# A Short History of the American Society of Human Genetics

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## The Birth

I can do no better than to transcribe two sets of handwritten notes by the first secretary of the Society, Herluf H. Strandskov, the first a description of the founding of the Society on September 11, 1948, and the second the minutes of the first annual meeting, also on the same day.

> "Following the rediscovery of Mendel's laws in 1900 the science of human genetics enjoyed in America a fairly rapid growth. This became particularly apparent during the nineteen-twenties and continued to be so from then on.
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> When late in the thirties I was asked to teach courses in human genetics and carry on research in that field at the University of Chicago it became forcefully impressed upon me that there was a real need in America for a society devoted to human genetics problems. The Genetics Society of America was doing little to encourage that field of genetics. In 1940 I began seriously to lay plans for a human genetics society but then the war broke out and all such activities had to be abandoned.
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> In the fall of 1947 I felt that the time might be ripe for action. I raised the question with my good friend Charles Cotterman who was at the University of Michigan. Charles was interested, and as a result we discussed possibilities on several occasions. We finally decided late in the fall of 1947 to have a meeting with H.J. Muller and L.H. Snyder while they were in attendance at the Chicago meeting of the A.A.A.S. Both Muller and Snyder were at first somewhat cool to the idea and suggested that we organize as a branch of the Genetics Society of America, but neither Cotterman nor I felt that we would be able to act as effectively under that arrangement. Finally Muller and Snyder agreed that it might be better to organize as an independent society. The four of us decided to call a general meeting during the A.A.A.S. convention in order that we might obtain a more general opinion. About 160 persons attended and a majority was in favor of an independent society. Many were enthusiastic. This gave us courage and hope. It was voted that I should serve as secretary and attempt to obtain the names of all who were interested. As a sign of interest each person was to pay $2.00 to cover organizational expenses. About 220 persons sent in dues during the spring of 1948. An election by mail was held for the office of president, vice president and secretary-treasurer. H.J. Muller was elected president, L.H. Snyder, vice president, and H.H. Strandskov, secretary-treasurer. The officers upon election decided to call a meeting Sept. 11, 1948 in conjunction with the anniversary celebration of the A.A.A.S. at Washington, D.C. A short program was arranged. C.P. Oliver was appointed to draft a constitution which would be submitted for adoption at the Washington meeting. This he did after obtaining many suggestions and criticisms from numerous members.
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> The informally organized society met at Washington, D.C. Sept. 11, 1948. H.J. Muller presided. The proposed constitution was discussed and after some revision was adopted. Upon its adoption the American Society of Human Genetics became a reality."
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> "1st Annual Meeting – Washington, D.C. – Sept. 11, 1948 – H.J. Muller, presiding.
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> The meeting was called to order. About 60 members were in attendance. Following a few comments by President Muller relative to the purposes of the proposed new society the constitution prepared by C.P. Oliver was laid before the group for discussion. It was revised somewhat but was soon put in an acceptable form and was adopted. Thus the American Society of Human Genetics became formally organized or born, and everyone expressed the hope that it had the germ plasm necessary for a vigorous and fruitful growth. (A copy of the constitution is to be found in a separate book [notebook] containing other papers of interest.) The constitution provided for the publication of a journal to be called The American Journal of Human Genetics. It was to be a quarterly and was to appear in 1949. Dr. C.W. Cotterman was appointed editor for a six year term as provided by the constitution. The annual dues were set at $8.00 of which $2.00 were for societal expenses and $6.00 for journal. Subscription price to nonmembers was to be $8.00.
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> A program of short papers was considered desirable for next annual meeting with a retiring address by

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President Muller. It was decided to meet at New York Dec. 1949 in conjunction with annual meeting of A.A.A.S.

A committee consisting of F.J. Kallmann, J.V. Neel and R. Williams was appointed to raise funds in support of journal.

The Treasurer was authorized to spend [$]100 for ad in Science whenever the time appeared appropriate.

Voted to allow subscription agencies 10% discount hence $8 subscription for $7.20.

The board voted that all members of the following societies may be automatically accepted as members.

Genetics Society of America
Am. Soc. of Phys. Anthropologists
Am. Soc. of Zoologists
Evolution Society

Applications need not be circulated to all Board members as constitution provides. This done to minimize time element and correspondence."

The speaker at this first meeting was James V. Neel on "The Detection of Genetic Carriers of Hereditary Diseases." The other elected members of the first Board of Directors were J.B. Birdsell, J.V. Neel, C.P. Oliver, F.J. Kallman, Edith L. Potter, and M.M. Wintrobe. These were followed in the second year by L.H. Snyder (the second president), Curt Stern, R.C. Cook, P. Levine, and B. Price. It should be noted that the early officers and members were mostly PhDs. John Opitz, in his fascinating obituary for Charles Cotterman,[1] reports that Cotterman (the first editor of our journal, which will celebrate its 60$^{th}$ anniversary next year) told him that H.J. Muller, the first president, initially wanted to exclude MDs from the Society. Fortunately, Cotterman persuaded Muller to change his mind, and within a year Muller urged the Society to attract more MDs. It should also be noted that the initial membership included many experts in the genetics of *Drosophila* and mice, as well as many mathematical geneticists. I was dismayed to learn of the inclusion of many eugenicists, especially because some of them were (as corresponding members) the leading Nazi eugenicists or geneticists responsible for producing "scientific" justifications for the racial policies responsible for the holocaust.

## Growth and Development

I joined the Society in 1956 during my fellowship under Charles Wilkinson, one of the early members. The meeting that year was at the University of Connecticut in Storrs and was held in conjunction with a meeting of the American Institute of Biological Sciences, one of the organizations, including the AAAS, with whom we met for the first number of years. Not much had changed from the beginning years, but there was much talk of developing our independence as an organization by organizing our own meeting. The membership had slowly grown to more than 300 members and, under the leadership of Barton Childs, we worked with the medical schools to establish courses in Human and Medical Genetics. At a meeting called by Ted Puck and Victor McKusick in Colorado Springs in 1958, a number of us resolved to develop the discipline of clinical genetics and enhance its visibility in the Society. This turned out to be quite successful in that it attracted many new members and eventually led to the establishment of the American Board of Medical Genetics and the American College of Medical Genetics as our sister organizations.

The size and length of the meetings also gradually increased, so that in 1963, when I was program chairman and O. J. Miller and Paul Marks were the other two members of the program committee, for the first time we had to decide whether to have two concurrent sessions on one afternoon or whether to have some abstracts read by title only. Until then every paper submitted was presented. The growth of membership and abstract submissions continued at a leisurely pace until the 1980's and 1990's, when the rapidly growing population of genetic counselors began to swell our ranks. While there was initial resistance to this influx by some members, the counselors quickly established themselves as important and productive colleagues. They are continuing to be a growing component of the Society, even though they, like the clinical geneticists, also have their own independent meetings. The next significant jump in membership, abstracts, length of meeting and multiplicity of concurrent sessions came with the decision by the rapidly growing number of molecular geneticists to join with us rather than to start a separate society in the 1990's. This critical decision has not only led to more rapid growth of the Society and an increase in papers on the basic aspects of human genetics but has also maintained the multidisciplinary aspects of our meeting. I believe that this was critical in sustaining human genetics as an identifiable entity, without the fragmentation that has led to the demise of a number of other medical and even some basic scientific disciplines and/or their meetings.

Much of the development of the Society was aided by the participation of many members in the growing number of committees. Without these, our growth and increasing public image would have been quite impossible. Such committees as the education committee have enhanced our visibility and developed wide understanding of human genetics by the public and by the school system. The awards committee was established in 1955 and led to the prestigious William Allan Award, first given in 1962 to Newton Morton. It speaks well for the Society that about half of the Allan awardees who were eligible to be president were elected to that position. We have sustained appreciation and respect by picking out leaders on the basis of scientific achievement, rather than political acumen alone. In a similar vein, more than half of the recipients of the Award

for Excellence in Human Genetic Education, begun in 1985, also rose to the presidency of the Society. The most recent award, the Curt Stern Award, fulfills another important goal of the Society, the encouragement and recognition of younger members for important achievements in the past 10 years. A particularly favorite committee of mine is the committee on social issues, which I helped found in 1968. It has produced a number of important public statements laying out important ethical principles related to human genetics. A beautiful example is the 40-year-old "Statement on the Issue of Privacy and Genetic Testing" prepared under the leadership of Margery Shaw. It is as valid today as it was then.

> "All men are not created equal. This is a biologic fact. As we learn more and more about our genetic makeup, this fact will loom as an ever-increasing threat to our social equality.
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> It has been estimated that each of us carries about 5 to 10 deleterious genes. Many of them are mere nuisances, causing some of us to be short or colorblind or have webbed toes. Other genes are more incapacitating, producing hypercholesterolemia, an allergy to penicillin, or mental retardation. Still others cause 1ife-long suffering or fatal disease.
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> As we increase our knowledge about the diversity of our genes and the diversity of our environment, it is likely that we will discover that changes in our environment (such as industrial pollutants and mutagenic chemicals) will produce different effects in different people. This will cause some of us to be stigmatized, perhaps making us ineligible for certain types of employment or general insurance coverage.
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> As more genetic screening tests are developed, it is inevitable that genetic data banks will proliferate. This, in turn, will raise grave ethical and legal questions. Should genetic testing be compulsory or voluntary? How is the privacy of the person being screened protected? Who will have access to our genotypes? Employers? Teachers? Insurance carriers? Government? Are our genes privately owned or do they belong to Society? Is the right to reproduce an inalienable (constitutional) right or should reproduction be monitored and in some cases prohibited in order to [e]nsure a healthy gene pool for future generations?
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> It is important that we learn more about our present genetic diversity. It is also important that research be conducted to better understand how industrial, nutritional, and drug technologies affect our genes by producing mutations, cancer, and birth defects. But we should proceed with proper caution, respecting the rights of privacy and confidentiality. Otherwise, new gains in knowledge may be paid for by the development of a genetic caste system, producing unequal social opportunities based on biological differences. Any legislation designed to inquire into the human health hazards of environmental pollution should include safeguards to protect the privacy of individuals being studied.
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## Maturity

The Society has reached a new level of excitement and sophistication over the past 10 years. The completion of the Human Genome Project has brought a panoply of new possibilities and tools that are rapidly being and will continue to be exploited. The first of these was the HapMap, which allowed us to rapidly map traits and locate candidate genes responsible for these traits, as well as define mutations causing normal and pathological variations in these genes. The next vast expansion of our tool kit was the development of whole-genome association studies, which can help us to discover genes that increase one's susceptibility to complex genetic diseases such as diabetes, obesity, and inflammatory bowel disease, among others, as well as to understand variation in normal human traits such as height and skin color. The next unexpected excitement came from the appreciation not only that epigenetic phenomena such as DNA methylation can alter gene expression but also that such changes can be inherited without a change in the genetic code and can be influenced by the environment. We have recently been surprised by the realization that normally produced small RNA species provide yet another level of control over gene expression, often in a tissue-specific manner. All of these phenomenal new discoveries have led to a far greater understanding of human genetics and are beginning to lead to experiments designed to modify genetic diseases. Perhaps the most utopian vision is that these findings will lead to personalized medicine by clarifying susceptibility to common diseases and thereby allowing maneuvers to prevent illness. Equally important and derived from the same new methods and findings is the promise of pharmacogenetics, which will allow us to tailor therapeutic interventions so as to prevent adverse drug reactions and provide accurate doses as required by the state of genes responsible for the metabolism of drugs.

It is with great pleasure that I look forward to the future role that genetics and its principles will play in the prevention and treatment of disease. This was the goal of the 1958 meeting mentioned above, a goal that is being achieved a mere half century later. It also

validates the belief by some of us that essentially all medical specialties are subspecialties of human genetics.


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## References


1. Opitz, J.M. (1989). Obituary: Charles W. Cotterman. Am. J. Med. Genet. *34*, 149–154.