

## A SHORT HISTORY OF THE SOCIETY FOR QUANTITATIVE ANALYSES OF BEHAVIOR

Michael L. Commons  
Harvard Medical School

The *Society for Quantitative Analyses of Behavior* (SQAB) was founded in 1978 to present symposia and publish on focused cross-disciplinary topics in quantitative analyses of behavior. *Quantitative Analyses of Behavior* now generally refers to the representation of theoretical and applied issues in quantitative and computer form. An analysis is not primarily a matter of fitting arbitrary functions to data points. Rather, each parameter and variable in a model represents part of a process that has theoretical, empirical, and applied interpretations.

The first *Harvard Symposium on Quantitative Analyses of Behavior* addressed *Discriminative Properties of Reinforcement Schedules*. It was organized in 1977 by Michael L. Commons and James E. Mazur with help from John A. Nevin. The *Dare Association, Inc.* and later the *Dare Institute* provided support. Richard J. Herrnstein, who planned to join us for this symposium, had to miss it because he had to be in Missouri the day of the symposium. The symposium was held on a single day, Friday, April 7, 1978 in *William James Hall* at Harvard University. We all adjourned to *The Hungry Persian*, a local Middle Eastern Restaurant. There the group decided to try to publish papers from the symposium and also decided to have us organize a yearly symposium. Michael L. Commons and John A. Nevin were appointed editors.

Here is a reproduction of the first program based on a copy of Kennon A. Lattal's original.

FIRST HARVARD SYMPOSIUM ON  
SCHEDULES AS DISCRIMINATIVE STIMULI

CHAIRPERSONS:MICHAEL L. COMMONS AND  
JAMES E. MAZUR, HARVARD UNIVERSITY

**9:00 am PSYCHOPHYSICS HELPFUL IN LOOK  
AT SCHEDULES AS DISCRIMINATIVE  
STIMULI**

JOHN A. NEVIN	UNIVERSITY OF NEW HAMPSHIRE
JOHN GIBBON	COLUMBIA UNIVERSITY
MICHAEL TERMAN	NORTHEASTERN UNIVERSITY

**11:00 am NUMBER OF EVENTS OR  
RESPONSES AS DISCRIMINATIVE STIMULI**  
MARK RILLING MICHIGAN STATE  
UNIVERSITY

SALLY HOBSON ADELPHI  
UNIVERSITY

**1:00 pm NUMBER OF EVENTS OR  
RESPONSES AS DISCRIMINATIVE STIMULI**

PAUL BRANDON	MANKATO STATE UNIVERSITY
LEILA COHEN	NORTHEASTERN UNIVERSITY

**2:30 pm DENSITY OF EVENTS OR  
RESPONSES AS DISCRIMINATIVE STIMULI**

MICHAEL COMMONS	HARVARD UNIVERSITY
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**3:00 pm TIME AS A DISCRIMINATIVE  
STIMULI**

ALAN STUBBS	UNIVERSITY OF MAINE
CHARLOTTE MANDELL	UNIVERSITY OF NEW HAMPSHIRE
STANLEY PLISKOFF	UNIVERSITY OF MAINE

**4:45 pm CONTINGENCIES AS  
DISCRIMINATIVE STIMULI**

KENNON A. LATTAL	WEST VIRGINIA UNIVERSITY
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**7:30 pm SCHEDULES AS DISCRIMINATIVE  
STIMULI**

PETER KILLEEN	ARIZONA STATE UNIVERSITY
JOHN C. MALONE	UNIVERSITY OF TENNESSEE
NANCY INNIS	UNIVERSITY OF WESTERN ONTARIO
WILLIAM BAUM	UNIVERSITY OF NEW HAMPSHIRE

Our goal has been to have yearly discussions of important material in Quantitative Analysis of Behavior. Such discussion with publication would tend to accelerate the process by which Quantitative Analyses of Behavior would become the dominant approach to behavior analysis and learning in general. Its non-doctrinaire approach could help end the divisions that had grown up between the various disciplines in psychology, and their descendants. Most all chapters and papers resulting from the symposia were reviewed openly, the reviewers signing their comments. This has made the interchanges more constructive and civil.

The following year, Howard Rachlin joined Michael L. Commons, Richard J. Herrnstein, and John A. Nevin in organizing a program on *Matching and Maximizing*, held in early June, 1979. Essentially, SQAB was run in the very early days by myself and Richard J. Herrnstein with consultations from John Anthony Nevin and Howard Rachlin. Herrnstein was the Harvard Faculty member who sponsored the symposia at Harvard. That way the space was free. Nevin and Commons would discuss what we thought might make good topics. Herrnstein and Commons would meet and make choices in consultation with Howard Rachlin and later Allan Wagner. The symposia usually lasted two days. At the end of the first day we would all go out to dinner together.

The books that resulted from the symposia were heavily peer reviewed. For the first two volumes, every manuscript was read carefully by all of us. Detailed suggestions were made to insure that what the author was saying was clear whether or not we agreed with it. All our own chapters were edited also by outside reviewers. Chapters were rejected along the way when time ran out and revisions were not complete. As the symposium went on, topics were solicited by the growing group of attendees both current and past. Associate editors came forth to do the symposium and the resulting book. Stephen Grossberg suggested that we have the people who presented review two or more chapters each to speed up the review process, which took an average of three years at the beginning.

With the aid of Mervyn D. Lynch of Northeastern University, we obtained a series contract with *Ballinger, Inc.* - a division of *Harper and Row Publishers*. The next year, we invited Allan Wagner to join us in organizing a symposium on *Acquisition Processes*. That year, both the first volume and

second volume were published. By July 31, 1983, we had incorporated as a not-for-profit organization and by May 21, 1984, a tax exempt 501(c)(3) organization. The officers were: President-Richard J. Herrnstein; Executive Director-Michael L. Commons; Vice president-Howard Rachlin; Treasurer-John A. Nevin; Clerk-Allan R. Wagner. Allan Wagner helped us move to *Lawrence Erlbaum and Associates*, which published the remaining volumes.

In 1991, Erlbaum terminated our publishing contract. As a result, the last book that resulted from the last Harvard Symposium on Quantitative Analysis of Behavior before it moved the Association for Behavior Analysis was published by Westview Press (Moss & Shettleworth, 1996). More recently, symposia have appeared as special issues of the *Journal of Experimental Analysis of Behavior* and the *Psychological Record*.

Richard Herrnstein stepped down from the Presidency after the 1991 symposium, making it the last symposium at Harvard. Therefore, in 1992, the *Society* moved its symposium to the *Association for Behavior Analysis: International (ABA)*. Warren Bickel and John A. Nevin, with help from many others, produced a very successful symposium. The process of becoming a Special Interest Group (SIG) within ABA formalized SQAB decision making. We had the second business meeting of the Society. John A. Nevin became president.

By the 1993 meeting of SQAB, the *Society* became a Special Interest Group (SIG) within the *Association for Behavior Analysis: International*. Yet, the *Society* also remains an incorporated non-profit 501(c)(3) organization. Symposia are open to any person who is interested in attending. At the business meeting, there was discussion about what to do about publishing papers derived from the symposia given that the Erlbaum series had come to an end. One suggestion was for the *Society* to continue searching for special issues. A second suggestion, which had a large amount of support, was to start a new yearly journal within ABA or elsewhere. Most important, William Palya became the Symposium Organizer and Coordinator. He proceeded to professionalize the meetings and the *Society*.

Some of the core topics have been: Basic processes as opposed to functional relationships; Mechanisms of choice and allocation; Pavlovian mechanisms; Mechanisms of acquisition and schedule

transition; Stimulus relations; Molar-molecular connections; Memory; Genetic history of organisms; Evolutionary and biologically plausible models; and Organism's history, path-independent and dependent-acquisition.

The kinds of theoretical issues have included: Laboratory versus field studies; Measures and scales; Multivariate inputs; Response forms; Behavioral equivalents; Internal behavior and external behavior; Measures of covert or hypothetical process by convergent operations; Units of analysis; Level of theory; Falsifiability of models; Relating multiple perspectives; Where the models really differ; Integration and unification of theories; and Relationships among all the above.

**Social topics were:**

Generality of the core to various species, especially humans; Wild versus laboratory raised animals; Social and verbal behavior; and Social empowerment that results from quantitative analyses.

**Program issues were:**

Share program more; Results of wider paradigms; Relevance to real world; Handle real problems; Help people produce papers, especially students and people from other countries; and Help people get jobs in which they can do quantitative analyses of behavior.

The move to ABA turned out to be quite successful. In the 1994 Society for the Quantitative Analyses of Behavior Conference Final Report, William Palya reported that there were 121 registered attendees at the conference.

The *Society* elected a new board of directors in 1994: Dr. John A. Nevin, President; Dr. William L. Palya, Program Chair; Michael L. Commons, Secretary and Treasurer; Dr. Edmund Fantino; Dr. M. J. Marr; Dr. Dianne McCarthy; and Dr. Howard Rachlin. The first newsletter, *Developments*, was produced.

In 1995, the second Newsletter, *Developments*, came out. From 1994 on, it includes the minutes, the financial statements, discussion about SQAB activities and announcements. At the May 24, 1996, meeting of the Society for Quantitative Analyses of Behavior at the San Francisco Marriott

Hotel, John A. Nevin suggested that the terms of office of the President and Program Chair be three years, retroactive to 1993 and renewable by vote of the Society's membership. William Palya was approved for a three-year term as Program Chair. John A. Nevin was approved for a three-year term as President. Everyone then agreed that the present Board of Directors would continue to serve for the coming year. Michael L. Commons suggested that Patrice Marie Miller be designated Associate Treasurer and authorized to receive and deposit funds, sign checks, and maintain financial records. Individuals who work with the Program Chair to organize the annual meeting or to select speakers are to be designated as official members of the Program Committee.

William Palya introduced the *Videotaped Preeminent Tutorials*. SQAB sponsors *Invited Preeminent Tutorials* during the normal ABA program. This is in keeping with the Society's commitment to simplify the transition to quantitative analyses for both advanced researchers and students. They explain the evolution of contemporary paradigms in Quantitative Analyses of Behavior from their basic origins, as well as illuminating the analytical machinery used in these paradigms. These presentations are available as inexpensive videotapes for classroom use.

At the Thursday, May 22, 1997 business meeting in Chicago, Gregory Galbicka replaced Michael Davison as Board member; Patrice Marie Miller was re-appointed Associate Treasurer. William Palya announced a SQAB website with the address <http://sqab.psychology.org/>. The website includes information on the *Society*, abstracts of SQAB conference papers, and highlights of the preeminent tutorials as well as the proceeding that are available to members only. Michael L. Commons has generated a listserver for SQAB. With it you can conveniently participate in extended discussions of fundamental problems in the quantitative analyses of behavior. To join, visit the SQUAB website.

At the Friday, May, 22, 1998, business meeting in Orlando, a plan was set forth to divide the running of symposia further by having a local arrangements person as well as an onsite registrar. William Palya designated the official name of SQAB members as "Sqabbies".

At the May 26, 1999 meeting, Peter Killeen was elected the new President of SQAB, and given a golden pigeon as a token of his new status. For Program Chair, Armando Machado was also elected and awarded a golden pigeon as well. William Palya informed the membership that there were requests for the SQAB tutorial tapes for instruction. SQAB decided that the tapes were the property of the organization and that the organization should receive any funds. The tapes are copyrighted. William Palya has set up a domain on the internet called <http://Psychology.org>. It has an encyclopedia of psychology as well as a variety of links to other sites concerning psychology.

At the May 26, 2000 meeting, Greg Galbicka stepped down from the board. William Baum was elected in his place. Armando Machado announced that he would be in Portugal henceforth and therefore there would be a need for a new local arrangements coordinator and business liaison. Darlene Crone-Todd was appointed. It appears as if attendance has increased each year. Peter Killeen obtained the journal *Behavioral Processes*, which will publish the proceedings for at least 2000 through 2001.

#### PUBLICATIONS

*The Society* publication efforts have evolved. A review of the past publication situation might be useful. First, the serial *Quantitative Analyses of Behavior* had been a refereed annual and is listed by the *Library of Congress* as such. The first five issues of the annual were published by *Ballinger Publishers*, a division of Harper and Row. The next six were published by *Lawrence Erlbaum and Associates (LEA)*. Most of those are available from LEA.

The following books and serials may be attainable by contacting Michael L. Commons:

- Commons, M.L., & Nevin, J. A. (Eds.). (1981). *Quantitative analyses of behavior: Vol. 1. Discriminative properties of reinforcement schedules*. Cambridge, MA: Ballinger.
- Commons, M.L., Branch, M.N., & Fantino, E. (Eds.). (1993). *The nature of reinforcement: Quantitative analyses of behavior [Special Issue]*. *Journal of the Experimental Analysis of Behavior*, 60(1).
- Commons, M.L., Church, R. M., Stellar, J. R., & Wagner, A. R. (Eds.). (1988). *Quantitative analyses of behavior: Vol. 7. Biological determinants of reinforcement*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Commons, M.L., Davison, M. C., & Nevin, J. A. (Eds.). (1991). *Signal detection: Vol. 10. Quantitative Analyses of Behavior*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Commons, M.L., Grossberg, S., & Staddon, J.E.R. (Eds.). (1991). *Neural network models of conditioning and action: Vol. 11. Quantitative analyses of behavior*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Commons, M.L., Herrnstein, R.J., Kosslyn, S. M., Mumford, D. B. (Eds.). (1989a). *Quantitative analyses of behavior: Vol. 8. Behavioral approaches to pattern recognition and concept formation*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Commons, M.L., Herrnstein, R.J., Kosslyn, S. M., Mumford, D. B. (Eds.). (1989b). *Quantitative analyses of behavior: Vol. 9. Computational and clinical approaches to pattern recognition and concept formation*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Commons, M.L., Herrnstein, R.J., & Rachlin, H. (Eds.). (1982). *Quantitative analyses of behavior: Vol. 2. Matching and maximizing accounts*. Cambridge, MA: Ballinger.

Commons, M.L., Herrnstein, R.J., & Wagner, A. R. (Eds.). (1982). *Quantitative analyses of behavior: Vol. 3. Acquisition*. Cambridge, MA: Ballinger.

Commons, M.L., Herrnstein, R.J., & Wagner, A. R. (Eds.). (1983). *Quantitative analyses of behavior: Vol. 4. Discrimination processes*. Cambridge, MA: Ballinger.

Commons, M.L., Kacelnik, A., & Shettleworth, S. (1987). *Quantitative analyses of behavior: Vol. 6. Foraging*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Commons, M.L., Mazur, J.E., Nevin, J.A., & Rachlin, H. (Eds.). (1987). *Quantitative analyses of behavior: Vol. 5. Effect of delay and intervening events on value*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Commons, M.L., Branch, M.N., & Fantino, E. (Eds.). (1993). *The nature of reinforcement: Quantitative analyses of behavior [Special Issue]*. *Journal of Experimental Analysis of Behavior (JEAB)*, 60 (1).

Fields, L., & Nevin, J. A. (1993). *Psychological Record*, 43(4).

Moss, C. F., & Shettleworth, S.J. (Eds.) (1996). *Neuroethological studies of cognitive and perceptual processes*. Boulder, CO, USA: Westview Press.

For a period after the annual books ended, papers from the symposia were submitted to special issues of the *Journal of The Experimental Analysis of Behavior (JEAB)* and the *Psychological Record*. The JEAB special issue included papers from participants of the two previous symposia plus those articles from a new call for papers that were accepted. In 2000, Peter Killeen suggested to John Staddon, the editor of the journal *Behavioral Processes*, they publish the proceedings of the SQAB meetings. John Staddon agreed and Peter Killeen negotiated the details with Elsevier. *Behavioral Processes* published the 2000 and 2001 proceedings.

#### SQAB: CURRENT OVERVIEW OF MISSION AND MEETINGS

Each symposium on Quantitative Analyses of Behavior consists of a gathering of individuals who share data and theory. Based on the presentations, discussions, and interchange, participants submit their

papers for an integrated special issue. Symposia take place the day before the annual meeting of the *Association for Behavior Analysis: International*. They continue into the morning of the next day. The sessions are highly interactive. Animal behavioral scientists, behavior analysts, computational scientists, economists, ethologists, neuroscientists, and

psychologists, are actively involved in the organization. The symposiums usually have 75 to 200 attendees for an intensive 1½ day meeting plus a number of tutorials. The resulting works are widely distributed and cited. Those interested are encouraged to attend at the next ABA in Toronto.