

SOCIETY FOR GLYCOBIOLOGY

HISTORY, LIFE AND TIMES, AND REMINISCENCES OF THE EARLY YEARS

By Jeremiah E. Silbert

A. BIRTH, NEONATAL PERIOD, AND CHILDHOOD

Sometime in the early 60's Ward Pigman, Roger Jeanloz, Endre Balazs, John Gregory, Karl Meyer, and Zacharias Dische organized an informal discussion group to meet for a day twice a year alternately at their respective institutions in Boston and New York. This was at about the same time or somewhat before the International meeting in Swampscott, Massachusetts (July 22-25, 1964) organized by Roger Jeanloz and Endre Balazs, now considered as the "First International Symposium on Glycoconjugates." By and large the biannual meetings were attended by scientists interested in "mucopolysaccharides" (already being called "glycosaminoglycans" per the suggestion of Roger Jeanloz) and "glycoproteins." As best I can determine, my first attendance was in New York in January 1965, since I have a copy of a letter I sent to W. Pigman in December 1965 asking to be on the mailing list for that meeting. I attended all subsequent meetings of this organization until 1991, so the following "history" extends only from 1965 to 1990, the year I was President of the Society.

The format for the early meetings was for 15-20 minute presentations from anyone of the 20 to 30 attendees who wished to present their data, usually informing the host before the meeting, but occasionally even at the time of the meeting. Drs. Meyer and Dische would invariably sit in the front row and comment on any and all aspects of "mooochhopolysachharides" and "mooochhoproteins", mainly consisting of details in their structures and colorimetric analyses, such as how long one would boil the carbazole reaction in order to obtain differences between glucuronic acid and iduronic acid.

A particularly memorable meeting was that of June 5, 1967. Just as I was arriving at the airport to take the 7AM shuttle to New York, the news of the onset of the 6 Day War between Israel and Egypt, Jordan, and Syria came in on my car radio. I don't remember anything of the science that was presented, since we were all jumping in and out of the meeting to hear whatever limited news was coming in. By the time I returned to Boston that evening, the radio was reporting the total destruction of the Egyptian Air Force.

Although most everyone was from New York or Boston at the early meetings, there were usually a few attendees from other cities. I particularly remember Don Carlson coming from Cleveland, Richard Winzler coming from Buffalo, Graham Jamieson coming from Bethesda, Frank Maley coming from Albany, and Mary (Suzy) Glick coming from Philadelphia.

B. ADOLESCENCE

October 16, 1967 was the first meeting in a city other than New York or Boston for what by then had been named the "GGG" short for Glycosaminoglycan Glycoprotein Group (the Goey-Gummy-Group by those lacking respect). It was hosted by Richard Winzler and Om Bahl at the University of New York, Buffalo. That meeting, with eighteen 15 minute presentations, was really the first that changed the GGG into a multi-city Eastern conference with presenters from Buffalo, Albany, Bethesda/Washington, Cleveland, Chicago, Toronto, and even Torvard Laurent who was visiting from Uppsala. Of particular note was the gracious open house that Winzler had at his home for those that had arrived the previous evening. As I recall there were about 25

of us. Also of note were the costs of the hotel rooms, which ranged from \$10.00 for a single up to \$16.00 for a double. This meeting was important to me since I presented the first description of the pathway for linked N-deacetylation, N-sulfation in the cell free biosynthesis of heparin.

June 24, 1968 meeting was hosted by Ward Pigman and Isadore Danishefsky at New York Medical College at its old location on 5th Avenue, New York. The term "4G" was used for the first time rather than GGG, referring to Glycosamino-Glycan Glycoprotein Group. There were twelve twenty minute papers. In addition there was (I think for the first time) a full hour presentation which was by Winzler. There were cocktails following the meeting, apparently financed by the hosts since there still were no registration fees for the meetings. Subsequent one day meetings generally also had Social Hours after the meetings.

October 8, 1968 meeting was hosted by Graham Jamieson at the American Red Cross in Bethesda attesting to the multi-city (mainly East Coast) nature that had developed for the 4G. A. Gottschalk was an invited speaker for a one hour presentation, and there were twelve twenty minute presentations. Presentations of note included A. Kobata's who at that time was a post-doctoral fellow at NIH, and Elizabeth Neufeld's description of her ground-breaking findings in Hurler/Hunter syndrome tissue cultures.

Spring and Fall 1969 meetings descriptions are unfortunately not in my files, so I do not know their contents nor where they were held, although I think the Spring Meeting was probably in Boston and the Fall Meeting in New York.

May 25, 1970 meeting was hosted by Karl Schmidt at Boston University. There were nineteen minute presentations of which seven were from Boston, four from New York, and others from Albany, Bethesda, Philadelphia, Cleveland, Chicago, and Toronto. This was apparently the first meeting to be divided into Sessions with Chairmen (before the Chairperson or Chair terminology had come into use), but the next few meetings were without chairmen.

December, 1970 meeting was at New York Medical College in New York, but I do not have any description in my files. However, by that time the 4G designation had become an abbreviation for Glycosaminoglycan Glycoprotein Glycolipid Group, since there had been a good representation by those interested in glycolipids.

May 21-22, 1971 meeting was hosted by Eugene Davidson at Pennsylvania State University in Hershey. This was the first meeting to last for a day and a half (Friday and Saturday until noon) rather than a single day. There were twelve presentations of 15-20 minutes each plus longer presentations by R. Jeanloz and V. Ginsburg.

September 24, 1971 meeting was hosted by William Kuhns at New York University. There were ten 20 minute presentations plus one of 40 minutes by G. Jamieson. This apparently was the first meeting to be audacious enough to require a registration fee (\$7.00), which included lunch and coffee.

June 13-14, 1972 meeting, registration fee of \$2.00, was hosted by Roger Jeanloz at Harvard Medical School, Boston. There were sixteen 25 minute presentations plus a one hour presentation by J.N. Kanfer with an afternoon session followed by a morning session the following day. Participation had spread to presenters from Birmingham, AL and Tallahassee, FL (Winzler had moved there from Buffalo). A cocktail hour was provided courtesy of Miles Labs, and Smith Kline and French Labs, followed by a dinner for \$7.15 with Z. Dische as a special speaker.

C. NASCENT ADULTHOOD

December, 1970 included the meeting of a self-appointed Executive Committee (democracy be damned) consisting of Gilbert Ashwell, Isadore Danishefsky, Zacharias Dische, Roger Jeanloz, Karl Meyer, and Ward Pigman regarding the future development of the GGGG. W. Pigman was asked to prepare and send a memorandum concerning this together with a questionnaire/poll to those on the mailing list of this unofficial society.

July 15, 1971 W. Pigman sent out the memorandum and questionnaire to the mailing list of about 200 "members," asking whether a more formal organization should be developed (Adulthood). In this far sighted document, he pointed out that this would put the GGG in a better position to raise funds, improve the status of the field, assure continuity, allow sponsorship of Gordon conferences, and support specific sessions at the Federation Meetings. He commented upon the necessity of obtaining "new blood and brains...at the top organizational level to bring in new ideas and approaches." He even suggested the possibility of sponsoring a journal in the field. The vote was three to one vote in favor of formalizing the society. Based upon this W. Pigman was asked to draw up preliminary proposals for submission to the membership and comments upon what its name should be.

March, 1972 W. Pigman notified the membership that there was a two-thirds response to the questionnaire/poll (some democracy at last), and that of these 75% favored a formal organization. The Executive Committee (still self-appointed) agreed that the Society would be of National scope and of broad interest consisting of structural studies, functions, biological and pathological applications, histochemistry, immunology, and biosynthesis of glycosaminoglycans (there still was little talk of proteoglycans even though the linkage to protein was well accepted by this time), glycoproteins, and glycolipids.

It was proposed that the officers would be President, President-Elect, Secretary, and Treasurer each elected for two years. The Secretary and Treasurer could be re-elected for an additional two years. There would be an Executive Committee composed of the officers and six members elected at large for four years, three to be elected each two years. A Nominating Committee would be appointed by the Executive Committee, but would not include Officers or members of the Executive Committee.

Although those that answered the questionnaire tended to stay with "GGGG" this was considered to be too cumbersome in its formal name, so the names then proposed for a new questionnaire were Society for Complex Carbohydrates, Glyco Society or Other. This questionnaire also provided a set of bylaws and requested nomination/votes for Officers.

August 11, 1972 results of the previous questionnaire indicated almost unanimous approval of the tentative bylaws and favored the name "Society for Complex Carbohydrates." The following were nominated with majorities or high pluralities of the 109 responses to the questionnaire: President, Ward Pigman; President-Elect, Roger Jeanloz; Secretary, John Gregory; Treasurer, Isidore Danishefsky. Karl Meyer and Zacharias Dische would be Honorary Presidents reflecting their obvious distinction in the field.

It was proposed that dues be set at \$5.00 per year and that there be one meeting each year in the Fall rather than the previous two per year.

A final ballot was sent out to confirm the above officers to take office January 1, 1973 and to select the six out of the eleven persons with the highest number of nominations for Executive Committee.

November, 1972 J. Gregory, as elected Secretary, notified the membership that there were 124 ballots received from the 190 sent out with almost unanimous approval for the above officers, and that the six members of the Executive Committee would be V. Ginsburg, K. Schmid, R. Spiro, D. Aminoff, A. Dorfman, and L. Roden. R. Jeanloz and M. Horowitz were asked to head Program and Membership Committees respectively, and D. Carlson was asked to direct drafting of a formal constitution and bylaws. Sadly, Richard Winzler, who had been elected to the Executive Committee, died suddenly, depriving our scientific area of one of its most prominent scientists. Subsequent officers and members of the Executive/Advisory are listed separately.

January, 1974 J. Gregory reported that ballots returned from the 400 sent to members overwhelmingly (218 to 28) confirmed the name "Society for Complex Carbohydrates" and overwhelmingly (234 to 3) confirmed the bylaws as submitted. With these in effect, new members would require nomination by members and some brief indication of their involvement in complex carbohydrate science. An information exchange was also initiated. Modifications from the initial bylaws were to change the terms of President and President-elect to one year instead of two years, and to abolish the term limitations for Secretary and Treasurer. It became quite evident that those holding these latter two offices would provide most of the continuity for administration of the Society, so that longer periods of service would be advisable.

D. EARLY ADULTHOOD

November 28, 1972 meeting was hosted by Graham Jamieson at the American Red Cross in Bethesda, his second time as host, and still under the informal procedures while the formation of the Society for Complex Carbohydrates was still in process. I remember our curiosity to see the Watergate, at that time still thought to be only of passing interest. There was a one hour presentation by L. DeLuca and fifteen twenty minute presentations of which only half were from Boston or New York, including Z. Dische's last presentation to the Society. I believe he was 77 years old at that time.

November 14-16, 1973 meeting, together with the Midwestern Connective Tissue Workshop on November 17, was hosted by Albert Dorfman at the University of Chicago. Registration was \$10.00, plus an additional \$10.00 for a Reception and Dinner. It was the first meeting to be held under the new format of National annual meetings rather than the previous biannual East coast/Northeast meetings and the first to be held anywhere other than in the East coast/Northeast. It was also a major expansion to two and a half days with participants from the South, Midwest and West, as well as one participant from Japan and one from England. The Program Committee (R. Jeanloz as chairman) constituted to plan the meetings organized symposia with a symposium on Yeast Cell Wall Chemistry and Structure with thirty minute invited talks by W.N. Arnold, E. Cabib, H.K. Ankel, K.O. Lloyd, and C.E. Ballou, plus an invited thirty minute presentation by W. Pigman. There were thirty four 20 minute presentations volunteered by members.

October 30 – November 1, 1974 meeting was hosted by Lennart Roden at the University of Alabama, Birmingham. There were thirty eight 20-25 minute presentations (including a symposium on glycolipids) volunteered by members, and a total attendance of 105 for the two and a half days. The first Annual Business Meeting for members of the Society was held on October 31, with a report by the Secretary of a membership of 435, and by the Treasurer of a

balance of \$1,456.14 in the Society Account. I assume that this was from the \$5.00 membership dues for 1973 and 1974, indicating that the Society had truly entered into early adulthood. A sad comment concerned the untimely death of Richard Katzman and his wife returning from Israel as passengers in the airplane blown up by Palestinian terrorists in the sky over Greece after departing from its stop in Athens, Greece.

It may have been at this meeting when Karl Meyer was honored at a banquet at the time of his 75th birthday. Although I'm not sure of the date (maybe it was five years earlier for his 70th) or place, I remember the occasion well. Al Dorfman, the most distinguished and fiercest competitor of Meyer, gave a fine toast/ commentary on Meyer's extraordinary contributions. I was sitting next to Meyer at the time, and he commented to me in great surprise that Dorfman must be "mellowing with age" to say such nice things about him. I retorted that he was mellowing also in saying nice things about Dorfman.

October 9-10, 1975 meeting was hosted by Alfred Linker at the Snowbird Ski Resort, 30 minutes from Salt Lake City. There was no snow that early in the year, so we could not be accused of any corruption of purpose. The meeting was for two days with twenty five 20 minute presentations volunteered by members and a symposium of four 45 minute invited presentations by P.M. Kraemer, R.W. Jeanloz, S.I. Hakomori, and E.A. Davidson on Cell Surface Carbohydrates where were just then being recognized as being of some importance. Of particular interest to me was Paul Kraemer's presentation on heparan sulfate, since he was the first to describe its presence on cell surfaces. Registration fee was \$12.00 including the Banquet.

The Society voted to sponsor a "Social Hour" in April at the FASEB meetings, and continued to do so until discontinuing this in 1987 because of poor attendance the previous few years.

October 8-9, 1976 meeting was hosted by Gerald Berenson in New Orleans. The meeting was for two full days which were highlighted by an invited presentation of the "Role of Dolichol-Linked Sugars in Glycoprotein Biosynthesis by our only glycoconjugate Nobel Laureate, L. Leloir, and an invited presentation by I. Yamashina on "Complex Carbohydrates in Cell Membranes." Truly a memorable occasion. In addition there was a symposium on Methodological Developments in the Analysis of Complex Carbohydrate Structures with 35 minute presentations by C.C. Sweeley, R. Barker, Y.T. Li, and V. Ginsburg and thirty four 15 minute presentations chosen from 46 submissions by members. There were twelve poster presentations, the first time that posters were used at the meeting. Registration fee including a Wine and Cheese Social Hour and a Luncheon was \$25.00, and there were organized tours for spouses.

1977 there was no National meeting, since the Society was hosting the IV International Symposium for Glycoconjugates at Woods Hole, MA, September 27 – October 1 (J. Gregory and L. Roden as Co-Chairmen), and it had been decided that there would be no annual meetings of the Society whenever the International Meetings were in the USA or Canada.

There was, however, a Business Meeting as well as a special Symposium on Cartilage Proteoglycans in Honor of Martin Mathews organized by A. Dorfman. Speakers were J.R. Baker, V.C. Hascall, D. Heinegard, H. Muir, and L. Rosenberg. Most sadly, Ward Pigman died while walking on the beach at this meeting, and the Proceedings of the Symposium were dedicated to his memory as an early leader in glycoprotein research and education as well as his leadership in establishing the Society.

September 27-29, 1978 meeting was hosted in Washington, D.C. by Graham Jamieson (his third time as host) at the office of the Washington Regional Blood Program. There was a symposium on the Role of Glycoproteins at the Cell Surface with presentations by G. Ashwell, Y.C. Lee, I.J. Goldstein, H. Schachter, I. Pastan, and G.A. Jamieson, plus thirty six 15 minute presentations, and thirteen posters, over an afternoon, a full day, and then a morning. A total of 138 registered at the meeting, with a fee of \$24.00, which could be paid in "cheques" for those who preferred Canadian (British) spelling.

September 25-27, 1980 meeting was hosted by Karl Schmid at Boston University. There were 20 to 30 minute invited presentations by T. Ikenaka, T. Osawa, and T. Yamashina, fifty five 15 minute presentations, and thirty two posters in an afternoon, full day, and then a morning program. Concurrent sessions were held for the first time on the second afternoon, with ten presentations in one sessions, and nine in the other. This aroused enough criticism to make this the only meeting until recently to have concurrent presentations. There 194 attendees from twenty three States and Canada plus nine from abroad and of these 115 were members of the Society. The largest number of participants by far was still Massachusetts and New York, with 69 and 38 respectively. Registration was \$25.00, and contributions of almost \$6,000.00 were received from industry. Funds were used to pay air fare and hotel expenses for three Honorary Speakers invited from Japan and for the Honorary Presidents, K. Meyer and Z. Dische. In addition to the regular program, there was a special evening symposium with invited presentations by H.E. Conrad, M. Hook, L.A. Culp, and D.D. Cunningham in honor of Tony Cifonelli who had received a severe concussion in a fall with consequent loss of his ability to continue professionally. He was an unsung hero of proteoglycan research, who was a walking encyclopedia of techniques which he willingly shared. He was liked immensely by all who knew him. Robert Rosenberg and I had organized the symposium, and Al Dorfman was to be the Chairperson. As I recall, the poignancy of this symposium was increased by Al's last minute inability to be present to honor his long time friend and co-worker because of the illness which ended Al's life a year later.

A list of the addresses of about 500 members of the Society was distributed to the membership in 1980.

October 15-16, 1981 meeting was hosted by Mary Catherine (Suzy) Glick at Children's Hospital in Philadelphia. There were invited thirty minute presentations by N. Sharon, H.C. Hughes, S. Kornfeld, and K. Nakanishi, plus thirty five fifteen minute presentations and forty four posters in the two full days meeting, which had grown to 232 attendees (more than any previous meeting) of whom ninety eight were members of the Society. This meeting resulted in a \$3800.00 positive balance which added to the Societies funds, and contributed to our concerns either to make the Society an official non-profit organization or deal with the Internal Revenue Service. Registration was \$35.00 plus an additional \$20.00 for a dinner with chamber music held at the University of Pennsylvania Museum of Archeology, honoring Karl Meyer for his 80th plus birthday (actually he was already 81 and still scientifically active) with E. Davidson, A. Linker, and R. Jeanloz providing commentary. Al Dorfman was to be the Convenor, but had to cancel at the last minute because of illness.

E. MATURING

September 22-24, 1982 meeting was hosted by Eugene Davidson at Hershey Medical Center, Hershey, PA. There were invited presentations by G. Ashwell, E. Atkins, L.A. Fransson, W. Lennarz, and S. Roseman, twenty fifteen minute presentations, and fifty six posters in the two and a half day meeting. Registration was \$40.00 plus \$20.00 for the dinner, with 167 attendees

of whom ninety were members of the Society. It was decided to raise the membership dues to \$10 in order to cover the costs of sending abstracts and a list of all 520 current members with their addresses to all members of the Society. A decision was made to seek formal non-profit status for the Society so that declaring and paying taxes on profits would not be necessary. This was of special importance since a Canadian Treasurer, Harry Schachter, could hardly be expected to be conversant with US Internal Revenue regulations. Suzy Glick had looked into this without success, so she and Gene Davidson agreed to seek legal assistance for the Society.

Albert Dorfman died at the age of 65. Despite several years of serious illness he maintained his outstanding influence as a prime mover and mentor in the glycoconjugate field as well as his medical activities as an epitome of the physician scientist.

October 10-12, 1983 meeting was hosted by Roger Laine at the University of Kentucky in Lexington. Registration was \$40 plus an additional \$20 for dinner and \$10 for an outing to Keeneland, "a classy local thoroughbred racetrack." There were eleven 30-40 minute invited presentations organized into three symposia. These were New Technology in Glycoconjugate Analysis with presentations by G.R. Gray, S.A. Carr, D. Zopf, and R.K.Yu; Receptor Mediated Intracellular Translocation of Protein-Carbohydrate Complexes with presentations by Y.C. Lee and J. Harford; Use of Recombinant DNA Technology and Monoclonal Antibodies for Investigation of Glycoprotein Structure and Function with presentations by V. Ginsburg, E.C. Heath, and M.C. Ziemer. There were 79 posters, but no short presentations in the two and a half day meeting which had 167 registrants of whom 87 were members of the Society. An afternoon was spent at the races, during which some of us gained and some lost. I for one, selected horses by their interesting names, and managed to come out about \$12 ahead.

Suzy Glick and Gene Davidson announced that they had retained the services of a Washington attorney, who drafted a set of new bylaws to incorporate the Society as a District of Columbia nonprofit organization. These bylaws were sent to the membership which approved their acceptance, and the Society was now nonprofit. The total assets of the Society had risen to approximately \$18,000 which was reduced to \$14,300 due to the attorney fees and the taxes paid before the nonprofit status was in effect.

October 2-4, 1984 meeting was hosted by Nancy Schwartz, University of Chicago. Registration was \$55 plus \$15 for the dinner. There were invited presentations of 35-40 minutes by J.C. Paulson, W.J. Lennarz, A.I. Caplan, I.J. Goldsten, P.J. Brennan, E.F. Neufeld, V.C. Hascall, and H.F. Lodish, plus twenty five 20 minute presentations, and 68 posters in the two and a half day meeting which had 247 registrants (the largest attendance to date) of whom 106 were members of the Society. Total assets dropped to about \$6,500 due mainly to advances provided in the Societies' hosting of the forthcoming 1985 International Symposium for Glycoconjugates to be held in Houston, plus a deficit from the 1983 meeting in Lexington.

The new bylaws required some changes in nomenclature so that the "Officers" and "Executive Committee" were now part of a "Board of Directors" consisting of the Officers and the other six elected members. The term "Executive Committee" now referred to the four Officers. Voting could take place only at the meeting with the ballots received by mail being proxies to be voted by the Secretary.

It was announced that the upcoming International Symposium could be expected to run at a \$50,000 deficit which would have to be made up by donations from Industry, Academia, etc. E. Davidson, as President of the "Glycoconjugate Steering Committee" for the International

organization together with D. Carlson would contact potential donors. W. Lennarz reported promised funds from University of Texas and M.D. Anderson.

1985 there was no general meeting, since the Society was hosting the VIII International Symposium for Glycoconjugates in Houston, TX, September 8-13 (E. Davidson took organizational responsibilities due to a family tragedy for N. DiFerrante, who had been the organizer). There was a Business Meeting at which repayment of the funds forwarded for the International Meeting and a profit arising from the 1984 Chicago meeting were announced.

November 5-7, 1986 meeting was hosted by Kenneth Leskawa, Medical University of South Carolina, in Charleston, SC. Registration was \$80 including the banquet. There were 24-45 minute invited presentations by H.F. Lodish, R.J. Ivatt, D.A. Cheresch, G. Tettamanti, H. van Halbeek, H. Ward, and K. Sandhoff, thirty two 15 minute presentations, and 49 posters in the two and a half day meeting which had 223 registrants of whom 91 were members of the Society. K. Leskawa had obtained about \$6,000 in donations from corporations and foundations, which, when added to \$5,000 profits from the International Meeting, resulted in total assets of over \$25,000 for the Society.

The Board of Directors unanimously decided to use up to \$10,000 for Travel Fellowship Awards of \$750 to students or postdoctoral fellows to attend the upcoming 1987 IX International Symposium on Glycoconjugates to be held in Lille, France. In addition it was decided to provide \$1,000 for support of the 1987 Gordon Conference on Glycoproteins and Glycolipids and \$1,000 for support of the 1988 Gordon Conference on Proteoglycans.

A decision was made to discontinue the "Social Hour" sponsored at FASEB/ASBC meetings due to poor attendance in the previous few years.

November 5-7, 1987 meeting was hosted by Vincent Hascall, in Bethesda, MD. Registration was \$80 including the banquet. There were 25-30 minute invited presentations by D. Heinegard, A. Dell, O. Hindsgaul, T.M. Jessell, J. Stoll, P.W. Robbins, P. Stanley, H.K. Kleinman, J.W. Dennis, and M. Rosbash, plus twenty two 15 minute presentations, and 85 posters in the one half, one, half day meeting which had 279 registrants of whom 125 were members of the Society. Donations of \$8,000 were received from corporations and an additional \$2,000 was received from the International Union of Biochemistry (IUB). Eight Travel Fellowship Awards of \$750 had been made as well as the \$1000 provided for the Gordon Conference, reducing the assets to \$18,500. Travel Fellowships for the 1989 Xth International Symposium to be held in Jerusalem were approved in principal, the total amounts to be determined at a later date. As of this date there were 607 members of the Society, of whom 67 were from overseas.

The Board of Directors appointed M.C. (Suzy) Glick as Representative to the International Glycoconjugate Committee and the Steering Committee of the International meetings.

G.W. (Bill) Jourdian suggested to the Board of Directors that we explore journal publication of the annual meeting abstracts, perhaps in Glycoconjugate Journal, then in its fourth year. He indicated that he would make inquiries.

November 3-5, 1988 meeting was hosted by Alan Elbein, University of Texas, San Antonio. Registration was \$80 including the banquet. There were thirty five 25 minute presentations and 98 posters in the two and a half day meeting. At this time there were 688 members of the Society. Unfortunately I do not have further attendance information regarding this or

subsequent meetings. Abstracts were published in Glycoconjugate Journal. Assets were \$26,500. Travel funds were applied for and \$8,000 received from the National Science Foundation to provide funds for Postdoctoral Fellows and junior Faculty to attend the forthcoming 1989 International Symposium on Glycoconjugates to be held in Jerusalem.

It was announced at the business meeting that Zacharias Dische had died at the age of 92. He was a major contributor to the early work in identifying and measuring the components of glycoconjugates.

November 8-11, 1989 meeting together with the meeting of the Midwest Connective Tissue Workshop was hosted by George W. Jourdian and Irwin Goldstein at the University of Michigan, Ann Arbor. Registration was \$65 plus \$35 for the banquet. There were thirty two 30-45 minute presentations and 160 posters in the three day meeting. Abstracts were published in Glycoconjugate Journal.

Membership dues were raised to \$20.

October 11-13, 1990 meeting was hosted by Minoru Fukuda and Hudson Freeze at the La Jolla Cancer Research Foundation, La Jolla, CA. This meeting was the first of the Society meetings to be organized by professional meeting organizers with Registration increased to \$120 plus \$40 for the banquet. There were thirty 30 minute invited presentations, twenty three 15 minute presentations, and 81 posters in the 3 day meeting. George Palade gave a special Plenary Lecture before the banquet on the first day. Abstracts were published in Glycoconjugate Journal. Assets were \$17,000. Travel funds were applied for and \$4,000 received from the National Science Foundation to provide funds for Postdoctoral Fellows and junior Faculty to attend the forthcoming 1991 International Symposium on Glycocojugates to be held in Toronto.

Communications between the Secretary, Carl Hellerqvist, and Genzyme resulted in the offer by Genzyme of a \$5000 Genzyme Award for "Excellence in Graduate Study of Complex Carbohydrates," to be given yearly to a student, selected by the Society, who had submitted a thesis during the year. This award was presented for the first time at the meeting, and has been presented each year at subsequent meetings.

It was announced at this meeting that Karl Meyer had died in May, 1990 at the age of 89. I believe that he was without much argument the most important investigator in the history of glycobiology, being responsible for a major portion of the basic structural information, as well as serving as a focal point for others. As President of the Society in 1990, I proposed that we established The Karl Meyer Lectureship in his honor. The consensus of the Board of Directors was that this should be an international award to be given every two years to a currently active distinguished investigator from any country, with presentation and lecture to be held at the International Symposium on Glycoconjugates.

By the time of this meeting it seemed clear that the Society, which then had over 700 dues paying members, had reached the point where major decisions needed to be made regarding its future. Paramount among these was whether the Society, perhaps with its own journal, be directed in a broader fashion than what was then its emphasis on the structure and metabolism of glycoproteins. This would include attempts to attract more representation from the glycolipid and proteoglycan areas and increased aspects of cell biology and molecular biology. Any such enlargement of membership interests would obviously require enlargement and increased formalization of the executive and administrative structure with a location and funds increased for support personnel. Should this be the choice of the membership, then it was proposed that

formal committees should be established to cover Nominating, Program, Publication (if the Society were to be affiliated with a journal), Fellowship and Awards, and Fund Raising. All of these would require increases in dues, and would change the nature of our forum for presentations and discussions.

F. MATURITY

Renamed The Society for Glycobiology in 1993, with affiliations to the journal Glycobiology, the Society is now in the process of maturation.

The programs for each of the Society meetings will be posted on the Society web site.

SOCIETY FOR COMPLEX CARBOHYDRATES

Board of Directors 1973 – 1990

	<u>Officers</u>		<u>Members</u>	
1973	President	Ward Pigman	Albert Dorfman	Karl Schmid
	Secretary	John Gregory	Victor Ginsburg	Robert Spiro
	Treasurer	Isadore Danishefsy	Lennart Roden	Richard Winzler
1974	President	Roger Jeanloz	David Aminoff	Lennart Roden
	Secretary	John Gregory	Victor Ginsburg	Robert Spiro
	Treasurer	Isadore Danishefsy	Albert Dorfman	Karl Schmid
1975	President	Albert Dorfman	Anthony Cifonelli	Harry Schachter
	Secretary	Don Carlson	Victor Ginsburg	Robert Spiro
	Treasurer	Charles Sweeley	Karl Schmid	Graham Jamieson
1976	President	John Gregory	Anthony Cifonelli	Harry Schachter
	Secretary	Don Carlson	Victor Ginsburg	Robert Spiro
	Treasurer	Charles Sweeley	Karl Schmid	Graham Jamieson
1977	President	Lennart Roden	Anthony Cifonelli	Harry Schachter
	Secretary	Don Carlson	Graham Jamieson	Elizabeth Neufeld
	Treasurer	Charles Sweeley	Alfred Linker	Oscar Touster
1978	President	Robert Spiro	Anthony Cifonelli	Harry Schachter
	Secretary	Don Carlson	Graham Jamieson	Elizabeth Neufeld
	Treasurer	Charles Sweeley	Oscar Touster	
1979	President	Alfred Linker	Oscar Touster	Elizabeth Neufeld
	Secretary	Don Carlson	Eugene Davidson	Jeremiah Silbert
	Treasurer	Harry Schachter	Vincent Hascall	David Swann
1980	President	Karl Schmid	Eugene Davidson	Jeremiah Silbert
	Secretary	Don Carlson	Vincent Hascall	David Swann
	Treasurer	Harry Schachter	Oscar Touster	Elizabeth Neufeld
1981	President	Victor Ginsburg	Vincent Hascall	Richard Margolis
	Secretary	Jeremiah Silbert	Edward Kean	Nancy Schwarz
	Treasurer	Harry Schachter	Rosalind Kornfeld	David Swann

1982	President Secretary Treasurer	Mary C. Glick Jeremiah Silbert Harry Schachter	Vincent Hascall Edward Kean Rosalind Kornfeld	Richard Margolis Nancy Schwarz David Swann
1983	President Secretary Treasurer	Eugene Davidson Jeremiah Silbert Harry Schachter	Gilbert Ashwell George W. Jourdian Rosalind Kornfeld	William Lennarz Richard Margolis Nancy Schwarz
1984	President Secretary Treasurer	Don Carlson Jeremiah Silbert Harry Schachter	Gilbert Ashwell George W. Jourdian Rosalind Kornfeld	William Lennarz Richard Margolis Nancy Schwarz
1985	President Secretary Treasurer	Charles Sweeley Jeremiah Silbert Harry Schachter	Gilbert Ashwell Glyn Dawson George W. Jourdian	Roger Laine William Lennarz Salvatore Turco
1986	President Secretary Treasurer	Nancy Schwarz Jeremiah Silbert Harry Schachter	Gilbert Ashwell Glyn Dawson George W. Jourdian	Roger Laine William Lennarz Salvatore Turco
1987	President Secretary Treasurer	Vincent Hascall John Gregory Harry Schachter	Glyn Dawson Irwin Goldstein Roger Laine	Yu-Teh Li Renee Margolis Salvatore Turco
1988	President Secretary Treasurer	George W. Jourdian Carl Hellerqvist Harry Schachter	Glyn Dawson Irwin Goldstein Roger Laine	Yu-Teh Li Renee Margolis Salvatore Turco
1989	President Secretary Treasurer	Allen Elbein Carl Hellerqvist Harry Schachter	H. Edward Conrad Irwin Goldstein Sharon Krag	Yuan Chuan Lee Yu-Teh Li Renee Margolis
1990	President Secretary Treasurer	Jeremiah Silbert Carl Hellerqvist Subash Basu	H. Edward Conrad Irwin Goldstein Sharon Krag	Yuan Chuan Lee Yu-Teh Li Renee Margolis