

JAN 31 1973

Dr. Clifford G. Hildreth
President
American Statistical Association
806 15th Street, NW
Washington, D. C. 20005

Dear President Hildreth:

I have received a copy of your letter to Stu Hunter which shows the membership of the Samuel S. Wilks Memorial Medal Committee.

Before all others who have an institutional memory about the creation of the Wilks Medal fade from view, I think it appropriate to bring to your attention some of the underlying circumstances and desires regarding the Medal.

In the Fall of 1964, Mr. Philip Rust discussed with Leslie Simon the creation of an Award to honor Sam Wilks. Said Award was "to be presented annually to a meritorious person who has made significant contributions to statistical methods used by the Army, and whom the Committee judges to be deserving of the Award." It was suggested that the Army select the winner.

When the above proposal was forwarded to my office, it was checked with our personnel officials who said that we could "play no role in handling the funds or creating the Medal." However, we stated that we would be willing to assist in establishing a Committee for the Award.

Subsequently, contact was made with Mr. Donald C. Riley of the ASA by Simon and in a letter contact, Gen Simon wrote, as he saw them, the obligations of the ASA. I quote some pertinent paragraphs:

"Annually, see to it that an appropriate existing committee is selected (or appointed) to select the awardee, based on the criterion that he is a person whom the committee regards as deserving of the Award, based primarily on his contributions (either recent or past) to the welfare of the Army through new scientific or technical knowledge, ingenious applications of existing knowledge, or successful activity in the fostering of cooperative scientific efforts that proved useful to the Army. The person selected may, but need not be, in the military service or a Government employee."

"Annually, see to it that an appropriate person is selected to present the Award."

"Require that the Award be made in connection with the Army's Annual Conference on Design of Experiments which Wilks chaired for nine years, provided that the Conferences continue to be held and seem appropriate."

"The ASA may, if the Army's Conferences on Design of Experiments are discontinued or lapse for more than two years, at its discretion, select some other occasion for the Award and, if necessary, some other criteria that are consistent with the bases of the Wilks Award. If occasion should arise, wherein the ASA could find no effective way for the Award to continue to commemorate Wilks and to comply with the bases of the Award, it may terminate the Award and absorb the endowment for other philanthropic enterprises, preferably with emphasis on benefits to the Army."

Shortly afterwards, the Army's legal personnel suggested a change under the impression that the Award would be solely for Army personnel. Their recommended wording was as follows:

"Annually, see to it that an appropriate existing committee is selected (or appointed) to select the awardee, based on the criterion that he is a person whom the committee regards as deserving of the award, based primarily on his contribution (either recent or past) to the advancement of scientific or technical knowledge, ingenious application of existing knowledge, or successful activity in the fostering of cooperative scientific efforts which has only coincidentally benefited the Army. The award shall be made with the intent of recognizing the personal, intellectual accomplishments of the individual and shall not be given with the intent of supplementing the individual's salary, providing him with compensation, or advancing the interests of the donor or trustee of the endowment."

Finally, the following was taken from the December 1964 American Statistician, which printed Mr. Riley's remarks at the Army Design of Experiments Conference at which the first Wilks Medal was awarded:

"As mentioned in General Simon's address, the ASA has recently had the opportunity to be of further services. By joint agreement between representatives of the Army, Mr. Philip G. Rust and the ASA, the Samuel S. Wilks Award has been established. The Award will consist of a medal and an honorarium. The ASA has accepted the obligation of administering the Award in accordance with guidance and criteria which are consonant with law and with the wishes of Army representatives, Mr. Rust and the ASA."

"Annually, ASA has agreed that an appropriate existing committee be appointed to select the awardee, based primarily on his contributions (either recent or past) to the advancement of scientific or technical knowledge, ingenious application of existing knowledge, or successful activity in the fostering of cooperative scientific efforts which have only coincidentally benefited the Army. The Award shall be made with the intent of recognizing the personal, intellectual accomplishments of the individual and shall not be given with the intent of supplementing the individual's salary, providing him with compensation, or advancing the interests of the donor or trustee of the endowment."

Unfortunately, Mr. Riley's remarks included the verbiage recommended by the Army's legal staff. As we know, few Army personnel have received the Award and it does not appear likely that any others will win in the near future. Accordingly, the admonition "which has only coincidentally benefited the Army" should now be replaced by "which has benefited the Army." This wording is more realistic and, also, recognizes that Wilks spent a significant portion of his time in assisting the Army.

In recent history and on reviewing the candidates, I feel that the Wilks Committee has tended to include candidates who are distinguished statisticians but whose contributions to and connections with the Army's program are, at best, tangential. There is no doubt that these individuals should receive recognition from the ASA, but the Wilks Medal is not appropriate. I feel that the members of the Wilks Memorial Medal Committee should be instructed, in detail, as to the guidelines and purposes of the Award. This would minimize embarrassment and, more important, keep alive the spirit of Wilks direct contribution to Army statistics.

In consonance with the above, and with Mr. Rust's wishes, a certificate would be most appropriate to accompany each Medal, whereby the certificate should specify that the award was given for significant contributions to the Army.

Rumor has it that there is a desire on the part of some individuals to mask the relationship of the Award and the Army and to utilize different criteria than those mentioned above for determining a winner. As with the establishment of the Wilks Medal, I would be most pleased to assist in the establishment of any other award with associated criteria in determining the award winner. I feel that the Wilks Memorial Medal and an accompanying certificate be awarded to one who can emulate Sam Wilks to some extent - that is, a scholar, an applier of statistical methodology, and an assistance giver to the Army.

FRED FRISHMAN, Ph.D
Chief, Mathematics Branch

7 May 1973

Dr. J. Stuart Hunter
School of Engineering
Princeton University
Princeton, New Jersey 08540

Dear Stu:

I have your letter of 11 April and this, of course, is my response. I have one detail to bring to your attention regarding the historical record of the creation of the Wilks Medal. Specifically, the Army's legal personnel deleted mention of "contributions to the Army" based on the erroneous notion that the Medal was to be awarded to Army personnel only. Since the Medal is not for Army personnel, it is somewhat pointless for the Medal Committee to operate under erroneous assumption. If desired, I can easily obtain a corrected version of the Army's desires on this point.

In any event, I am pleased to nominate Herbert Solomon for the Samuel S. Wilks Award. In many ways, he exemplifies the best scientific qualities of Wilks - contributor to the advancement of knowledge, ingenious applier of statistical knowledge, fosterer of cooperative efforts, and assistant to many government agencies.

In line with my nomination, I have inclosed copies of background material on Solomon. I would appreciate your distributing this material to the members of the Committee.

By the way, I have a new position and my address is given below.

Congratulations on your new assignment.

Most sincerely,

FRED FRISHMAN

Mathematics Division
Army Research Office
Box CM, Duke Station
Durham, North Carolina 27706

Herbert Solomon - Nominee for the
S. S. Wilks Memorial Award

Herbert Solomon has been nominated as a candidate for the 1973 S. S. Wilks Memorial Award. The attached biography and bibliography are submitted for your consideration and the listings therein serve as a base for the discussion that follows.

In Solomon, we have the singular combination of important research contributions to statistics, innovative applications of statistics in a number of settings, and very successful development and promotion of statistics. All of these talents have been intertwined on many occasions with Department of Defense programs and it is to these abilities and their relationship with DOD that I will now go into some detail.

First, consider his contributions to statistical theory and methodology and then their association with DOD by referring to the articles listed in the bibliography. The subject of coverage received interesting and original treatments in Numbers 2, 5, and 19. This geometrical probability problem was motivated by inquiries into the relationship between target coverage and weapons systems and Solomon's work is used presently on a routine basis at a number of installations.

A second area is that of acceptance sampling. Here, Papers 7, 9, 11, and 20 presented new and important results on continuous sampling schemes and surveillance sampling schemes. Both are topics of great interest to DOD agencies and in fact, Solomon's work on continuous sampling led to publication of DOD manuals now in use by inspectors where continuous sampling is appropriate. His work on surveillance sampling stemmed from some Army problems and was singled out and published in a volume containing important papers published in Management Sciences in the period up to 1960. In addition, his Paper #36 continues developments in surveillance procedures.

Solomon made important contributions in the area of mathematics in social processes, specifically the question of group problem solving. Papers 4, 13, 15, and 21 provide results of interest and started a group of workers who continued his work in small group models. Curiously enough, these papers were initiated by Solomon, in connection with a specific problem suggested by the Air University at Maxwell Field, and in large measure were produced under a contract there.

The area of measurement of mental ability received much attention in Papers 8, 14, 16, 17, and 18. Important contributions were made to this subject in Volume 2 in the list of books also produced as a result of these efforts. The motivation for this was a specific set of problems raised by the Air Force School of Aviation Medicine and once again, a number of papers were produced under contract. It might be added here

that Paper #16, published in 1950 has served as a base for a number of papers recently on this subject. It is also related to papers in Electrical Engineering Journals, which now refer to it in connection with work on character and pattern recognition.

One area receiving a lot of attention at present is that of clustering and classification. These are important in multi-variate data analysis. Here again, Solomon was an initial contributor and developer. Papers 8, 24, and 30 are on this subject matter.

Another subject of theoretical, scientific and DOD interest, is that of random packing. On this topic, Solomon made original contributions in Papers 25 and 29.

Another set of papers that relate to a theme are Papers 23, 35, and 37. These papers are on measurement of evidence, reasonable doubt, and questions related to jury size. We can assume that they will serve as a basis for contributions by others in the near future.

There are other papers listed which make interesting contributions to statistics. For example, 32 provides an interesting merger of geometrical probability and traffic flow problems. All in all, we see a picture of statistics being introduced and developed in a wide variety of fields -- a large number of them directly related to DOD subject matter.

At this point, it is most appropriate to discuss Solomon's other accomplishments, especially in DOD. First, he has served as President of the Institute of Mathematical Statistics and President of the Western Division of the Operations Research Society. In university life, he has been Chairman of the Department of Statistics at Stanford and currently is Chairman at George Washington University. He was responsible for the growth and quality of the Stanford program. Solomon initiated and developed the Statistics Branch of the Office of Naval Research and laid down the philosophy for its operation. This has been a most successful program. While in that situation, he initiated and developed two Joint Service Committees which exist to this day. One is on Quality Control and Reliability and the other on Statistics and Applied Mathematics. These committees and the funding they are under from each of the services has provided a continuing flow of important ideas and reports under a large number of DOD applications for over twenty years.

For the past seven years, Solomon has been an important member of the Army Mathematics Steering Committee and a member of the Program Committee of the Army Design of Experiments Conference. He is the successor to the late Samuel S. Wilks in these two assignments.

BIOGRAPHY

Name: Herbert Solomon

Higher Education

1940 B.S., The City College (New York City)
1941 M.S., (Mathematics) Columbia University
1950 Ph.D., (Mathematical Statistics) Stanford University

Honors

John Simon Guggenheim Fellow, 1958
Fellow of the Institute of Mathematical Statistics, 1955
Fellow of the American Statistical Association, 1954
International Statistical Institute, 1972

Professional Societies

Offices

President, Institute of Mathematical Statistics, 1964-65
President, Operations Research Society - Western Section, 1966

Memberships

Operations Research Society of America
Institute of Management Sciences
Royal Statistical Society
Institute of Mathematical Statistics
American Statistical Association
Psychometric Society
American Psychological Association
Cosmos Club, Washington, D.C.

Professional Experience

University

Professor, Department of Statistics, Stanford University	1959 -
Executive Head, Dept. of Statistics, Stanford University	1959 - 64
Principal Investigator-Joint Services Contract with ONR	1959 -
Principal Investigator-Probability Models in Traffic Flow with Department of Transportation	1967 -
Professor, Teachers College and Dept. of Mathematical Statistics, Columbia University	1957 - 59
Associate Professor, Teachers College and Dept. of Mathematical Statistics, Columbia University	1952 - 57
Director, Mathematics in the Behavioral Sciences (Office of Naval Research Project), Bureau of Applied Social Research, Columbia University	1953 - 57
Director, Item Analysis and Classification Project (School of Aviation Medicine Project), Teachers College	1954 - 57
Director, Group Process and Group Efficiency in Problem Solving (Office of Naval Research Project), Bureau of Applied Social Research, Columbia University	1956 - 59
Acting Assistant Professor Statistics, Stanford University	1947
Research Statistician, Statistical Research Group, Division of War Research, Columbia University	1943 - 45

Government

Head, Statistics Branch, Office of Naval Research	1949 - 52
Chairman, Joint Services Advisory Committee for Applied Mathematics and Statistics	1950 - 52
Director, Joint Services Research in the Statistical Aspects of Quality Control	1950 - 52
Mathematical Statistician, Office of Naval Intelligence	1948
Operations Analyst - Hqs. U.S. Air Force	1946

Committees

Mathematical Sciences Research Evaluation Committee - Air Force Office of Scientific Research	1964 - 67
Army Mathematics Steering Committee - Headquarters, Office of Research and Development, U.S. Army	1967 -



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National Bureau of Standards
Physics Bldg., Room A345
Washington, D.C. 20234

July 25, 1975

Dr. Nancy R. Mann
Rockwell International
Science Center
1049 Camino Dos Rios
P.O. Box 1085
Thousand Oaks, California 91360

Dear Nancy:

Enclosed is my version of the charge to the S. S. Wilks Award Nominating Committee. The confusion that has occasionally beset the committee stems from the fact that the originator, Mr. Rust, wanted the award to be an Army award with ASA just being a judge of the best from a list of candidates which the Army submitted.

In the process, it somehow became an ASA award with the requirements set down by Mr. Rust for an Army award being used to judge an ASA award. The current list of criteria still reflects this, although they have been enlarged to include the public interest as well as activities for the military.

A proper policy on awards (had there been one in 1964) would probably have stated that ASA should not give awards for work for individual organizations (e.g., the Army, oil companies, etc.) I would recommend that the award be broadened to be a public service award. If this is done, ASA should offer to return the residue of Mr. Rust's endowment to him if he disapproves of such a change.

Sincerely,

Joe

J. M. CAMERON, Chairman
S. S. Wilks Medal Committee

Enclosure

S. S. WILKS AWARD NOMINATING COMMITTEE

Background

The Wilks Award was made possible through the generosity of Mr. Philip G. Rust of Thomasville, Georgia, who donated to the ASA the funds necessary for an annual medal and honorarium. The details governing the Award and its administration were arranged through the good offices of Major General Leslie E. Simon (Ret'd), Fellow of the ASA and designee of the Army for that purpose, together with the ASA and Mr. Rust.

The initial Award was announced by Mr. Donald C. Riley, Executive Director of ASA, at the Army's Tenth Conference on Design of Experiments, in Washington, D.C., November 4, 1964.

The winners have been:

1964	Grubbs	1970	Snedecor
1965	Tukey	1971	Dodge
1966	Simon	1972	Box
1967	Cochran	1973	Hartley
1968	Neyman	1974	Daniel
1969	Youden		

Responsibility of ASA

- (1) Appoint an appropriate committee to select the awardee.
- (2) See to the investment of the endowment so as to bring an annual yield sufficient to support the Award (both the medals and the honorarium).
- (3) Annually, see to it that an appropriate person is selected to present the Award in connection with the Army's Annual Conference on Design of Experiments which Wilks chaired for nine years, provided that the Conferences continue to be held and seem appropriate.
- (4) The ASA may, if the Army's Conferences on Design of Experiments are discontinued or lapse for more than two years, at its discretion, select some other occasion for the Award and, if necessary, some other criteria that are consistent with the bases of the Wilks Award. If occasion should arise, wherein the ASA could find no effective way for the Award

to continue to commemorate Wilks and to comply with the Bases of the Award, it may terminate the Award and absorb the endowment for other philanthropic enterprises, preferably with emphasis on benefits to the Army.

Charge to the Committee

The Committee will select an awardee based primarily on his contributions (either recent or past) to the advancement of scientific or technical knowledge, ingenious application of existing knowledge, or successful activity in the fostering of cooperative scientific efforts which have been directly involved in matters of national defense or public interest. The award shall be made with the intent of recognizing the personal and intellectual accomplishments of the individual and shall not be given with the intent of supplementing the individual's salary, providing him with compensation, or advancing the interest of the donor or trustee of the endowment.

The selection criteria are as follows:

- (1) Contributions to the advancement of knowledge. Publications in theory and methodology, educational activities, awards.
- (2) Ingenious applications of existing knowledge, consultation, (especially DOD, U.S. Government), applical papers, impact on subject matter fields.
- (3) Cooperative scientific efforts, advisory committees, (involving national defense or public interest), professional society activities.



DEPARTMENT OF THE ARMY
U. S. ARMY BALLISTIC RESEARCH LABORATORIES
ABERDEEN PROVING GROUND, MARYLAND 21005

22 March 1976

Dr. Fred C. Leone
Executive Director
American Statistical Association
806 - 15th Street, N.W.
Washington, DC 20005

Dear Fred,

I am herewith recommending that in connection with any future published accounts of the Wilks Memorial Medal we do not speak of Phil Rust (who donated the funds) as a "retired industrialist." This is because his statistical interests actually run much deeper. Thus, we should indicate that the funds for the Wilks Memorial Medal were donated by Philip G. Rust, who studied the frequency distribution of the extreme spread from both the impacts of actual rifle firings on targets and also from sampling (Monte Carlo) studies back in the late 1930's. In addition, Mr. Rust discussed the theoretical statistical problem back then with Sam Wilks of Princeton. Hence, his interest in donating funds for the Wilks Memorial Medal is therefore quite evident.

From the above, you can see that Phil Rust played a role which is rather significantly different from that of a "retired industrialist." What has happened is not the fault of ASA, but rather something we have perpetuated without actually describing Phil Rust's proper role, and the above description would give readers a clear account of the statistical connections.

With best personal regards, I am

Cordially yours,

Frank

Frank E. Grubbs

cc: ✓ Dr. Douglas Tang
Dr. Francis Dressel
Gen. Leslie E. Simon
Prof. Herbert Solomon



Professor Frank Anscombe
Yale University
Department of Statistics
Box 2179 Yale Station
New Haven, Connecticut 06520

July 10, 1978

Dear Professor Anscombe:

I am in receipt of your two letters with enclosures and of Jeff Kurkjian's. I appreciate your "our charge." I have been voicing these sentiments for many years. Only the recent chairmen have adopted those qualifications.

Since I was on the Army staff and wrote the approval letters on the Wilks Committee which were signed by the Army officials and since I spent 14 years managing the Army's research and consultative program in the mathematical sciences, I am aware of the fact that only a handful of statisticians made meaningful contributions over a significant period of time. All of these statisticians have not been recognized yet as Memorial Medalists. One individual, in particular, stands out and deserves recognition at this time, I believe.

I am choosing Bill Kruskal as my nominee. I personally am aware of his contributions to the Army for a period of approximately 18 years, 1950 - 1968, I believe. During this time, his group at Chicago assisted the Defense establishment on a number of statistically oriented problems. His other contributions as a senior citizen to the statistical community and his research and expository contributions are well known and I only note them for the record.

If he moves through this first stage in the selection process and if you require additional information on Bill, I will be most pleased to furnish same to you.

Cordially,

Fred Frishman

8522 Milford Avenue
Silver Spring, Md. 20910

Professor Frank Anscombe
Yale University
Department of Statistics
Box 2179 Yale Station
New Haven, Connecticut 06520

July 10, 1978

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Fred Frishman

8522 Milford Avenue
Silver Spring, Md. 20910