner, Jordi Folch-Pi, Seymour Kety, and Heinrich Waelsch from the United States, and Geoffrey Harris and Derek Richter from Britain. Each symposium had a specific theme; attendance was by invitation and limited usually to fewer than 100 participants; and the proceedings were published in a series of five monographs.

At this same period the first two definitive texts on neurochemistry by Elliott, Page, and Quastel (1955) and by McIlwain (1955) were published, and the *Journal of Neurochemistry* was inaugurated by Pergamon Press of Oxford in 1956. McIlwain (1985) has pointed out that there were clear connections between those active in the International Neurochemical Symposia and the early members of the editorial board of the *Journal*. The original board comprised V. Engelhardt (U.S.S.R.), A. Engström (Sweden), J. Folch-Pi (U.S.A.), S. S. Kety (U.S.A.), E. Klenk (West Germany), A. Pope (U.S.A.), D. Richter (U.K.), R. J. Roszter (Canada), M. Vogt (U.K.), and H. Waelsch (U.S.A.). Volume 1 of the *Journal*, published in 1956-1957, totalled 376 pages (in comparison to the current two annual volumes containing some 10-fold that number of pages).

Also during this same period Soviet neurochemists became active. At Kiev in 1953, Aleksandr V. Palladin organized the first of six conferences on neurochemistry. Subsequent meetings took place at Kiev in 1957, at Yerevan (Armenian S.S.R.) in 1962, at Tartu (Estonian S.S.R.) in 1966, at Tbilisi (Georgian S.S.R.) in 1968, and at Leningrad in 1971, with the proceedings of each meeting published (Tower, 1981). Although these meetings in the U.S.S.R. had little direct influence on the course of Western neurochemical activities, they were indicative of the general ferment in the field.

In North America, aside from the Milbank Conference in 1950 already referred to, the first gatherings of neurochemists were at annual meetings of the Canadian Physiological Society and at the annual Federation Meetings (Federation of American Societies for Experimental Biology) held in those days in Atlantic City, New Jersey. However, these tended to be relatively large meetings with often divergent interests, so that, as in Britain, meetings and conferences more specifically oriented to neurochemistry emerged. For example, Saul Korey and John Nurnberger initiated a series of five symposia on "Progress in Neurobiology" by organizing a symposium on "Neurochemistry" in 1955 at Atlantic City (Korey and Nurnberger, 1956). Others followed at yearly intervals including symposia on "Ultrastructure and Cellular Chemistry of Neural Tissues" (Waelsch, 1957) and on "The Biology of Myelin" (Korey, 1959). Likewise Eugene Rob-

erts and colleagues hosted a symposium at Duarte, California, in 1959 on "Inhibition in the Nervous System and γ -Aminobutyric Acid" (Roberts et al., 1960).

Such meetings on specialized topics and with a limited number of participants were augmented by at least two larger neurochemical groups. The first of these was the Section on Neurochemistry organized by Donald Tower, Maynard Cohen, and Elizabeth Roboz in 1957 within the American Academy of Neurology and destined to be a forum for annual meetings for a decade or more thereafter. The first meeting of the Section at Boston in April 1957 included a "Colloquium on Neurochemistry," to which many prominent Canadian and U.S. neurochemists contributed (American Academy of Neurology, 1958). At its second meeting in Philadelphia in 1958 the program included a symposium on the "Neurochemistry of Nucleotides and Amino Acids" (Brady and Tower, 1960). That this neurochemical forum has not easily survived subsequent developments in American neurochemistry must be attributed to several factors—the very clinically oriented setting of the American Academy of Neurology, where there were real difficulties in overcoming disparities between the often neurochemically naive neurologists and the often neurologically naive neurochemists, as well as the emergence of other more traditionally attractive fora such as the International Neurochemical Symposia and the ISN and ASN that came into being within the next decade.

A second American group active in the early 1960s was the Neurochemistry Club, organized by William Clark of Los Angeles in 1963. Within several years the membership numbered more than 100 from the greater Los Angeles area, and meetings were held three to five times a year at the UCLA Faculty Club (Cherkin, 1968*b*). This group contributed to neurochemistry sessions at the 1966 San Francisco and 1968 San Diego meetings of the Western Federation of Neurological Sciences (O'Brien, 1968). Again subsequent activities of this neurochemical group have been greatly influenced by the foundings of the ISN in 1965 and the ASN in 1969 and by the founding of the Society for Neuroscience in 1969.

This brief account of neurochemical activities in North America has not been intended to be definitive but is merely to exemplify the growing interest in fora for exchange of ideas and discussion of research findings, as the numbers of neurochemical investigators and laboratories continued to multiply. The same pressures were reflected internationally in the prominent inclusion of neurochemistry in the organization and activities of the International Brain Research Organization (IBRO) and the World Federation of Neurology (WFN), both of which have dealt more generally with the neurosciences and clinical neurology.

IBRO was proposed in 1958 in Moscow at an international colloquium on "Electroencephalography and Higher Nervous Activity" and was duly orga-

nized under UNESCO auspices several years later. Within the IBRO format of neuroscience panels, neurochemistry was one of the seven original panels, and early participants in its activities were Elkes, G. Harris, H. Hydén, McIlwain, Richter, and Waelsch. Indeed Heinrich Waelsch served as the first treasurer of IBRO and as honorary secretary during 1964–1966 (McIlwain, 1985). By 1961 IBRO had become an organization, independent of UNESCO, with international programs that included symposia, training workshops, travelling lectureships, fellowships, and publications throughout the world, especially in developing countries (IBRO, 1980; McIlwain, 1985).

At the clinical level the WFN, founded in the mid-1950s by its first president, Ludo Van Bogaert of Belgium, devoted its ongoing activities not only to the holding of quadrennial International Neurological Congresses but also to a variety of "problem" commissions. The first of these, the Commission of Neurochemistry, was founded in 1959 and was headed by its secretary, Armand Lowenthal of Belgium. Members of the original WFN Commission of Neurochemistry were H. J. Bauer (West Germany), G. Brante (Sweden), J. N. Cumings (U.K.), G. W. F. Edgar (Netherlands), J. Folch-Pi (U.S.A.), S. R. Korey (U.S.A.), A. Lowenthal (Belgium), A. G. E. Pearse (U.K.), J. H. Quastel (Canada), D. Richter (U.K.), L. Svennerholm (Sweden), and W. W. Tourtellotte (U.S.A.) (WFN, 1961). The WFN Commission of Neurochemistry sponsored a number of international meetings, notably at Göteborg, Sweden, in 1962 (International Symposium, 1962) and at Oxford in 1965 (Ansell, 1966), both attended by many neurochemists from all parts of the world. During the 1965 meeting more than 100 papers were presented at several simultaneous sessions. It was also at the time of this 1965 meeting that the ISN was founded (Folch-Pi, 1983; McIlwain, 1985).

The proposal for an ISN was originally circulated by Jordi Folch-Pi and Heinrich Waelsch (both of the U.S.A.) to "prominent colleagues" in May 1962. Given a unanimously favorable response, a provisional organizing committee was formed, consisting of Holger Hydén (Sweden), Ernst Klenk (West Germany), Henry McIlwain (U.K.), Paul Mandel (France), Aleksandr Palladin (U.S.S.R.), Alfred Pope (U.S.A.), Derek Richter (U.K.), Roger Rossiter (Canada), Genkichi Takagaki (Japan), and Folch-Pi and Waelsch (both U.S.A.). Others were invited to join as founding members from lists compiled by the organizing committee. As a result 79 colleagues accepted the invitation and confirmed the authority of the organizing committee (Folch-Pi, 1983). Just prior to the 1965 meeting of the WFN Commission of Neurochemistry at Oxford, the ISN organizing committee met in London to authorize the formulation of statutes and by-laws and the incorporation of the ISN. Meanwhile the WFN Commission of Neurochemistry had proposed a "World Association of Neurologi-

cal Chemists" to be discussed at the 1965 Oxford meeting. The ISN organizing committee met with the WFN Commission members and offered them membership in the ISN (McIlwain, 1985). The offer was accepted and plans were laid for the first meeting of the ISN at Strasbourg, France, in July 1967. A second meeting was held at Milan, Italy, in 1969, and subsequent meetings were held at 2-year intervals thereafter.

Thus, the ISN became a reality, with an initial membership of more than 200 and with Roger Rositer of Canada as Chairman, Jordi Folch-Pi of the U.S.A. as Secretary, and Derek Richter of Britain as Treasurer (Folch-Pi, 1983; McIlwain, 1985). As recounted by Folch-Pi (1983): "The purpose of the Society would be to represent neurochemical interests in an international framework, to organize international meetings, . . . and to be responsible for the publication of an international neurochemical journal, presumably the *Journal of Neurochemistry*, if an agreement could be reached with the publishers, Pergamon Press." As it turned out, the opportunity to achieve the last goal presented itself unexpectedly soon in 1969, when the *Journal* became the property of the ISN in October of that year.

In his history of the ISN, Folch-Pi (1983) wrote: "To avoid any feeling of clubbiness or elitism, the Provisional Society sought new members who were suggested by the present members. . . . To ensure broad representation of the various aspects of neurochemistry, a committee on clinical problems was appointed to ensure that clinical neurochemists would be properly represented in the Society . . . an associate category of membership was instituted to permit people on the fringes of neurochemistry to join the Society and to participate in its activities." The initial committee on clinical problems of the ISN comprised John Cumings (U.K.) as chairman, Helmut Bauer (West Germany), Armand Lowenthal (Belgium), Wallace Tourtellotte, and Donald Tower (both U.S.A.).

THE FOUNDING OF THE ASN

It was against the foregoing background that the ASN came into being in 1969. About one-half of the original ISN members were from North America. Many of them and their younger colleagues had not been able to participate in the earlier International Neurochemical Symposia. Biennial multinational meetings and the cost of travel to Europe for such meetings were potential drawbacks for dedicated ISN participation. At the time it was not always easy to publish in the *Journal of Neurochemistry*. And there was a degree of unhappiness among several American groups—those from the West Coast who perceived a preponderance of East Coast colleagues organizing and managing various neurochemical activities; and those who were particularly interested in the applica-

tion of neurochemistry to behavioral and clinical problems that seldom seemed to secure equal consideration from the same "eastern establishment." The existence of such views was recognized in the references by Folch-Pi (1983) to "feelings of clubbiness and elitism" and the need for proper representation of clinical neurochemists, at the time of the founding of the ISN. Today we may tend to disregard such vagaries of the neurochemical "climate" in the late 1960s, but they were of real concern at that time.

In fact in 1968, quite independently of the founders of the ASN, a group of 40–50 neurochemists met during the Federation Meetings in Atlantic City to discuss the organization of an American Neurochemical Society. Martin Gál (Division of Neurobiochemistry, University of Iowa Department of Psychiatry, Iowa City, IA, U.S.A.) was delegated to send out a circular describing purposes and goals and to poll American and Canadian neurobiochemists and biochemical neuropharmacologists regarding the desirability of (1) an association or society and (2) the publication of a new journal in this discipline (Gál, 1968, 1984). Jordi Folch-Pi (Research Laboratory, McLean Hospital, Belmont, MA, U.S.A.) was invited to join in circulating such a communication. In the draft of the circular and poll, Gál (no date) wrote, "Although most of us are members of the International Society for Neurochemistry we feel that, while such a society should and must continue, a greater degree of interaction and exchange of ideas could be underwritten by an organization closer to home. The existence of these two societies need not be exclusive, but rather supportive." Gál went on to ask: ". . . whether you would support a new periodical devoted to neurobiochemistry and biochemical neuropharmacology. Such a journal could greatly strengthen the area of neurobiochemistry, first by relieving what must be a heavy editorial and publishing load on the *Journal of Neurochemistry* and, second, by permitting the dissemination of a greater number of high quality papers in both journals at a faster rate of appearance." (Gál, no date).

The proposal by Gál was never circulated because already on May 1, 1968, a letter had been sent to the 119 American members of the ISN by Jordi Folch-Pi (Research Laboratory, McLean Hospital, Belmont, MA, U.S.A.), Wallace Tourtellotte (Department of Neurology, University of Michigan Hospital, Ann Arbor, MI, U.S.A.), and Donald Tower [Laboratory of Neurochemistry, National Institute of Neurological Disorders and Stroke (NINDS), NIH, Bethesda, MD, U.S.A.] with the purpose of "Exploration of the possible establishment of an American Society for Neurochemistry" (Folch-Pi et al., 1968). In this letter the writers stated:

It is our conviction that to be useful, the hypothetical Society should be based on a broad interpretation of Neurochemistry defined as the application of chemical techniques and chemical concepts to the study of the nervous system, in health and in disease. Thus, it

should draw its membership over the whole range of scientists working on basic neurochemical problems, to clinicians carrying [out] bona fide neurochemical research at the bedside.

Each recipient of this circular was sent the mailing list and was asked to respond to the enclosed questionnaire, asking (1) if the establishment of an American Society for Neurochemistry was desirable at that time; (2) if so, would you join as a founding member nucleus for such a society; (3) if so, would you nominate three neurochemists (not necessarily ISN members) to be members of the organizing committee; and (4) if selected to be a member of the committee, would you serve. Suggestions, comments and criticisms were invited.

Of the 119 American neurochemists who were sent this letter and questionnaire, 101 responded affirmatively to the four questions, and from the nominees submitted those with the most "votes" were designated members of the Organizing Committee of the ASN (Table 1; Fig. 1). When Martin Gál learned of the proposal by Folch-Pi, Tourtellotte, and Tower, he wrote to Folch-Pi withdrawing his own proposal but reserving the right to consider the matter of a second journal (Gál, 1968). Because of his interest, Gál was invited to the first meeting of the Organizing Committee and at the second meeting he was elected a member (Folch-Pi, 1968, 1973; Minutes, 1968). [John O'Brien and Arthur Cherkin, both of Los Angeles,

were also invited to the first meeting but were unable to attend.]

Other responses to the request for comments on the initial May 1, 1968 letter are of some interest and relevance. There was general enthusiasm for the proposed ASN. Replies from West Coast writers pleaded for organizational representation for neurochemists from that area: ". . . the majority of neurochemists reside on the East Coast but the West has enough legitimate neurochemistry to warrant a voice . . ." (Lolley, 1968). There were also pleas for attention to other neural tissues such as the retina and to "behavior as a function of the molecular environment of the nervous system" that can be approached by applications of chemical techniques and concepts (Cherkin, 1968a; Lolley, 1968). A genuine role for the younger generations of neurochemists was urged (Lolley, 1968). A letter from Ralph Gerard, already one of the senior statesmen in the neurosciences, began by remarking that: "I daresay that is timely and wise and wish you luck in its development," but in declining to take an active role, he informed Folch-Pi that for the Brain Research Committee of the U.S. National Research Council he was spearheading the formation of "a multidisciplinary society in this country dealing with all approaches to the nervous system . . ." (Gerard, 1968). This initiative, of course, led to the creation of the Society for Neuroscience in 1969 (Perl, 1986). In addition there were concerns expressed about the format for meetings, whether independent or in conjunc-

TABLE 1. *Members of the Organizing Committee and of the First Council of the ASN, 1968-1971^a*

Bernard W. Agranoff, M.D.	Professor of Biological Chemistry, Neuroscience Laboratory (and currently Director), Mental Health Research Institute, University of Michigan, Ann Arbor, Michigan
Jordi Folch-Pi, M.D. ^b	Professor of Neurochemistry (Harvard), Research Laboratory, McLean Hospital, Belmont, Massachusetts. Provisional Secretary and Secretary, ASN. (Deceased 1979)
E. Martin Gál, M.D., Ph.D.	Professor of Neurobiochemistry, Division of Neurobiochemistry, Department of Psychiatry, University of Iowa, Iowa City, Iowa
Seymour S. Kety, M.D.	Professor of Psychiatry (Harvard), Psychiatric Research Laboratories, Massachusetts General Hospital, Boston, Massachusetts
Abel Lajtha, Ph.D.	Principal Research Scientist (currently Director), New York State Research Institute for Neurochemistry and Drug Addiction, Wards Island, New York, New York
Francis N. LeBaron, Ph.D.	Professor of Biochemistry, Department of Biochemistry, University of New Mexico School of Medicine, Albuquerque, New Mexico. Provisional President and President, ASN
Henry R. Mahler, Ph.D.	Research Professor of Chemistry, Department of Chemistry, Indiana University, Bloomington, Indiana. (Deceased 1983)
Guy M. McKhann, M.D.	Professor of Neurology, Department of Neurology, Stanford University School of Medicine, Stanford, California (since 1969, Professor, Department of Neurology, Johns Hopkins Hospital, Baltimore, Maryland)
Eugene Roberts, Ph.D.	Director, Division of Neurosciences, City of Hope National Medical Center, Duarte, California
Wallace W. Tourtellotte, M.D., Ph.D. ^b	Professor of Neurology, Department of Neurology, University of Michigan Hospital, Ann Arbor, Michigan (currently Professor at Wadsworth VA Hospital and UCLA School of Medicine, Los Angeles, California)
Donald B. Tower, M.D., Ph.D. ^b	Chief, Lab. of Neurochemistry, NINDS, NIH, Bethesda, Maryland (after 1973, Director, NINCDS; Emeritus since 1981). Provisional Treasurer and Treasurer, ASN
Frederick J. Wolfgram, Ph.D.	Professor of Neurology, Department of Neurology, Reed Neurological Research Center, UCLA, Los Angeles, California

^a Elected by the founding members and acted as the Council of the ASN for its first annual meeting (March, 1970) and until the duly elected members of the 1971-1973 Council assumed office at the second annual meeting (March, 1971) (Folch-Pi, 1973). The officers of the ASN, denoted above, were chosen provisionally by the Organizing Committee and later ratified by the membership at the first annual meeting (March, 1970) (Program, 1970). Affiliations are given for the period 1968-1971.

^b Original founders of the ASN.



FIG. 1. Members of the Organizing Committee and original Council of the American Society for Neurochemistry. **Left to right, top row:** Tourtellotte, Folch-Pi, and Tower; **middle row:** Lajtha, Gál, Roberts, and Wolfgam; **bottom row:** Kety, Agranoff, LeBaron, McKhann, and Mahler.

tion with other organizations such as the American Academy of Neurology or the Federation Meetings (Lehrer, 1968; Marks, 1968), and there were suggestions for the early creation of subcommittees of the ASN Organizing Committee to plan and implement programs (Lajtha, 1968). The foregoing discussion exemplifies, but does not exhaust, the types of responses in the many letters received.

A special comment is in order about the proposals for a journal for the ASN. Martin Gál had already expressed a special concern in this matter (Gál, 1968), and he went on to poll some 70 colleagues about a new, Society-sponsored journal. Most of those polled (70%) favored a new journal (Gál, 1969). Under other circumstances I think that the newly formed ASN might seriously have considered launching its own journal. But unbeknownst to the neurochemical community the future of the *Journal of Neurochemistry* had become extremely uncertain at just this time. The owner and publisher of the *Journal*, Pergamon Press, experienced an attempted corporate takeover and then internal management problems that led to suspension of the trading of its stock on the British exchange and the temporary ouster of its chairman,

Capt. Robert Maxwell. There was a real possibility that the company could fail, in which case the *Journal* might not survive. At this juncture, in mid-1969, the acting chairman of Pergamon, A. N. Richards, offered the copyright and ownership of the *Journal* to the ISN in return for a contract specifying that Pergamon would continue for the time being as publisher. The offer needed legal scrutiny and ratification by the ISN Council, so that it was not until October of 1969 that transfer of the ownership was formally agreed on (Announcement, 1970). At that time any public disclosure and discussion of such problems would have been most unwise, and any move by a group potentially as large as the proposed ASN to start a new neurochemical journal would have been a major threat to the future of the *Journal*. Accordingly those of us on the Organizing Committee of the ASN who were privy to these events persuaded our colleagues to defer any further consideration of a new journal for the time being. [At the time, Jordi Folch-Pi was Secretary of the ISN, Donald Tower was Chief Editor of the *Journal* for the Western Hemisphere, and together with Abel Lajtha and Eugene Roberts were members of the ISN Council.]

The first meeting of the Organizing Committee of the ASN took place on November 12–13, 1968, at the National Institutes of Health in Bethesda, Maryland, with Donald Tower as local host (Minutes, 1968). At this meeting the Committee voted to invite Canadian and Mexican members of the ISN to join the founding members of the ASN, to invite new (North American) members of the ISN also to join the founding group, and to adopt the ISN qualifications for membership as tentative guidelines. Further it was decided to circulate a letter among the founding members summarizing developments to date (Folch-Pi, 1969a) and to place an announcement in *Science* inviting all interested active neurochemists to get in touch with any member of the Organizing Committee regarding joining the founding group of members. This notice was published as a Letter to *Science* in the February 21, 1969, issue (Tower, 1969a). More than 150 responses were received. Finally several subcommittees were appointed: Statutes (Mahler, McKhann, and Folch-Pi); Membership (Agranoff, Tower, and Folch-Pi); Education and Publications (Gál, Lajtha, McKhann, Roberts, and Agranoff as chairman); Liaison (with the Brain Research Committee, the ISN, etc.: Kety, Roberts, and Tourtellotte); Meetings (Tourtellotte, LeBaron, Lajtha, and Wolfram as chairman). A second meeting of the Organizing Committee at Ann Arbor, Michigan, in mid-1969 was proposed by Agranoff. Tower was charged with investigating details of incorporation of the ASN. LeBaron invited the Society to hold its first meeting in Albuquerque, New Mexico, in the spring of 1970.

The second meeting of the ASN Organizing Committee took place on June 3–4, 1969, at the Mental Health Research Institute of the University of Michigan in Ann Arbor, Michigan, with Bernard Agranoff as local host (Minutes, 1969). Developments at this meeting were summarized in a letter to the founding membership dated July 15, 1969 (Folch-Pi, 1969b). At this meeting, Martin Gál was elected a member of the Committee, Jordi Folch-Pi was elected Provisional Secretary, and Donald Tower was elected Provisional Treasurer. In response to the letter in *Science* and other publicity about the Society, the founding member group then numbered 250, including Canadian and Mexican colleagues. Two principal matters were discussed and acted on at this second Committee meeting: the incorporation of the Society and the drafting of its statutes and by-laws; and the planning for the first annual meeting of the Society at Albuquerque in March 1970.

For that first Society meeting a Program Committee was appointed, consisting of LeBaron, Lajtha, Roberts, Tourtellotte, Wolfram (chairman), and Folch-Pi (ex officio). The meeting was set for March 16–18, 1970, and a tentative format of two morning symposia with invited speakers; some 150 free communications in several simultaneous sessions during the 3 days; and informal evening round-table discussions.

The free communications were to be presented or sponsored by members. Abstracts of all communications would be published in a copyrighted publication—the final title chosen being *Transactions of the American Society for Neurochemistry* (Program, 1970). A detailed announcement of the meeting was circulated early in the fall of 1969 to the membership and was widely publicized elsewhere (LeBaron, 1969). With the exception of the meeting format a consensus was easily reached on all aspects. Two members of the Program Committee (Roberts and Wolfram) argued strongly against the traditional “boring” 15-minute platform papers and strongly for symposia, small discussion groups, and workshops (Wolfram, 1984). Despite this suggestion for innovations (such as the poster sessions of today), there were strenuous objections from others (notably Folch-Pi), who felt that the 15-minute platform paper was the more appropriate and traditional format. That latter view carried the day.

With respect to the incorporation of the ASN, Tower reported to the Organizing Committee on the procedure, as advised by an experienced law firm in Washington, D.C.—Melrod, Redman, and Gartlan (Redman, 1969a). The lawyers estimated the cost at about \$1,000. The Committee voted to incorporate the ASN in the District of Columbia; to retain Melrod, Redman, and Gartlan as legal representatives to proceed with the incorporation of the ASN and the securing of tax-exempt status for the ASN; and to empower Tower to continue to act for the Committee in these matters. There was a discussion of “substance of the statutes of the ASN,” and a Subcommittee on Statutes (consisting of Tower, McKhann, and Folch-Pi) was appointed to formulate the Articles of Incorporation and the By-Laws for consideration by the Organizing Committee and eventual adoption by the membership. Guidelines for membership as ordinary or associate members were to be formulated by the Membership Subcommittee [and were circulated to the membership in December 1969 (Folch-Pi, 1969c)]. In view of the legal fees for incorporation, the Committee voted to assess all members \$5 to cover such costs and an additional \$5 as dues for the first year. The Provisional Treasurer (Tower) was empowered to bill the membership accordingly (Minutes, 1969).

The Organizing Committee had planned to solicit nominations for election to the first ASN Council and to hold a mail ballot from all members prior to the Albuquerque meeting in March 1970. This proved to be impossible in the time remaining, so that the Committee served as the Council to the Society (ratified by the membership at the Albuquerque meeting) until nominations and a mail ballot could be held in late 1970 for the first duly elected Council, to take office in March 1971 (Folch-Pi, 1973).

Drafts prepared by the Subcommittee on Statutes were put in the appropriate format of Articles of Incorporation by the lawyers and were submitted for ap-

proval on July 7, 1969 (Redman, 1969*b*). These Articles were circulated to members of the Organizing Committee (Tower, 1969*b*), and the final version was signed and filed with the Corporation Division of the District of Columbia Recorder of Deeds on August 6, 1969 (Articles, 1969). The Certificate of Incorporation was issued by the District of Columbia dated that same day (Certificate, 1969). The legalities were completed by the recording of a meeting of the incorporators (the legal representatives for the ASN) that same day to accept and approve the Certificate, to delegate to the Council of the ASN (the Organizing Committee) the power to make by-laws, and to recognize this Council, named in the Articles of Incorporation, as "the first directors of the corporation [Society] to hold office until the first annual meeting of shareholders [members] or until their respective successors shall be duly elected and qualified." (Incorporators, 1969). It was further required that this "Council" hold a meeting in Washington, D.C., to elect officers (President, LeBaron; Secretary, Folch-Pi; Treasurer, Tower), to propose and adopt By-Laws for regulation and management of the affairs of the Society, and to adopt a seal of the Society (Council, 1969). In fact the drafts of the By-Laws were not put into final form until the Albuquerque meeting. The original draft, formulated by Tower and Folch-Pi after the Ann Arbor meeting of the Organizing Committee, was circulated to all Committee members in February 1970. Several members (Roberts and Wolfram, on the West Coast, and Gál, in the Midwest) consulted colleagues to develop modifications of the original version. At the first meeting of the Organizing Committee/Council at Albuquerque, a thorough consideration of the draft of the By-Laws over 2 days of meeting achieved a version that obtained unanimous approval by the Council (Minutes, 1970*a*). At the Business Meeting of members at Albuquerque, there was a careful article-by-article presentation and discussion before the membership finally voted adoption of the By-Laws for the ASN (Minutes, 1970*a,b*). The Articles of Incorporation and the By-Laws of the ASN are reproduced in the several membership directories of the Society (Directory, 1973–1974).

Technically, with the incorporation of the Society and the legal recognition of the Council and its officers, the ASN was founded as of August 6, 1969. But in fact the founding was not completed until the holding of the first meeting of members in Albuquerque when the membership ratified the authority of the Organizing Committee as the Council and of the officers chosen by the Committee. As Folch-Pi (1973) wrote: "The membership formulated the Bylaws, thus bringing the Society into full operational status."

THE EARLY YEARS—AND BEYOND

The third Article of Incorporation of the ASN states in part that the purpose of the Society is:

To advance and promote the science of neurochemistry and related neurosciences and to increase and enhance neurochemical knowledge; to advance, promote, support, encourage and facilitate communication among investigators in neurochemistry and related neurosciences; to promote, support, encourage and facilitate the dissemination of information concerning neurochemical research through scientific meetings, seminars, publications and related activities; to promote, support and encourage the research of individual neurochemists and to engage in any and all other activities for the advancement of the science of neurochemistry which may be deemed advisable. (Articles, 1969; Directory, 1973–1974, p. 8)

The first annual meeting of the ASN, March 16–18, 1970, in Albuquerque, New Mexico, represented the beginning of the implementation of those stated purposes and goals. By the time of the meeting, the membership of the ASN totalled 314, the great majority being classified as ordinary members (Membership, 1970). There were more than 300 registrants at the first annual meeting, which like all subsequent meetings was an open meeting that included non-members, many of whom were destined to join soon.

The meeting in Albuquerque was hosted by the University of New Mexico and by its Local Committee consisting of Francis LeBaron (chairman) and his colleagues, Luis Garcia-Bunuel, James Gay, Madeline Nasby, and Gaynor Wild (Program, 1970). The program was planned and organized by the Program Committee chaired by Frederick Wolfram, with Abel Lajtha, Eugene Roberts, Wallace Tourtellotte, and Jordi Folch-Pi as members (Minutes, 1969; Program, 1970). In putting together the program, the committee was confronted with submissions of abstracts for the free communications long after the January 5th deadline, but Chairman Wolfram utilized local UCLA colleagues (Hilde Hirsch, Sidney Roberts, Arthur Yuweiler, and Claire Zomzely-Neurath) to review the late arrivals, and LeBaron was able to include them in the printed program (Wolfram, 1984). There were two half-day symposia (total of 12 papers), and 129 free communications were distributed among several simultaneous sessions on each of the 3 days of the meeting. The symposium for the first morning was on "The Role of Cyclic AMP in the Nervous System," with Alan Robison of Vanderbilt University School of Medicine as chairman. On the following morning the symposium on "Fractionation of Neurons and Glia" was chaired by William Norton of Albert Einstein College of Medicine. In 1970 these two topics were indeed timely and occasioned lively discussion. It was duly noted that although one might not have remembered all of the 15-minute presentations, LeBaron put on a great banquet of Mexican food (Wolfram, 1984).

Besides the scientific program, there was much Society business to be considered at this first meeting of the membership. Copies of the draft of the By-Laws of

the ASN, as prepared and approved by the Organizing Committee/Council, were distributed to the members at the first Business Meeting and each article was explained by Tower. Discussion by the members was deferred until the second Business Meeting to permit study of the proposed By-Laws. At the second meeting, after considerable discussion, the By-Laws were approved by a substantial majority of the members present (Minutes, 1970*a,b*). A principal point of discussion, extending in fact over the next few years, dealt with the categorization of applicants for membership—probably an unavoidable matter of concern for a new organization but one that the Council and members eventually resolved satisfactorily in the face of a rapidly growing membership.

It was agreed that the ASN would sponsor a textbook on neurochemistry under the aegis of the Publications Committee chaired by Bernard Agranoff (Minutes, 1970*a*).¹ This initiative resulted in the volume, *Basic Neurochemistry*, published by Little, Brown & Co. in 1972 (Albers et al., 1972), with its royalties accruing to the ASN (Report, 1973)—a most successful and significant handbook for the working neurochemist and text for teaching purposes, by now already in its third edition (1981), with a further update planned. Subsequently the ASN has, from time to time, sponsored publication of symposia or manuscripts presented at symposia. To meet somewhat different but equally important needs, the Society established at the 1970 meeting a Placement Service ably coordinated by Martin Gál (and subsequently in turn by Edward Bennett, Sheldon Miller, and Bernard Haber). This service has registered both vacant positions and applicants seeking positions and has helped to bring the two together. Finally at Albuquerque plans were laid for the second annual meeting to be held, at the invitation of Abraham Rosenberg, at the Hershey Medical Center, Hershey, Pennsylvania, March 15–19, 1971, with a Program Committee consisting of: Abel Lajtha (chairman), Bernard Agranoff, Martin Gál, and Frederick Wolfram (Minutes, 1970*a*). Thus, in the words of the resolution moved by Elie Shneour at the Business Meeting in Albuquerque:

Be it resolved that the Founding Membership of the American Society for Neurochemistry assembled and meeting at Albuquerque, N.M., on 17 March 1970 does hereby express its gratitude and convey its thanks to the Organizing Committee, the Program Committee and the Local Meeting Committee and their assistants

¹ The book was initially planned as a syllabus, organized prior to the formation of the ASN, at a meeting of neurochemists at the Graystone Conference Center in 1969 with the aid of a grant from the NINCDS. The conferees agreed to offer assignment of the royalties to the ASN following its incorporation. The Publications Committee of the ASN recommended (at its meeting of March 16, 1970) to the ASN Council that the ASN sponsor the book and see to the necessary legal procedures for acceptance of royalties (Minutes of the ASN Publications and Education Committee appended to Minutes, 1970*a*).

for bringing to a successful fruition the founding of the Society. (Minutes, 1970*b*)

In the interval between the first and second annual meetings, nominations for the first *elected* Council and officers were sought from the membership, as well as an expression of preferences for the format and location of future meetings. More than one-half of the membership responded with nominations. The resulting ballot was mailed in February 1971 to be returned within the month and results to be announced at the Hershey meeting. More than 85% of the ordinary membership voted (Folch-Pi, 1971; Minutes, 1971*a,b*). Elected and taking office at the end of the Hershey meeting were: President, Eugene Roberts (Duarte, CA, U.S.A.); Secretary, Jordi Folch-Pi (Belmont, MA, U.S.A.); Treasurer, Donald Tower (Bethesda, MD, U.S.A.); Ordinary Council Members, Bernard Agranoff (Ann Arbor, MI, U.S.A.), Morris Aprison (Indianapolis, IN, U.S.A.), Samuel Barondes (La Jolla, CA, U.S.A.), Roscoe Brady (Bethesda, MD, U.S.A.), Seymour Kety (Boston, MA, U.S.A.), Martin Larrabee (Baltimore, MD, U.S.A.), Francis LeBaron (Albuquerque, NM, U.S.A.), Louis Sokoloff (Bethesda, MD, U.S.A.), Theodore Sourkes (Montreal, Canada), and Frederick Wolfram (Los Angeles, CA, U.S.A.); and Associate Council Member, Elie Shneour (La Jolla, CA, U.S.A.) (Minutes, 1971*b,c*). Thus, the first Council of the ASN duly nominated and elected by the membership of the Society took office to preside through the third annual meeting at Seattle, Washington, March 20–23, 1972, hosted by William Stahl, and the fourth annual meeting at Columbus, Ohio, March 11–15, 1973, hosted by Lloyd Horrocks (Directory, 1973–1974). Subsequent officers of the ASN are listed in Table 2, and the composition of subsequent Councils of the ASN may be found in the most recent ASN Membership Directory (Directory, 1984–1985, pp. 4–8).

A few other developments in these early years of the ASN deserve mention. The Society received tax-exempt status as a "charitable, educational and scientific organization" under Section 501(c)(3) of the Internal Revenue code on February 11, 1970 (District Director, 1970). The *Transactions*, the principal publication of the Society, was registered by the U.S. Patent Office on July 11, 1972 (Certificate, 1972), thus permitting copyrighting of subsequent issues. Annual publication of the *Transactions* has continued, primarily as a record of the programs and abstracts of papers presented for each annual meeting of the Society. With the 17th annual meeting in Montreal in March of 1986, the *Transactions* completed 17 volumes. In addition to the issues devoted to meeting programs, there have been four separate issues devoted to organizational data and listing of members of the Society (Directory, 1973–1974, 1984–1985). These 17 volumes of the *Transactions* constitute a valuable record of the scientific and organizational

TABLE 2. Officers of the ASN 1969–1986^a

President:	1969–1971	Francis N. LeBaron, Ph.D.	(Albuquerque, New Mexico)
	1971–1973	Eugene Roberts, Ph.D.	(Duarte, California)
	1973–1975	Bernard W. Agranoff, M.D.	(Ann Arbor, Michigan)
	1975–1977	Jordi Folch-Pi, M.D.	(Belmont, Massachusetts)
	1977–1979	Louis Sokoloff, M.D.	(Bethesda, Maryland)
	1979–1981	Abel Lajtha, Ph.D.	(Wards Is., New York, New York)
	1981–1983	Claude Baxter, Ph.D.	(Sepulveda, California)
	1983–1985	Marjorie B. Lees, Ph.D.	(Waltham, Massachusetts)
1985–1987	Kunihiko Suzuki, M.D.	(Chapel Hill, North Carolina)	
Secretary:	1969–1975	Jordi Folch-Pi, M.D.	(Belmont, Massachusetts)
	1975–1981	Claude Baxter, Ph.D.	(Sepulveda, California)
	1981–1987	Marion E. Smith, Ph.D.	(Palo Alto, California)
Treasurer:	1969–1975	Donald B. Tower, M.D., Ph.D.	(Bethesda, Maryland)
	1975–1981	Marjorie B. Lees, Ph.D.	(Waltham, Massachusetts)
	1981–1987	Jean de Vellis, Ph.D.	(Los Angeles, California)

^a Directory, 1984–1985.

growth of the Society. Since its inception in 1969, the Society has grown from just over 300 members to nearly 1,000 (Fig. 2) (Directory, 1984–1985), and its budget has increased from the totals for the first year of \$4,926.85 in receipts and \$3,444.85 in expenditures to totals 15 years later that are some 10-fold above these figures, plus a considerable balance in the general and special funds (Treasurer, 1970). Royalties primarily from *Basic Neurochemistry* have provided a fund for future editions and other publication initiatives, and a fund in memory of Jordi Folch-Pi was established in 1982 to provide a biennial award recognizing an outstanding young neurochemist (Directory, 1984–1985).

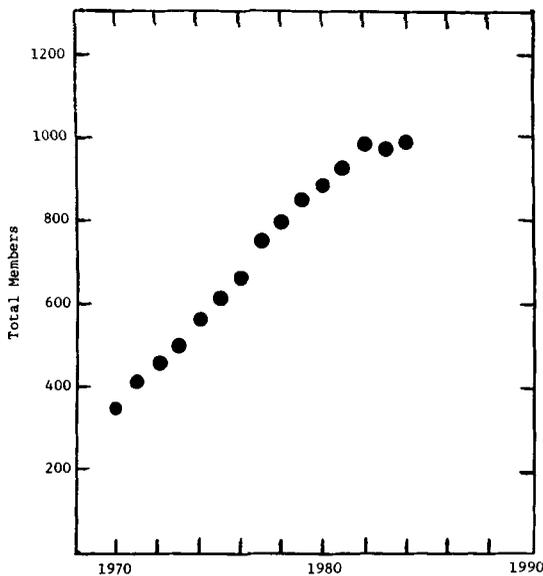


FIG. 2. Growth of the membership of the ASN from 1970 to 1985 (Directory, 1984–1985).

Questions of classification and qualifications for membership continued to generate discussion at annual Council and Business Meetings of the Society for several years. One major decision, taken at the annual meeting in New Orleans in March of 1974, was to extend eligibility for membership in the ASN to neurochemists in the entire Western Hemisphere (Folch-Pi, 1974; Minutes, 1974, 1975). A number of members urged simplification of the membership structure, which originally established three classes: ordinary members (established, independent, continuing investigators in neurochemistry), affiliate members (younger investigators in neurochemistry not yet qualifying as ordinary members), and associate members (qualified specialists in other disciplines with an interest in the Society) (Directory, 1973–1974). To this, the class of emeritus members (retired from professional duties) was added in 1972 (Minutes, 1972b). Finally in 1983 the categories of membership, other than emeritus members, were simplified to two: ordinary members (combining the previous ordinary and associate categories) and affiliate members (as previously defined) (Directory, 1984–1985).

The desirability of starting a new journal to be published by the Society was another matter for continuing discussion over the first few years. At the Hershey meeting in 1971, eight members formally requested that the matter be placed on the agenda for the 1972 meeting in Seattle and stipulated that the results of a poll of the membership by Martin Gál be reported (Gál, 1969; Minutes, 1971b). Accordingly, at the Business Meeting in Seattle, a report by Gál on this matter and a report by Tower on the new management and expanded size of the *Journal of Neurochemistry* were presented to the membership. As a result it was voted to distribute the two reports to the entire ASN membership and to conduct a poll by mail to ascertain opinions of the membership on the advisability of publishing a journal of neurochemistry sponsored by the ASN (Minutes, 1972a,b). Results of

the poll were announced at the 1973 meeting in Columbus, Ohio. By a narrow plurality (122 to 114) of the members voting (59% of the total membership) the launching of a new journal was rejected, and it was therefore decided to take no further action at that time (Minutes, 1973*a,b*). Although this seemed to settle the matter as far as the ASN was concerned, several of the members independently did launch a new journal, *Neurochemical Research*, published by Plenum Press of New York City, with Abel Lajtha as chief editor and Stanley Appel and Martin Gál as associate editors. The first volume appeared in 1976.

The ASN did venture into other new initiatives. At the 1973 meeting in Columbus, Ohio, the Council appointed a new committee on Neurochemistry and Public Policy, chaired by Guy McKhann (and subsequently by Michael Malone, Martin Gál, Gerard Lehrer, John Blass, Hugo Moser, Tyson Tilden, and Sheldon Miller, in turn) (Directory, 1973–1974; 1984–1985; Minutes, 1973*a*). On the one hand, this committee has organized for most of the recent annual meetings a session on contemporary issues, with panels of discussors that have included representatives from other fields (politics, environment, news media, research funding, animal welfare, interfaces with industry, etc.). The first such Public Forum session was held at the ninth annual meeting in Washington, D.C., in 1978 on the subject “Brain Research: National Support and Public Benefits” (Program, 1978). On the other hand, the committee has advised and represented the Society in public matters affecting neurochemists and neurochemistry. For example, on recommendation of the committee, the ASN became in 1975 a dues-paying member of the National Committee for Research in Neurological and Communicative Disorders, a coalition of professional societies and voluntary health agencies devoted to the support and funding of basic and clinical research and research training in the neurosciences and disorders of the nervous system. More recently (in 1985) the Society has voted to consider becoming a dues-paying corporate member of IBRO, which while retaining its original activities and objectives, as already described, has since 1982 reorganized to function as a World Federation of Neuroscientists. In this general context one may note that the Society has not only held its annual meetings across the continental United States but has also met in Mexico City (in 1975), in Vancouver (in 1976), in Honolulu (in 1983), and in Montreal (in 1986), and plans to meet in Venezuela in 1987 (jointly with the ISN).

Starting with the annual meeting in 1979 in Charleston, South Carolina, the ASN has sponsored an Annual Basic Neurochemistry Lecture by a distinguished invited speaker. The concept of such annual lectures was generated by the editors of *Basic Neurochemistry* (Siegel, Albers, Agranoff, and Katzman). Slide tapes of the lectures have been made available at cost to the membership. Funds for this program have

been generated by royalties to the ASN from *Basic Neurochemistry*. The first lecturer in this series was Tomas Hökfelt, M.D., of the Karolinska Institutet in Stockholm, Sweden, who spoke at the Charleston meeting on “Neuroanatomy for the Neurochemist” (Program, 1979). Subsequent lecturers were the following:

1980 at Houston, Texas: Louis Sokoloff, M.D. (NIMH, NIH), “Neurochemistry for the Neuroanatomist”

1981 at Richmond, Virginia: Julius Axelrod, Ph.D. (NIMH, NIH), “Lipids and the Transduction of Biological Signals through Membranes”

1982 at Grossinger, New York: Byron Waksman, M.D. (National Multiple Sclerosis Society), “Immunology for the Neurochemist: Pathogenesis of CNS Diseases”

1983 at Honolulu, Hawaii: Jesse Roth, M.D. (National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases, NIH), “Evolutionary Origins of Hormones, Neurotransmitters and Other Intercellular Messengers”

1984 at Portland, Oregon: Gerald Edelman, M.D., Ph.D. (Rockefeller University), “Cell Adhesion Molecules in Neurodevelopment”

1985 at Baltimore, Maryland: Eric Holtzman, Ph.D. (Columbia University), “Membrane Sorting and Circulation in Neural Tissues”

1986 at Montreal, Quebec, Canada: Prof. Nicole Le Douarin (CNRS Institut d'Embryologie, Nogent-s.-M., France), “The Ontogeny of the Peripheral Nervous System Studied in an Avian Model”

The list is already a distinguished one—another indication of the maturity of the Society. Moreover in connection with recent annual meetings there have been special 1-day teaching workshops on new technologies, scheduled just prior to the meeting proper, as well as the holding of satellite symposia around the time of the ASN meeting. This account of the more recent activities of the ASN is not exhaustive, nor is it so intended, but it is illustrative of the vigor and dedication of the Society and its membership.

As this account of the ASN is written, the Society is now in its 18th year. A few of the older members have moved on to emeritus status, and sadly a few have died (25 at last count), including William Clark (1979), K. A. C. Elliott (1986), Ranier Fried (1981), Jordi Folch-Pi (1979), Ralph Gerard (1974), Harold Himwich (1975), Henry Mahler (1983), Guillermo Massieu (1986), Roger Rossiter (1976), and George Ungar (1977) of the original group of founding members—two being members of the Organizing Committee and the first Council (Folch-Pi and Mahler). After 17 years the Society is some 1,000 members strong and a mature, significant voice in the neurochemical and neuroscience communities. It has taken the dedicated efforts of many members to achieve such status, but one member surely deserves special mention. If any one person were to be credited with having con-

ceived, created, and nurtured the ASN it would be Jordi Folch-Pi.

Both as a researcher in neurochemistry and as a neurochemical statesman Folch-Pi enjoyed a really quite extraordinary career (Pope et al., 1980; Tower, 1981). He was born and educated through medical school in Barcelona, Spain, and remained throughout his life a devoted and proud son of his native Catalonia. Yet after his arrival in the United States he was quick to embrace his adopted country. After a stint at the Rockefeller Institute, he was recruited in 1944 to head the Research Laboratory of the McLean Hospital in Belmont, Massachusetts, and was also appointed in 1956 as the first Professor of Neurochemistry at the Harvard Medical School. His research and his teaching and training of pre- and postdoctoral scientists were outstanding. Among his research accomplishments were the discoveries of the phosphoinositides, phosphatidylserine, and the proteolipids, and the development of the chloroform/methanol procedure for the extraction and initial purification of brain lipids, a method now in general worldwide use. Ordinarily these accomplishments and his work on sphingolipids would have sufficed to ensure Folch-Pi a prominent place in history, but he also had a distinguished parallel career as one of the most influential leaders and statesmen of neurochemistry. He was a member of the organizing committee for the International Neurochemical Symposia, one of the original editors of the *Journal of Neurochemistry*, a member of the founding council of the ISN, its first Secretary (1967–1971), and its third Chairman (1971–1973). During the period 1968–1969 he was one of the three founders and principal organizer of the ASN, its first Secretary (1969–1975), and its fourth President (1975–1977). As already remarked elsewhere, "It would be difficult to overstate the contributions that Jordi Folch-Pi made to the phenomenal success of these organizations and to securing formal recognition and establishment of standards of excellence for neurochemistry among the biological sciences." (Tower, 1981.)

During Jordi Folch-Pi's chairmanship of the ISN, that Society held its Fifth International Meeting in his native city of Barcelona (1975). It was an especially gratifying and proud occasion for him. In June of 1987 the ASN holds its 18th Annual Meeting in La Guaira, Venezuela. This is a very special occasion because it marks the first time for a joint meeting with the ISN (their 11th International Meeting). Surely, Jordi Folch-Pi would have been especially pleased by this historic conjunction of world neurochemistry. His presence will be missed but his spirit and handiwork will be much in evidence.

Acknowledgment: This account of the founding of the ASN was written at the behest of the then President of the ASN, Dr. Marjorie B. Lees. The author is indebted to the nine other living members of the Organizing Committee of

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REFERENCES

- Albers R. W., Siegel G. J., Katzman R., and Agranoff B. W., eds (1972) *Basic Neurochemistry*. Little, Brown & Co., Boston. [A second edition was published in 1976, and a third edition was published in 1981.]
- American Academy of Neurology (1958) Section on Neurochemistry: colloquium on Neurochemistry. *Neurology (Minneapolis)* 8 (Suppl. 1), 1–130.
- Announcement (1970) *J. Neurochem.* 17 (1), i.
- Ansell G. B., ed (1966) *Variation in Chemical Composition of the Nervous System as determined by Developmental and Genetic Factors* (Abstracts of papers presented at the International Neurochemical Conference, Oxford, July 1965). Pergamon Press, New York.
- Articles (1969) Articles of Incorporation of the American Society for Neurochemistry, filed on August 6, 1969, with the Corporation Division of the Recorder of Deeds, D.C. [ASN Archives]
- Brady R. O. and Tower D. B., eds (1960) *The Neurochemistry of Nucleotides and Amino Acids*. John Wiley & Sons, New York.
- Certificate (1969) Certificate of Incorporation issued to the American Society for Neurochemistry on August 6, 1969, by the Corporation Division of the Recorder of Deeds, D.C. [ASN Archives]
- Certificate (1972) Certificate of Registration, Transactions of the American Society for Neurochemistry, number 937,844, dated July 11, 1972, U.S. Patent Office. [ASN Archives; a renewal numbered 1,130,370 was issued on February 5, 1980.]
- Cherkin A. (1968a) Letter dated May 20, 1968 from Arthur Cherkin [VA Hospital, Sepulveda, California] to Jordi Folch-Pi [McLean Hospital, Belmont, Massachusetts] on the proposed ASN. [ASN Archives]
- Cherkin A. (1968b) Letter dated May 29, 1968 from Arthur Cherkin [VA Hospital, Sepulveda, California] to Jordi Folch-Pi [McLean Hospital, Belmont, Massachusetts] on the Neurochemistry Club: history and membership roster. [ASN Archives]
- Council (1969) Minutes of the First Meeting of the Council of the American Society for Neurochemistry in Washington, D.C., on September 11, 1969. [ASN Archives]
- Directory (1973–1974) Articles of Incorporation and By-Laws of the American Society for Neurochemistry. *Trans. Am. Soc. Neurochem.* 4 (2), 8–21. [cf. also for 1978–1979: *Ibid.* 9 (2), 14–24; and for 1982–1983: *Ibid.* 13 (2), 16–25.]
- Directory (1984–1985) ASN Membership Directory. *Trans. Am. Soc. Neurochem.* 15 (2).
- District Director (1970) Letter dated February 11, 1970 from District Director, Internal Revenue Service [Baltimore, Maryland] to the American Society for Neurochemistry [in care of the Treasurer, ASN] on tax-exempt status. [ASN Archives]
- Elliott K. A. C., Page I. H., and Quastel J. H., eds (1955) *Neurochemistry. The Chemical Dynamics of Brain and Nerve*. Charles C Thomas, Springfield, Illinois. [Second edition published in 1962]
- Folch-Pi J., ed (1961) *Chemical Pathology of the Nervous System*. Pergamon Press, Oxford.
- Folch-Pi J. (1968) Letter dated September 23, 1968 from Jordi

- Folch-Pi [McLean Hospital, Belmont, Massachusetts] to Donald B. Tower [NINDB, NIH, Bethesda, Maryland] on the composition of the ASN Organizing Committee and plans for its first meeting. [ASN Archives]
- Folch-Pi J. (1969a) Circular letter dated April 1969 from Jordi Folch-Pi [Provisional Secretary, ASN] to the founding member group, with appended circular: Developments in the organization of an American Society for Neurochemistry (ASN). [ASN Archives]
- Folch-Pi J. (1969b) Circular letter dated July 15, 1969, from Jordi Folch-Pi [Provisional Secretary, ASN] to the founding member group regarding developments from November 1968 through June 1969. [ASN Archives]
- Folch-Pi J. (1969c) Explanatory note dated December 4, 1969 from Jordi Folch-Pi [Provisional Secretary, ASN] and Donald B. Tower [Provisional Treasurer, ASN] regarding membership in the American Society for Neurochemistry (ASN) and on participation in the first meeting of the ASN at Albuquerque, New Mexico, March 16–18, 1970. [ASN Archives]
- Folch-Pi J. (1971) First bulletin of information dated February 3, 1971, from Jordi Folch-Pi [Secretary, ASN] to members of the American Society for Neurochemistry. [ASN Archives]
- Folch-Pi J. (1973) Brief history of the American Society for Neurochemistry. *Trans. Am. Soc. Neurochem.* 4 (2), 1–7.
- Folch-Pi J. (1974) Fourth bulletin dated February 28, 1974, from Jordi Folch-Pi [Secretary, ASN] to members of the ASN. [ASN Archives]
- Folch-Pi J. (1983) A brief history of the Society, in *International Society for Neurochemistry Membership Directory 1983/4* (Whittaker V. P., ed.), pp. ix–xi. ISN, Göttingen.
- Folch-Pi J., Tourtellotte W. W., and Tower D. B. (1968) Letter dated May 1, 1968, from Folch-Pi, Tourtellotte and Tower to American members of the ISN regarding establishment of an ASN. [ASN Archives]
- Gál E. M. (no date) Undated draft of a questionnaire letter proposed by Martin Gál [University of Iowa Department of Psychiatry, Iowa City] regarding formation of an American neurochemical society and journal. [ASN Archives]
- Gál E. M. (1968) Two letters dated August 24, 1968 from Martin Gál [Division of Neurobiochemistry, University of Iowa Department of Psychiatry, Iowa City] to Jordi Folch-Pi [McLean Hospital, Belmont, Mass.] on proposed formation of an American neurochemical society. [ASN Archives]
- Gál E. M. (1969) Letter dated August 22, 1969 from Martin Gál [University of Iowa Department of Psychiatry, Iowa City] to Bernard Agranoff [University of Michigan Mental Health Research Institute, Ann Arbor] regarding a journal for the ASN. [ASN Archives]
- Gál E. M. (1984) Letter dated August 17, 1984 from Martin Gál [University of Iowa Department of Psychiatry, Iowa City] to Donald B. Tower [ASN Historian] regarding proposals to form an American neurochemical society. [ASN Archives]
- Gerard R. W. (1968) Letter dated May 15, 1968 from Ralph W. Gerard [Dean of Graduate Studies, University of California at Irvine] to Jordi Folch-Pi [McLean Hospital, Belmont, Massachusetts] on the proposed ASN. [ASN Archives]
- IBRO (1980) *International Brain Research Organization Directory*. Pergamon Press, Oxford.
- Incorporators (1969) Minutes of the first meeting of Incorporators [of the ASN] in Washington, D.C., on August 6, 1969. [ASN Archives]
- International Symposium (1962) On Enzymic Activity of the Central Nervous System, Gothenburg, Sweden, June 17–21, 1962: Abstracts. *Acta Neurol. Scand.* 38 (Suppl 1).
- Kety S. S. and Elkes J., eds (1961) *Regional Neurochemistry*. Pergamon Press, Oxford.
- Korey S. R., ed (1959) *Progress in Neurobiology IV: The Biology of Myelin*. Hoeber-Harper, New York.
- Korey S. R. and Nurnberger J. I., eds (1956) *Progress in Neurobiology I: Neurochemistry*. Hoeber-Harper, New York.
- Lajtha A. (1968) Letter dated August 20, 1968, from Abel Lajtha [New York State Research Institute for Neurochemistry, Wards Island, New York] to Jordi Folch-Pi [McLean Hospital, Belmont, Massachusetts] on subcommittees for ASN programs. [ASN Archives]
- LeBaron F. N. (1969) Announcement from Francis N. LeBaron [Chairman, Local Committee for the First Annual Meeting of the ASN] with information regarding the First Meeting of the ASN, at the Sheraton Western Skies Motor Hotel, Albuquerque, New Mexico, March 16, 17, and 18, 1970. [ASN Archives—the announcement is undated but is known to have been circulated in the early fall of 1969.]
- Lehrer G. M. (1968) Letter dated May 7, 1968, from Gerard M. Lehrer [Mt. Sinai School of Medicine, New York City] to Jordi Folch-Pi [McLean Hospital, Belmont, Massachusetts] on the proposed ASN. [ASN Archives]
- Lolley R. N. (1968) Letter dated May 14, 1968, from Richard N. Lolley [VA Hospital, Sepulveda, California] to Jordi Folch-Pi [McLean Hospital, Belmont, Massachusetts] on the proposed ASN. [ASN Archives]
- Marks N. (1968) Letter dated May 17, 1968, from Neville Marks [New York State Research Inst. for Neurochemistry, Wards Island, New York] to Jordi Folch-Pi [McLean Hospital, Belmont, Massachusetts] on the proposed ASN. [ASN Archives]
- McIlwain H. (1955) *Biochemistry and the Central Nervous System*. J. & A. Churchill, London. [Subsequent editions were published in 1959, 1966, and with H. S. Bachelard, 1971 and 1985.]
- McIlwain H. (1985) In the beginning: to celebrate 20 years of the International Society for Neurochemistry (ISN). *J. Neurochem.* 45, 1–10.
- Membership (1970) Roster of the original membership of the American Society for Neurochemistry (as of February 1970). [ASN Archives]
- Milbank Conference (1952) *The Biology of Mental Health and Disease*. Hoeber, New York.
- Minutes (1968) Minutes of the [first] meeting of the Organizing Committee of the American Society for Neurochemistry on November 12–13, 1968, at the Clinical Center, National Institutes of Health, Bethesda, Maryland. [ASN Archives]
- Minutes (1969) Minutes of the second meeting of the Organizing Committee of the American Society for Neurochemistry (ASN) on June 3–4, 1969, at the University of Michigan Mental Health Research Center, Ann Arbor, Michigan. [ASN Archives]
- Minutes (1970a) Minutes of the meetings of the Council of the ASN held at Albuquerque, New Mexico, on March 14th, 15th, 16th, and 18th, 1970. [ASN Archives]
- Minutes (1970b) Minutes of the Business Meetings [of the ASN membership at Albuquerque, New Mexico] on March 16 and 17, 1970. [ASN Archives]
- Minutes (1971a) Minutes of the Council meetings [of the ASN] held at Hershey, Pennsylvania, on March 14 and 15, 1971. [ASN Archives]
- Minutes (1971b) Minutes of the Business Meetings [of the ASN] held at Hershey, Pennsylvania, on March 16 and 17, 1971. [ASN Archives]
- Minutes (1971c) Minutes of the organizational meeting of the Council [of the ASN] for 1971–1973, held at Hershey, Pennsylvania, on March 18, 1971. [ASN Archives]
- Minutes (1972a) Minutes of the Council meeting [of the ASN] held at Seattle, Washington, March 19, 1972. [ASN Archives]
- Minutes (1972b) Minutes of the Business Meetings at the third annual ASN Meeting, held at Seattle, Washington, March 21 and 23, 1972. [ASN Archives]
- Minutes (1973a) Minutes of the Business Meetings at the fourth annual ASN Meeting, held at Columbus, Ohio, March 12 and 13, 1973. [ASN Archives]
- Minutes (1973b) Minutes of the Council meetings [of the ASN] held at Columbus, Ohio, on March 11, 14 and 15, 1973. [ASN Archives]
- Minutes (1974) Minutes of the Business Meetings of the 1974 annual ASN Meeting, held in New Orleans, Louisiana, on March 11 and 13, 1974. [ASN Archives]

- Minutes (1975) Minutes of the Council meeting [of the ASN] held at Mexico City on March 9, 1975. [ASN Archives]
- O'Brien J. S. (1968) Letter dated May 7, 1968, from John S. O'Brien [Division of Chemical Pathology, University of Southern California, Los Angeles] to Jordi Folch-Pi [McLean Hospital, Belmont, Massachusetts] on activities of western neurochemists. [ASN Archives]
- Page I. H. (1937) *Chemistry of the Brain*. Charles C. Thomas, Springfield, Illinois.
- Perl E. R. (1986) Society for Neuroscience—a history of beginnings. *Neurosci. Newstr.* 17 (4), 1, 3–5.
- Pope A., Lees M. B., and Hauser G. (1980) Obituary: Jordi Folch-Pi. *J. Neurochem.* 35, 1–3.
- Program (1970) Program and Abstracts of Papers presented at the First Meeting of the American Society for Neurochemistry, Albuquerque, New Mexico, March 16–18, 1970. *Trans. Am. Soc. Neurochem.* 1 (1), 1–93.
- Program (1978) Program and Abstracts of Papers presented at the Ninth Annual Meeting of the American Society for Neurochemistry, Washington, D.C., March 12–17, 1978. *Trans. Am. Soc. Neurochem.* 9 (1), ix.
- Program (1979) Program and Abstracts of Papers presented at the Tenth Annual Meeting of the American Society of Neurochemistry, Charleston, South Carolina, March 11–16, 1979. *Trans. Am. Soc. Neurochem.* 10 (1), x. [For subsequent years consult the *Transactions*, Vols. 11–17, for 1980–1986.]
- Redman L. (1969a) Letter dated May 23, 1969, from Lipman Redman [Law Offices of Melrod, Redman, and Gartlan, Washington, D.C.] to Donald B. Tower [ASN Subcommittee on Incorporation] on recommended procedure for founding a non-profit corporation. [ASN Archives]
- Redman L. (1969b) Letter dated July 7, 1969, from Lipman Redman [Law Offices of Melrod, Redman, and Gartlan, Washington, D.C.] to Donald B. Tower [ASN Subcommittee on Incorporation] on draft of articles of incorporation of the ASN. [ASN Archives]
- Report (1973) Report by the Publication and Education Committee [of the ASN] dated March 13, 1973, to the ASN Council at the Fourth Annual Meeting of the ASN, Columbus, Ohio, March 11–14, 1973. [ASN Archives]
- Richter D., ed (1957) *Metabolism of the Nervous System*. Pergamon Press, London.
- Richter D., ed (1964) *Comparative Neurochemistry*. Pergamon Press, Oxford.
- Roberts E., Baxter C. F., Van Harreveld A., Wiersma C. A. G., Adey W. R., and Killam K. F., eds (1960) *Inhibition in the Nervous System and Gamma-Aminobutyric Acid*. Pergamon Press, Oxford.
- Tower D. B. (1969a) Proposed American Society for Neurochemistry. [Letter] *Science* 163, 765.
- Tower D. B. (1969b) Memorandum dated July 9, 1969, from Donald B. Tower [Treasurer, ASN] to Members of the Council (Organizing Committee) of the ASN concerning the draft of articles of incorporation. [ASN Archives]
- Tower D. B. (1981) Neurochemistry in historical perspective, in *Basic Neurochemistry*, 3rd edit. (Siegel G. J., Albers R. W., Agranoff B. W., and Katzman R. A., eds), pp. 1–16. Little, Brown & Co., Boston.
- Treasurer (1970) ASN Treasurer's Report, Fiscal Year July 1, 1969–June 30, 1970, submitted to the Second Annual Meeting, Hershey, Pennsylvania, on March 12, 1971. [ASN Archives; cf. ASN Treasurer's file for subsequent annual reports]
- Waelsch H., ed (1955) *Biochemistry and the Developing Nervous System*. Academic Press, New York.
- Waelsch H., ed (1957) *Progress in Neurobiology II: Ultrastructure and Cellular Chemistry of Neural Tissue*. Hoeber-Harper, New York.
- WFN (1961) World Federation of Neurology (WFN): Newsletter, January 1961. *World Neurol.* 2 (Jan.), following p. 92.
- Williams R. T., ed (1952) Metabolism and function in nervous tissue. *Biochem. Soc. Sympos.* 8, 1–102.
- Winterstein H. (1929) Der Stoffwechsel des Zentralnervensystems, in *Handbuch der normalen und pathologischen Physiologie*, Vol. 9 (Bethe A., Bergmann G. v., Embden G., and Ellinger A., eds), pp. 515–611. Springer-Verlag, Berlin.
- Wolffgram F. J. (1984) Letter dated August 14, 1984, from Frederick J. Wolffgram [Department of Neurology, UCLA School of Medicine, Los Angeles, California] to Donald B. Tower [ASN Historian] on planning for the first (1970) annual meeting of the ASN. [ASN Archives]