The Society for General Psychology

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– it is a long-term project. For example, to get elected to the APA Board of Directors, a group that is critical for charting APA's future, requires serving on Council first (not to mention getting known and being active in this body). And the reluctance of the science/academic community to recruit and groom candidates means that science is always underrepresented in these bodies. The same goes for other Boards and committees not just in APA but in general – and the few to do service often wind up doing far more than their fair share.

It's not our intention to try to solve the problem in this column. We would like to alert you to the initiative, to get you to ask "what have I done for my discipline lately" and to help BSA and the rest of the science community collectively think about encouraging service to advance the field.

Merry Bullock

Science Directorate

APA Presidential Candidates and Election in 2003

The candidates nominated for President-elect of APA have been announced. When the ballots are mailed out after the APA Convention, the EC of Division 1 urges you to exercise your franchise and vote.

The nominated candidates are:

Larry E. Beutler, PhD Jerry H. Clark, PhD Donald K. Freedheim, PhD Ronald F. Levant, EdD Stephen A. Ragusea, PsyD

To provide you some relevant information on the candidates, you should know that one of the candidates, **Dr. Ronald Levant** is a Fellow of the Society for General Psychology (Division 1), reflecting his commitment to the unity of psychology and to the principles of our Society. None of the other candidates is a Fellow or member of Division 1. This information may be relevant to your decision.

[Division 1 typically only formally endorses past elected officers of the Society.]

Please do vote in the APA elections.

Call for Nominations for Division Offices

This year nominations are requested for the office of President-Elect and for Member-at-Large of the Executive Committee. A stamped postcard is contained in this issue for your use in nominating candidates for these two offices. Please mail to APA Divisiion Affairs Office by January 1, 2004

Call for Nominations for Fellow Status in the Division

Call for 2004: Members of APA Division 1 (the Society for General Psychology, SGP) are now invited to nominate others (or themselves) for election as a fellow of SGP, based on their "unusual and outstanding contributions" to general psychology. Phone or write soon for a packet of forms for APA, and our Division's 12 criteria. This year all completed materials must be submitted by 5 pm Friday, 12 December 2003 — including the nominee's vita, personal statement, and endorsements from 3 current APA fellows. At least 2 of the 3 endorsers must be a fellow of Division 1. (Those who are already a fellow of another APA division can ask about a streamlined nomination procedure.) — Harold Takooshian, SGP Fellows, 314 Dartmouth, Paramus NJ 07652, USA. Phone 212-636-6393

Report from the Fellows Committee

The following Fellows of the APA agreed to become members of the Society in 2004 after being invited by the Executive Committee to do so.

Sven Ingmar Andersson, PhD Vytautas J. Bieliauskas, PhD Mαe Lee Billet-Ziskin Bruce Bongar, PhD Arline Bronzaft, PhD William F. Buskist, PhD Samuel M. Cameron, PhD Dennis P. Carmody, PhD Laura L. Carstensen, PhD Anna Laura Comunian, PhD Nicholas A. Cumminas Peter R. Killeen, PhD Gerald Paul Koocher, PhD Ivan Kos, PhD Michael Lewis, PhD Roger L. Mellgren, PhD Allan F. Mirsky, PhD John C. Norcoss, PhD Ann Marie O'Roark, PhD Ross D. Parke, PhD Antonio E. Puente, PhD Michael C. Roberts, PhD K. Warner Schaie, PhD Paul F. Secord, PhD Charles T. Snowdon, PhD Susan K. Whitbourne, PhD Sam L. Witryol, PhD

In addition two members of the Society became Fellows of APA and the Society after being nominated by the Society for this honor and approved by the APA. They are: Margot B. Nadien, PhD, and Rolland S. Parker, PhD.

Message from the APA Science Directorate

Service to Psychology

Preamble: Every summer at the APA convention, staff from the Science Directorate and Science Public Policy offices visit with Division executive committees to exchange updates on activities and to hear about concerns and current issues. A theme echoed at almost every meeting is that we would all like to work more closely on scientific issues. There are plenty of these – funding, IRB regulations, dissemination of research findings, public perception of science, attracting students, and so on. At almost every meeting, we also are reminded that, although we publicize activities broadly in both electronic and print forms, Division members, the lifeblood of our organization and our work, often do not feel well informed regarding ongoing initiatives at APA. We hope to remedy that with this column, which we intend to be a regular feature from the science and science public policy offices to you. Our column will not be a list of activities – you can find this in "Division Dialog". Rather, we will tell you about our current hot-button topics and substantive issues and invite your input, participation and feedback.

How many of you have tried to get colleagues to serve on committees, task forces or review boards? How many of you have been asked to serve? Getting our colleagues to value and participate in service to the discipline – as reviewers for grants or manuscripts, as panelists for policy, funding or advocacy initiatives and programs, as spokespersons to policy makers and to the public, and as committee members, officers, or ad hoc participants in organized academic and professional activities is not an easy task - as anyone who has looked for such volunteers will attest. The Board of Scientific Affairs (BSA) began discussion of this issue at its last meeting. Their discussion was fueled by understanding of the critical role that psychological scientists need to play in developing and implementing policies, regulations, and procedures that affect our research and scholarly lives, and it was motivated by the plain fact that it is devilishly hard to get psychological scientists to agree to serve on boards, committees, workgroups and other bodies that address policy and action at a discipline or even subdiscipline wide level. Such activities, or, more close to home, activities such as sitting on departmental or university committees or on the university's IRB or other oversight group is typically not valued and not rewarded.

We all know why – in the life of an academic researcher, research and teaching are high on the list, and service to the discipline or to the institution takes time away from these more heavily rewarded activities. These priorities at the individual level are mirrored at the institutional level — we frequently hear how little these kinds of service activities are valued by those who hold the tangible carrots of salary, rank and tenure decisions in their hands. Because of this seemingly rigid reward structure, we also hear that we are foolhardy to think that we can change the service aspect of the scientific culture.

Well, foolhardy we may be, but we believe that the future of our science and discipline depends not only on producing good science but also on producing good leaders in our professional organizations and funding agencies — and stewardship of the conditions under which we work in research, teaching and administration. Put another way – if we don't take leadership roles in the institutions that regulate us, organize us and fund us, we miss an important opportunity to determine how our discipline fares.

So what can you do? BSA intends to begin dialog at several levels – with department chairs, with university administrators, and with individual scientists at all levels of seniority to explore opportunities for and barriers to service, and to explore strategies to create a culture in which service is more highly valued, especially among graduate students and new faculty. BSA also wants to have a dialog with you — Division members and Division leaders. We know there is variability across institutions in the extent and ways that service is valued and rewarded, and we want your help in culling practices from those institutions that do manage to make service a feasible and valued part of the academic research life.

This initiative was first discussed at Convention at a breakfast meeting with BSA members and with several Division presidents. The discussion focused both on ways to encourage scientist/academic division leaders to pursue leadership positions in APA (committees, boards, Council of Representatives and APA Board of Directors), and ways to encourage division members to be more active in broader service to the scientific community. Those of you who do work with Division or APA governance or with Science Directorate staff on substantive issues know that this is not an idle request — when we develop activities around research regulation and IRBs, animal care, testing and assessment, advocacy for funding, new research niches for grad students, or mechanism for educating the public about science, it is your input, concerns and activities that determine the content. This service occurs when you respond to our requests for comment or expertise; it also occurs when you serve in APA governance - on Boards, committees, council

How can service be increased? One can imagine many mechanisms. Service to the community could be inculcated into graduate education as part of what it means to join the profession (but this will only be successful when faculty are, themselves, good role models and good mentors through involving students in reviewing, providing expertise and observing committee and other service work); service to the community can also be encouraged if you, the members of divisions that care about research and science, help in identifying, recruiting, cultivating, and promoting prospective candidates for governance—at all levels, in APA and in other organizations. What many fail to realize is how important it is to be well represented throughout policy venues - where the actual decisions that affect research and researchers are forged. Becoming involved in this way is not a quick fix



The Society for General Psychology American Psychological Association

Call for Nominations for Awards of Year 2004

The Society for General Psychology, Division One of the American Psychological Association. announces its Year 2004 awards competition. The William James Book Award is for a recent book that serves to integrate material across psychological subfields or to provide coherence to the diverse subject matter of psychology. Other award programs include the competition to deliver the Year 2004 Arthur W. Staats Lecture for Unifying Psychology, the Ernest R. Hilgard Award for a Career Contribution to General Psychology, and the George A. Miller Award for an Outstanding Recent Article in General Psychology. The awardees will receive a certificate and a cash prize of \$500 for each Award. For all of these awards, the focus is on the quality of the contribution and the linkages made between the diverse fields of psychological theory and research. The Society for General Psychology encourages the integration of knowledge across the subfields of psychology and the incorporation of contributions from other disciplines. The Society is looking for creative synthesis, the building of novel conceptual approaches, and a reach for new, integrated wholes. A match between the goals of the Society and the nominated work or person will be an important evaluation criterion. The Staats Award has a unification theme, recognizing significant contributions of any kind that go beyond mere efforts at coherence and serve to develop psychology as a unified science. The Staats Lecture will deal with how the awardee's work serves to unify psychology.

There are no restrictions on nominees, and self-nominations as well as nominations by others are encouraged for these awards. For the Hilgard Award and the Staats Award, nominators are asked to submit the candidate's vitae along with a detailed statement indicating why the nominee is a worthy candidate for the award and supporting letters from others who endorse the nomination. For the Miller Award, nominations should include: vitae of the author(s), four copies of the article being considered (which can be of any length but must be in print and have a post-1998 publication date), and a statement detailing the strength of the candidate article as an outstanding contribution to General Psychology. Nominations for the William James Award should include three copies of the book (dated post-1998 and available in print); the vitae of the author(s) and a one-page statement that explains the strengths of the submission as an integrative work and how it meets criteria established by the Society Text books, analytic reviews, biographies, and examples of applications are generally discouraged. Winners will be announced at the Fall convention of the American Psychological Association the year of submission. Winners will be announced at the Fall convention of the American Psychological Association the year of nomination. Winners of all three awards will be expected to give an address at the subsequent APA convention where they will receive (1) a certificate and (2) a cash award. Award winners will typically be invited to publish their address in whole or in part in one of the division. publications. All nominations and supporting materials for each award must be received on or before April 30, 2004.

Nominations and materials for the William James Book Award should be addressed to William James Book Award, c/o Bonnie Strickland, Department of Psychology, University of Massachusetts, Amherst, MA 01003. Phone 413 545-4304; Fax: 413 545-0996; Email: bonnie@psych.umass.edu

Nominations and materials for all other awards and requests for further information should be directed to General Psychology Awards, c/o Susan Mineka, Department of Psychology, Northwestern University, Evanston, IL 60208. Phone: 847-491-7711; Fax: 847-491-7859; E-mail:

the newsletter to twice (rather than three times) a year, concentrating only on nominations, minutes, and convention programs, with perhaps a four-page format. This suggestion, because of its more timely nature, seemed preferable to adding a page or two of "news and notes" to most issues of the journal.

Takooshian reported that Wayne Camara joined him as 2003 fellows co-chair, and that two new fellows were approved by the APA Membership Committee (which were also officially confirmed by the APA Council of Representatives at its meeting on Sunday, August 10): Margot B. Nadien and Rolland S. Parker. Twenty-seven fellows of APA through other divisions, who had been invited to become fellows of Division One as well, accepted the Division's invitation; they are all distinguished contributors to general psychology. Matthews presented the treasurer's report; the division's total assets have been shrinking during the last three years from just over \$52,000 in 2000 to about \$40,000 in 2003; comparably, dues income has been reduced to about \$10,000 in 2003 from over \$14,000 in 2000. Royalties from the Division One-sponsored five-volume series, Portraits of Pioneers in Psychology, co-published by Erlbaum and APA, have remained relatively steady at about five or six thousand dollars annually. Division economies were achieved this year by cutting the funds awarded as part of each of the division's awards in half, by not holding a physical midwinter meeting of the executive committee, and by not renting a suite for the president during the convention. Fiscal prudence continues to be required to try to reverse the ongoing erosion of the division's resources.

It was pointed out that the division's operations manual needs to be changed in order to make it clear which officer is responsible for which awards. The presidentelect is responsible for the William James Award (for the best book in general psychology), the president for the George A. Miller Award (for the best paper in the field) and the past president for the Ernest R. Hilgard Award (for lifetime achievement in general psychology). The awards chair is responsible for coordinating the entire awards program, for seeing to it that announcements of the award competitions are sent in timely fashion to editors of psychology journals and newsletters, to publishers, and to such organizations as COGDOP and APS, and is responsible for initiating the process for the C. Alan Boneau Award (for exceptional service to the division). Nineteen books were submitted this year for the William James Award; after reducing the nominations to five, it was decided to make this year's award to Stephen Pinker for his 2002 book. The Blank Slate: The Modern Denial of Human Nature, published in New York by Viking Penguin. A paper by Laura Newcombe in Psychological Science, 2002, 13, 395-401, entitled "The Nativist-Empiricist Controversy in the Context of Recent Research on Spatial and Cognitive Development," was chosen for The George A. Miller Award (and it was decided to cite as a runner-up for the Miller award Floyd Rudmin for his paper, "Critical History of the Acculturation Psychology of Assimilation, Separation, Integration, and Marginalization, "which was published in *Review of General Psychology*, 2003, 7, 3-37), and Lewis Lipsitt was selected as the winner of the Ernest R. Hilgard Award. C. Alan Boneau was awarded a plaque for Extended Distinguished Service in recognition of his twenty-year editorship of the newsletter as well as for all of his other many contributions to the division. Susan Mineka will serve as 2004 awards chair.

A report was received from Dewsbury, the division's historian, with a plea that division officers send him documents (both hard copy and/or electronic) relevant to the division. He also reported on progress in the preparation of volume six in the Portraits of Pioneers in Psychology series, for which he, Ludy T. Benjamin, Jr., and Wertheimer were named last year as co-editors. For reasons of economy, the number of pages in volume six must be reduced to 250 (all the other volumes had contained 350 or more pages), resulting in a decision to reduce both the number of chapters (from 20 or more to about 17) and the number of pages per chapter (from 16 to 19 in the first five volumes to about 15). Invitations to prepare chapters on particular pioneers were mailed out in mid July, 2003 to eighteen potential authors; as of August 3, seven positive and two negative responses had been received. Enough interesting suggestions regarding both subjects and authors have been received to fill several additional volumes.

A few further agenda items did not receive sufficient discussion to result in closure, including appointment of a treasurer; the division's 2003-2004 budget; final negotiations concerning the contract with APA for the journal; ways to update both the Division One web page and listserv (both of which clearly require attention; perhaps some division funds could be used to pay someone to update the web page); general deliberations about whether or not the division's awards program may have become too cumbersome; a perspective on the division's overall mission (has the division in a sense lost its way?); realistic techniques for increasing the number of members of the division (perhaps by encouraging all journal subscribers to join the division, among other strategies), the division's financial resources, and the number of subscribers to the division's journal (especially institutional subscriptions); a report on the meeting of the APA Council of Representatives; recognition of Gregory A. Kimble, who has made presentations at 53 successive APA conventions but did not attend this year; and a suggestion that the division consider a practice instituted by several other divisions, of electing or appointing a student or early career representative to its executive committee. As mentioned earlier in this report, Bartoshuk, Overmier, Salovey and Strickland were left with the chore of dealing with these and any other notyet-settled divisional matters at their early convenience.

Respectfully submitted,

Michael Wertheimer, Secretary

General Business

Minutes of the Executive Committee

, August 6, 2003, 7:10 p.m. to 10:50 p.m. and of the

Business Meeting

Friday, August 8, 2003, 10:05 a.m. to 10:53 a.m., of
The Society for General Psychology
Division One of the
American Psychological Association
Fairmont Royal York Hotel, Toronto, Canada

The August 2003 meeting of the Division One Executive Committee was attended by J. Bruce Overmier, President; Peter Salovey, President-Elect; Bonnie R. Strickland, President Elect-Elect; Michael Wertheimer, Secretary and Council Representative; Lee H. Matthews, Treasurer; Lynn Hasher, Awards Chair; Susan Mineka, Member-at-Large; and Douglas K. Candland, Journal Editor. Donald A. Dewsbury, Historian, was also present during the last hour and a half of the meeting. Absent were Linda M. Bartoshuk, Past President; and Frank Farley, Wendy M. Williams, and Wayne J. Camara, Members-at-Large of the Executive Committee. The August, 2003 business meeting was attended by most of the same officers of the division as well as by Harold Takooshian, Fellows Chair and member, Mary Reuder. The business meeting was devoted largely to approval of actions and recommendations from the executive committee. Not all items on the agendas for the two meetings could be dealt with during the limited time available for the meetings, so Past-President Bartoshuk, President Overmier, President-Elect Salovey, and President-Elect-Elect Strickland were authorized to complete action on behalf of the division on items that were not fully dealt with during the meetings but that require action in the near future.

After approval of the 2002 executive committee and business meetings' minutes as published in The General Psychologist, Overmier reported that Bonnie R. Strickland had been elected as the new president-elect. This year elections will need to be held for the next president-elect and for a new member-at-large of the executive committee for the 2004-2006 term. In the absence of 2003 convention program chairs David Lubinsky, Nancy Segal, and Mary Lou Cheal, Overmier reported that the division was allotted 13 substantive hours plus time for such activities as the social hour and business meeting (far fewer than the 40 or so total hours devoted to the division before the changes in the convention format last year). Salovey reported that no particular theme has been selected for the 2004 convention program for the division, and that Jeremy M. Wolfe at the Harvard Medical School has agreed to serve as the Division One 2004 convention program chair. A motion

for commendation of Bruce Overmier for the expeditious way he handled the affairs of the division during his presidency was passed unanimously, with enthusiasm. Officers appointed for the year include Dewsbury as historian, Takooshian as fellows chair, Wertheimer as secretary, Takooshian and Mark E. Mattson as membership co-chairs, Mineka as awards chair, Donald L. King as newsletter editor, and Mark Carter as listserv and web page master. Still to be appointed is a treasurer. Depending upon the volume of business, a "mid-winter meeting" of the executive committee is expected to be either in the form of electronic communication or, if necessary, in the form of a conference call.

Candland reported that submissions of manuscripts to the division's journal, The Review of General Psychology, are up about 10% over last year, that the quality of the manuscripts received continues to be generally very high, and that he is getting more submissions from overseas. Some 62 reviewers have been used, and the rejection rate is of the order of 75% so far in 2003. Currently there are about 1,600 subscriptions to the journal, including 68 institutions; additional institutional subscribers are urgently needed, since the journal continues to operate at a substantial loss (to APA, not to the division). It was decided that the journal should be permitted to publish (appropriate) advertising. At a meeting of several members of the division's executive committee with several representatives of the APA Communications Program (held Saturday morning, August 9) further negotiations were undertaken in connection with a new contract for publication of the journal. The annual number of pages in the journal will probably need to be reduced somewhat and the subscription price increased, in an attempt to reduce the annual loss from the journal. The division was urged to send a letter signed by the past president, president, and presidentelect to all members of the division, encouraging them to get their institutions to subscribe to the journal. There was general agreement that the journal continues to be excellent, and that every effort should be made to have it continue.

A brief visit was made by two staff members from the APA Science Directorate to the executive committee meeting, to update its members on current activities of that directorate that might be of interest to them; they also mentioned that Kurt Salzinger, current Executive Director for Science at APA Central Office, is resigning as of December, 2003. A report was received from C. Alan Boneau, long-time editor of the division's newsletter, *The General Psychologist*; Boneau is resigning as editor with the third (November) issue of the newsletter in 2003. There was extensive discussion of how to modify the newsletter in the future (in part because of a paucity of appropriate material, due to the greatly decreased number of hours devoted to substantive division programming at the convention); among the more viable suggestions was to limit



Letters to the Editor (sort of) — More on Goon Park

[The last issue of *TGP* (Summer 2003, Vol. 38:2) contained a review or commentary by Robert Perloff of the 2002 book *Love at Goon Park: Harry Harlow and the Science of Affection* (Cambridge: Perseus Books) by Deborah Blum. As a consequence he received several communiques that he shared with me. The two below add to the substance of Prof. Perloff's remarks and are presented here, with the permission of the authors, as secondhand Letters to the Editor. The first is by Eileen Higham, PhD, of Baltimore, the second, by Prof Victor Denenberg of Seattle. -- The Editor]

Letter from Higham

I have just read your article about Harry Harlow with both interest and puzzlement. I had the same reaction to Blum's book, with a touch of distaste. Before going on, I should mention that I was one of Harry's students during and just after WWII, and his research assistant at the Primate Laboratory for several years. I went on to get a PhD in clinical psychology but that's another story. I didn't have any direct knowledge of Harry later on, and certainly none when alcoholism began its dreadful impact.

What troubles me most is this: Harry often acted like a buffoon, and a bit of that carries over into what is written about him. Moreso by Blum than by you. Whatever happened to gravitas? I found the title of Blum's book especially offensive. I agree with you about what Blum left out, especially the "learning to learn" idea, of which I saw plenty in my work with primates. And more, in my work with children and their learning problems over the decades.

The other and more serious omission in Blum's book and your essay is the failure to address the question of why Harry turned from the study of learning to the study of attachment. He was never an ardent Hullian, as was David Grant, for example. I don't believe he ever articulated his feeling that there was something very wrong and limited in the black-box, reward-punishment view of behavior. The learning-to-learn concept is a good example of this, as was his choice of experimental subject. Primates are clearly more complex than rats. ...

Letter from Denenberg

... Finally, this brings me to your comments on Blum's book on Harry Harlow and "love." And also Higham's letter to you. I have not read Blum's book and I don't know Higham. However, it's apparent from Higham's letter that Blum does not explain how Harry got involved in his affection/maternal deprivation studies and that Higham has no idea either though she worked with Harry for a couple of years and

speculates that Margaret (his 2nd wife) was the major factor. Finally, it is apparent that neither Blum nor Higham have read Harry's papers on this topic (I would not expect you to have since yours was a commentary, rather than a full fledged review).

In a word, Harry got into this research purely through serendipity. It's a great story. Harry had been doing learning research with primates for some years. After doing behavioral studies, he then moved into brain lesions and studied how different lesions affected his several behavioral measures (Harry was not interested in learning theory but was very interested in learning per se). After doing lesion studies, the next logical step was to study the development of learning, and he published a major paper on this topic in 1959 (Amer. Scientist, 47:459).

Now here's the interesting part. In gearing up to do the ontogeny of learning study, there were two problems of concern. First, monkey mothers had parasites which they transmitted to their offspring. Second, individual differences in maternal behavior could influence the learning of the young monkey. A simple solution to both problems was to remove the babies from the mothers at birth and rearthem on artificial mothers. Ergo! No parasites and a constant maternal environment. That's what Harry did. In setting up the artificial mothers, Harry gave the infants cheesecloth diapers as baby blankets and noticed they grew extremely attached to their "blankies." Based on these, and other observations, Harry got the idea of manipulating parameters of the artificial mother.

For the ontogeny of learning study, the artificial mothers were roughly the same, the monkeys learned different tasks at different ages, and the animals were healthy and behaviorally competent. When these animals reached puberty, to everyone's amazement, the monkeys did not engage in sexual behavior! And this was the discovery that lack of sexual competence was due to the rearing history of the monkeys.

Harry, of course, immediately recognized what he had and the rest is history. (At one of Harry's talks, which he gave with his usual superb skills, there were many enthusiastic comments and questions afterwards. After a few minutes of this Harry said, "Before you rush out of here and write to Stockholm, I'd like to say......." I don't remember the ending of the sentence, and obviously that was not Harry's intention.)

When I read your commentary and Higham's letter, I went to my reprint file and found the paper where Harry describes what I've recounted above (Amer. Sci., 1971, 59:538) and confirmed that my memories were correct. I also found that I had a second reprint of that paper and I'm mailing it to you.

Therefore you now have The Rest of the Story.

patients taught with Differential Outcomes (bottom) show markedly improved recognition memory—not differing from normal individuals until after 25 seconds, but even at 25 seconds they are substantially improved. Moreover, once trained, one can expect natural differential consequences to sustain the learning and memory.

In summary, I think that I have shown that simple associative processes—like those of Pavlovian conditioning—can and do play important roles in choice behaviors and decision tasks. These examples arose from a reconceptualization of traditional learning theories. Although the examples were mostly from simpler conditional discriminative choice tasks, there are data from colleagues that suggest the same can be found in college students learning difficult types of equations (Estevez, personal communication) and even word equivalences across languages (Mahoney, 1991).

My research examples are not unique. They were meant to open up readers to the message that contemporary basic science research with animals on fundamental associative mechanisms continues to produce results that are of potential interest to cognitive scientists and certainly important and helpful to practitioners.

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mine disrupts memory-based choosing more in the Common Outcomes procedure than in Differential Outcomes procedure. Meanwhile, the expectations of reinforcer outcomes appear to be encoded through glutamineric-dependent processes because MK-801 disrupted memory based choice more in the Differential Outcomes procedure than in the Common Outcomes procedure. This should suggest to cognitive scientists that retrospective memories and prospective expectancies have different neural substrates and, perhaps, different brain modules.

Additionally, one can create accurate models of human diseases like Korsakoff's disease. Savage and Langlais (1995) discovered that our Differential Outcomes Procedure seems to help Korsakoff-like, thiamine-deficient rats learn. That is our Differential Outcomes Procedure provides remediation for the diseased memory of these rats. This body of work by Savage won for her an APA award for early career contributions in 2002.

Once again, you must wonder whether there is anything here that has meaning for your human clients. And, again, we believe the answer is "yes". Let me give you one last example of our research work with humans that grows out of the animal laboratory work we have been discussing—one that we believe has practical applications.

Long time excessive consumption of alcohol can lead to a brain damage and a disorder historically referred to as Korsakoff's disease but now more generally called simply alcohol related dementia. These patients are relatively intact cognitively but do suffer a specific problem. They have impaired short-term working memory—especially for faces and names. Oliver Sacks (1985) vividly describes just such a patient in his chapter on the "Ancient Mariner". This memory disability for recognizing faces and remembering the names that go with faces has a sad effect of socially isolating these individuals.

So we wondered whether we could use the Differential Outcomes Procedure to help Korsakoff patients to more readily learn to recognized faces and even learn the names that go with the faces. After all, learning to recognize a recently seen face or to name someone after seeing their face is a discriminative conditional symbolic choice task very much like those we have been discussing. Our work here is relatively new, but the results are very promising (Hochhalter, et al., 2001).

To test whether our newly discovered knowledge about the power of Differential Outcomes to improve learning and memory could be applied to these patients, we set up an artificial task that was similar to those I have previously described. First we would show the patient a picture of one person's face. Then we would hide the picture. After a variable delay, we would then show a page of pictures of two faces or a page with two names on it. The patient's task was to report or point to the face or the name of the person they had seen a few seconds earlier. This seems easy, but it is hard for the Korsakoff patients.

We rewarded the patients for correct choices with money, or tokens for coffee, or points—whatever was small but valuable to them. For one set of faces, all correct identifications received the same reward—the Common Outcomes Procedure. For another set of faces, the reward was unique to each particular face—the Differential Outcomes Procedure. This within-subject comparison allowed us to see the effects of the different teaching procedures. The results of our test of the usefulness of our new procedure are shown in Figure 2. The top of the figure shows the working memory for faces of normal age-matched control and of Korsakoff patients taught under Common Outcomes Procedure. The bottom shows those same controls and the same Korsakoff patients taught under Differential Outcomes Procedure.

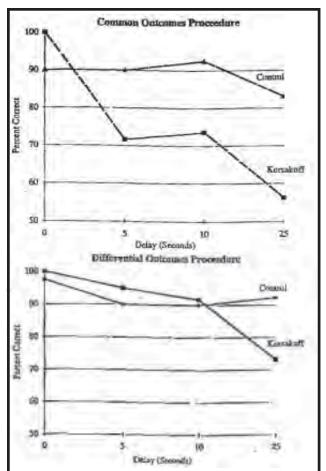


Figure 2. Data on the short-term working memory of normal older men and older men diagnosed with alcohol related dementia taught face recognition using the traditional Common Outcomes Procedure or with the new Differential Outcomes Procedure. Data from Hochhalter, et al (2001).

Clearly, normal age-matched individuals have no problem with their recognition memory under either condition. Equally clearly, Korsakoff patients taught with Common Outcomes (top) have a serious recognition memory impairment—with declines in memory showing up with delays of as little as 5 seconds. But those same terestingly also, is that in the Differential Outcomes training conditions, accuracy of transitivity and emergence of equivalences is independent of nodal distance along the chain of possible relations, while in contrast, Common Outcomes training results in decreasing accuracy as nodal distance increases. Thus, these adult retarded clients not only learned the basic relations faster when taught using Differential Outcomes, but they showed more reliable generative use of the new relational equivalences.

We have begun work on demonstrating that we may well use the Differential Outcomes Procedure to teach useful basic life skills to clients with Down's syndrome. We have used newspaper symbols for cues for the selection of items of apparel that they should take with them to their workshop. Correct choices of weather appropriate clothing received unique token reinforcers exchangeable for unique items. The early results from this new teaching method have been very promising suggesting this is a useful training tool in the real world.

But, have we learned all we can from our animal experiments? "No", we can gain more. Given that Differential Outcomes are important in learning, perhaps they are important for memory as well.

Consider that if animals have to learn a conditional discriminative task but are not allowed to make choices until some time after the discriminative stimulus is removed, then how do they choose? This simple, delayed choice procedure is the prototypic way for testing short-term working memory.

In the traditional Common Outcome Procedure, participants have only their memory of the stimulus to rely on. However, if we use the Differential Outcomes Procedure with such a delayed choice task, there is an additional source of information or cueing: The expectancy of the reinforcer could help to bridge the time delay gap because Pavlovian conditioned responses typically persist until the typical time of reward.

Does the Differential Outcomes Procedure prove an assist in such memory tasks? The answer is a resounding "yes". Let me describe sample experiments, first with pigeons then with patients.

Consider an example of a conditional symbolic discriminative choice task for pigeons arranged for testing shortterm working memory function. First a color is presented for a few seconds in the center of a display panel in front of the pigeon. Then the color cue is removed. After α variable delay, the bird must choose between two alternatives presented one on each side of the display panel. Here, the choice is between alternatives of a vertical line and a horizontal line. If red is remembered, the vertical is correct; if green is remembered then horizontal is correct. Correct choices are reinforced. The delay between the cue and the opportunity to choose is the "memory load". If the reinforcer is the same for both correct alternatives, that is the Common Outcomes. But when the reinforcers for correct choices of the different lines are themselves different, then this is the Differential Outcomes Procedure. Does this difference in reinforcement method after the choice change the way the animals cope with the memory load?

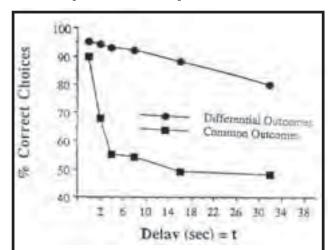


Figure 1. Data on the short-term working memory of animals trained to asymptote at 0 sec delay on a conditional discriminative choice task under the Common Outcomes and the Differential Outcomes Procedures and then tested with varying delays (memory loads). Data from Linwick, et al (1988).

Figure 1 compares the short-term working memory performances of groups of birds trained under the Common and under the Differential Outcomes Procedures. Accuracy of choice—and hence of memory—is on the vertical axis while the delay or "memory load" is on the horizontal axis. These data from our laboratory show that memory based performance established under Common Outcomes quickly drops to chance after only a few seconds. In contrast, that established using Differential Outcomes is very, very persistent (Linwick, et al., 1988; Peterson, et al, 1987). This is a huge behavioral effect! And, it implies activation of different cognitive processes.

Now it turns out, that as animals get old, they, like humans, experience difficulties with working memory in delayed discriminative choice tasks when trained by the traditional Common Outcomes training procedures. That is, when old, the rats cannot remember correct choices for more than a few seconds of delay. However, Lisa Savage, whom I had the good fortune to work with in my laboratorysome years ago, has recently shown that use of the Differential Outcomes training procedure can help these old animals to perform the memory-based task as well as young animals (Savage, et al., 1999).

Moreover, basic research with laboratory animals can enable us to discover things not possible through research with humans. For example, Savage and Parsons (1997) uncovered data in a double dissociation that suggest that there are different neuro-chemistries for memories and for expectancies. It appears that in conditional discriminated choice tasks, retrospective memories of the sample are encoded in through cholinergic-dependent processes because scopola-

reinforcers. Then in the third test stage, the animal was returned to the choice situation and the probes of the Pavlovian CS were introduced. This was a test of the CS's power to induce directly the animal to make a specific choice even though such choices had never before occurred in the presence of the CS.

If the particular outcome with which the CS was associated were irrelevant, then choosing should be random. On the other hand, if the CS elicits a specific expectancy which in turn has unique response-cueing properties, then the CS should result in the CS inducing the animal to make the choice response that had previously produced that specific outcome in the original discriminative training. Such choices we would call "correct".

We found that the Pavlovian stimulus, in the presence of which the animal had never before made any choice responses, immediately and reliably substituted for the instrumental discriminative cue to elicit "correct" choice responses. This is consistent with the view that embedded simple Pavlovian associations in conditional discriminated choice tasks can and do guide choices.

I recognize that most readers are likely cognitive or clinical psychologists and wonder what this can tell you about humans and patients. So let me address this question. First, let us recall that a very large part of learned human behaviors are in fact conditional discriminative choices. For example, in the northern United States where I live, when choosing our clothing for the day, we always first check to see what the temperature The weather is the discriminative stimulus and choices of clothing must be conditional upon that stimulus. Wrong clothing choices can lead to death—and do each year.

Does the Differential Outcomes Procedure have a facilitating effect on learning by humans? In our lab at Minnesota, we have tested this (Maki et al., 1995), and colleagues around the world (e.g., Estevez et al, 2000) have confirmed our findings. We have found that in nearly every task we have tested, using Differential Outcomes facilitates learning or performance—sometimes very modestly, sometimes dramatically—depending on the task difficulty and the particular Differential Outcomes used.

This is true for normal 5-6 year old children learning to point to correct pictures or learning symbolic relationships. And, as I will note later, it is even true for persons who have learning disablities.

The experiments with humans are a bit more complicated conditional discriminative choice experiments than the ones I have illustrated with animals, but they are essentially the same. For children, the experiments are set up as symbolic choice tasks or symbolic relation learning tasks wherein in the presence of a symbol from one class (perhaps colored patches or names) they must choose the symbol from another class that it 'labels' (perhaps a geometric figure or line orientation). Some problems were taught using the traditional Common Outcomes Procedures for a reward of mixed tokens exchangeable for mixed rewards. In contrast, some were taught using the Differential Outcomes Procedure wherein a reward of red tokens—later exchangeable for foods—were given for one kind of correct choice and green tokens later exchangeable for toys—were given for the other kind of correct choice.

Data from these experiments comparing rates of learning by the children on conditional discriminative choice tasks trained either with the traditional Common Outcomes Procedure with learning under the new Differential Outcomes Procedure show that the Differential Outcomes method yielded faster and better learning than the Common Outcomes Procedure. In fact, some of the harder conditional discriminations were only learnable under the Differential Outcomes teaching method (see Estavez et al., 2001; Maki, et al, 1995).

Estevez, Fuentes and their associates (Estevez, et al., 2003) have extended tests of this teaching method to adults with Down's Syndrome. The Down's clients have exactly the same pattern of greater success in learning using the Differential Outcomes Procedure. This success with learning-disabled populations has been found by other groups as well.

But does this parallel effect in humans mean that the same simple Pavlovian associative processes underlie the enhanced choice behavior? Well, we can apply the same transfer-of-control paradigm as in the animal experiments to test this. First, the children are trained on a conditional discriminative choice task, either with Common Outcomes or with Differential Outcomes. Then, new stimuli are separately and selectively paired with the outcomes in a Pavlovian procedure—although we are careful never to mention Pavlov to the parents. Finally, the children are tested to determine if the Pavlovian 'CSs' will selectively control the choosing behavior of the children. The results are straight forward. Just as in our experiment with rats, here too the Pavlovian stimuli do evoke selective choices of the "correct" response—the response that would produce the expected outcome (Maki, et al., 1995).

In my laboratory, we have extended this paradigm to teaching sets of acquired stimulus equivalences to patients with Prader-Willi syndrome. Acquired stimulus equivalence (Sidman, 1985) is essentially a form of complex conceptual category learning in which new untrained controlling relationships emerge. (Prader-Willi syndrome is an eating disorder that is accompanied by mental retardation.) The clients are trained on a succession of four conditional discriminations, each with 2-cues and multiple alternative choices. Each pair is taught after the prior pair is mastered. Testing for transitivity and symmetry involves testing of stimulus control of choice alternatives in the chain but relations not directly trained. These are sometimes refered to as emergent relations. Again, the learning and mastery of such equivalence relations by the learning-impaired clients with Prader-Willi syndrome is dramatically more accurate when they were taught using Differential Outcomes than with Common Outcomes (Joseph, et al., 1997). In-

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was not merely motivating but rather guiding the selection of the behavior. That is, we speculated that the mediator had cue properties (Trapold & Overmier, 1972). Indeed, we thought these cue properties likely to be more important that any motivational properties. Although the idea was not entirely new (vide., the " s_g " in Hull's proposed " r_g - s_g " mechanism), we pushed the idea to its logical conclusion.

For example, we argued that the conditioned mediating state was specific to the particular reinforcer or "outcome" anticipated and that it was as distinctive as that outcome. We even argued that it was possible—even likely—that the mediator had only these "cue" properties, rather than motivating properties. For this reason, we actually referred to the conditioned anticipatory state as an "expectancy"—with the quasi-cognitive connotations intended.

Now this little change in thinking may not seem significant, but I propose to show that it is quite significant for research and practice.

So, how would one test this new conception about the possible cue properties of conditioned anticipatory mediating states or, as we called them, "expectancies"? If expectancies of outcomes have cue properties, then we should be able to show that the supposed cue properties can guide behavior. The best task in which to show the existence of cue properties is the conditional discriminative choice task. An example would be in a T-maze or Skinner's operant chamber with two or more alternative responses.

Let me describe the traditional way that instrumental dicriminative choice learning tasks are structured, using S for discriminative stimulus, R, choice response, and O for the outcome event. Then, I will contrast that traditional method with our test for cue properties of expectancies of particular reinforcers—a test procedure that we call the "Differential Outcomes Procedure".

In the traditional conditional discriminative choice task, in the presence of one stimulus, \mathbf{S}_1 , choice of a response to the left, \mathbf{R}_1 , results in the usual common reinforcer—perhaps a sweet pellet for a rat; choices of the \mathbf{R}_2 yield no reinforcer. In the presence of \mathbf{S}_2 , choices of a response to the right, \mathbf{R}_2 , also results in getting a reinforcer and it is the same sweet pellet reinforcer, while now choices of the \mathbf{R}_1 response yield nothing. Note that following either discriminative stimulus, correct choices produce the same common reward. We call this the Common Outcomes Procedure because the reward is common to either correct choice. And, typically, animals, children, even college students can learn conditional discriminations this way—although when the stimuli are complex—not always easily.

In our proposed Differential Outcomes Procedure, the organism is required to learn exactly the same stimulus-response relations. That is, the choice problem that must be solved is identical. But, in contrast, there is a difference after the choosing is done. The difference is that each type of correct stimulus-response relation is fol-

lowed by its own, unique reward. Thus, in the Differential Outcomes procedure, in the presence of one stimulus, S_1 , choice of a response to the left, R_1 , results in one reinforcer—perhaps an unsweetened pellet—while in the presence of S_2 , choices of a response to the right, R_2 , result in getting a different reinforcer—one unique to that response, perhaps sweet water. That is, correct discriminative choices following the different discriminative stimuli produce different rewards—rewards unique for each association—hence our label Differential Outcomes.

You can fairly ask, "Why is this important?"

In the Common Outcome procedure, the organism only has the presence the discriminative stimulus to guide its choice. In contrast, in the Differential Outcomes procedure, if there are unique, specific, anticipations or expectations of rewards or outcomes, and if these expectations of these different rewards have cue properties, then the organism has these extra cues from the expectancies to guide the choices as well.

In essence, we are asking what is in the organism's "mind" at the time of choice: is it thinking retrospectively of the recent discriminative stimulus, is it thinking prospectively of the expected reward, or it thinking perhaps of both? Functionally, if the organism has more than one source of guiding information, then it should learn faster and better.

Let us now compare rates of learning under these two different training paradigms. Comparisons of groups learning in conditional discriminative tasks wherein one group was trained using Common Outcomes Procedure and the other trained using Differential Outcomes procedure reveals that the Differential Outcomes Procedure produces significantly faster learning—and commonly to a higher asymptote (Overmier, Bull, & Trapold, 1971; Trapold, 1970). Several experiments using different species of animals from birds to horses and different kinds of reinforcers have confirmed this new phenomenon (e.g., Edwards, et al., 1982; Miyashita, et al., 2000). Yet, it is a basic fact completely unanticipated within the traditional Thorndikian Behaviorist tradition (and, as yet, also is rarely noted in texts).

Of course, there are lots of ways that this procedural difference could induce the differences in rates of learning. But, we argued that it was the Pavlovian conditioned association between the each discriminative stimulus and its distinctive outcome that was responsible. To show this requires a somewhat different experiment—one we call a transfer of control experiment in which we can separate out the Pavlovian relation to isolate its choice controlling function.

In the 3-stage transfer of control experiment, we (Kruse, et al., 1983) began by training a conditional discriminated choice using Differential Outcomes such that each cuechoice sequence resulted in a different, unique outcome like that just described. Then in a second stage which took place outside of the choice arena, we took a new neutral stimuli and associated it with one of the two



Choosing, Naming, and Remembering:

Primitive Associative Processes Are Fundamental

J. Bruce Overmier University of Minnesotα

I want to illustrate from my and my colleagues ongoing work a basic research finding that shows that the cognitive processes presumed to underlie choice and decision-making can be dramatically influenced by simple associative mechanisms. Moreover, I want to show that this same basic animal research can be translated into applications with patients and such translation is taking place today. It is a long and complicated story, but not uninteresting because is reflects how our psychological science is self-correcting and with that self-correction come new insights and new treatment options. In this story, we shall go from learning theory to the animal laboratory, to tests with normal persons, to applications with clients. I will skip some of the steps and details, but all the links are there.

Let me begin my research presentation with some reflections on early theory and its transformation. Behavioristic Associationism that so dominated research and thinking in the first half of the 20th century springs from the research and theorizing of Thorndike (1911).

Thorndike argued that learning was the development of associations between a stimulus (environment) and a response (action) that was "stamped in" because the sequence was followed by a reinforcer. For Thorndike, the reinforcer was a catalyst establishing the S-R learning, but the reinforcer itself was not part of what was learned. According to the theory, it really did not matter what the particular reinforcer was—or even if the same reinforcer was used all the time—it just had to be reinforced.

One fascinating thing about this theory is its dominance despite the fact that it conflicts with our introspections of "why" we do things; introspection suggests that we do them to get to a particular goal rather than as goalless automatons. Nonetheless, Thorndike's theory—with Spence's (1937) extension—was very successful in accounting for many observed phenomena of learning and choice behavior and made interesting predictions (e.g., both transposition and when it would fail).

Theorists like Tolman (1945) tried to incorporate learning about goals ('cathexes') into the then current theories of learning. He was not very successful in this in his time,

but he did get later theorists thinking about the functions of reinforcers and the outcomes of choices.

Perhaps the best known of these is Mowrer's Two-Process theory (1947). Two-Process theory invokes a conditioned mediating state between the stimulus and the response. Mowrer argued that behavior was the product of two parallel learning processes: (1) one was a Pavlovian association between the stimulus (environment) and the scheduled outcome event that established an anticipatory state; the anticipatory state standing between the environment and action was thought to motivate behavior, and (2) the second was a Thomdikian strengthening of the response either by the reinforcer outcome or a change in the outcome-based anticipatory state.

Aspects of this two-process theory are still popular today especially as they account for relations among trauma, fears, phobias, and avoidant defensive behaviors. For Mowrer, the key property of the anticipatory state was as a behavioral mediator that provided non-specific motivation for actions.

Some years ago within this Mowrerian tradition taught by R. L. Solomon, I was led to ask: "Are the conditioned fears of different things different?" Not quantitatively different, as in Mowrer's theory, but rather qualitatively different. And if so, what would be the implications of the qualitative difference.

At the same time, my colleague Milton Trapold, one of K. Spence's students, asked a similar question about the then hypothesized fractional anticipatory responses that Hull (1951) and Spence (1956) had argued antedated rewards as a result of a conditioned association between the discriminative stimulus and the reward.

Together, we theorized that the hypothesized, association-based, conditioned anticipatory mediating state

This paper is based upon the Presidential Address delivered by Prof. Overmier to the members of the Society for General Psychology at the convention of the American Psychological Association in Toronto, August 2003. Supported by grants from NSF and NICHHD to the Center for Cognitive Science, University of Minnesota.

I spent the first 13 years after obtaining my Ph.D. at two different university counseling centers, part of the time serving as training director at each setting (Colorado State University and University of Texas, Austin). My areas of special interest are ethnic minority psychology, psychology of women, professional ethics, training, and supervision. My interest in professional activities led to my involvement in a variety of APA divisions, boards and committees, and state and regional associations related to psychology. I have been in full time private practice since 1991, and have continued professional leadership and volunteer activities as well as my writing. I am driven and motivated by my very strong belief that many pioneers contributed to increasing the opportunities I enjoy. I believe that it is partly my responsibility to expand those opportunities for others. It is also important for us to help increase competency of those who deliver services, conduct research and provide training in various areas of diversity.

Agnes N. O'Connell, Discussant

These distinguished Silver Anniversary participants enrich the tradition of these symposia with their accomplishments, strength, and resilience. These women—and the participants who preceded them over the last quarter of a century—illuminate a new way of thinking about women—women as partners in the evolution and progress of the field of psychology and of society in general. Past participants included the eight women elected to the APA presidency since the 1970s: Anne Anastasi, Leona Tyler, Florence Denmark, Janet Taylor Spence, Bonnie Strickland, Dorothy Cantor, Norine Johnson, and Diane Halpern; and many other noteworthy contributors, for example, Mary Ainsworth, Linda Bartoshuk, Martha Bernal, Patricia Bricklin, Jeanne Brooks-Gunn, Patricia Cain Smith, Rosalind Cartwright, Kay Deaux, Erika Fromm, Frances Graham, Elaine Hatfield, Ravenna Helson, Mary Henle, Jane Loevinger, Eleanor Maccoby, Myrtle McGraw, Sandra Scarr, Virginia Sexton, and Carolyn Sherif.

In the 25 years since the beginning of these symposia on Eminent Women in Psychology: Historical and Personal Perspectives, women have made major strides in educational and occupational participation. The proportion of baccalaureate degrees awarded to women in psychology has grown from 46% in the 1970s to 76.5% in 2000. In the mid-seventies (1976) women earned 33% of the doctorates in psychology; that percentage reached 67% in 2000. In 1977, 47% of the graduate students in psychology were women; in 2000, 72% were (APA Research Office, 2003a). Although women also have enjoyed improved occupational participation with the growth of the field in the past decades, full professors (75%) con-

tinue to be men while lecturers (65%) continue to be women (APA Research Office, 2003b). Women comprise 30% of tenured faculty in US doctoral departments; 37% in US master's departments; and 27% of the tenured faculty in Canadian Graduate Departments (Fennell & Kohout, 2002). A 2003 international study comparing professionals in industrialized countries found that women comprise between 41% and 48% of the professional workforce with the US at 46.6%. Women's representation in the national congress or parliament of these countries ranged from a low of 7.3% in Japan to a high of 45.3% in Sweden with the United States at 14.3% (French, 2003).

Despite occupational inequities, women's heritage, contributions, and achievements in psychology and society have had a major impact on the evolution, development, and transformation of these domains and their organizations and in the shaping of intellectual pursuits. Their legacy inspires us to move toward a future that brings to fruition a science and a society of human strength, resilience, and health. This is the science and the society that these Symposia and published works have sought to build for the last 25 years. The effort continues.

For more on eminent women and their contributions, contact

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These highlights are from the Silver Anniversary Symposium presented at the 111th Convention of the American Psychological Association in Toronto, Canada. 2003.

Psychology has changed enormously in the half century through which I've been involved, starting from a narrow behaviorism, through the Cognitive Revolution, and now linking mind to brain in Cognitive Neuroscience. It has been an exciting ride. I have enjoyed both sharing in the evolution of ideas and communicating them to students. I try to pass on the excitement of making sense of data, testing ideas within the larger framework of current research, and generating new insights into the human mind.

Melba J. Vasquez

A Diplomate in Counseling Psychology and leader in professional psychology, Melba J. Vasquez is Executive Director of Vasquez & Associates Mental Health Service, Austin TX. She was formerly Senior Psychologist at the Counseling and Mental Health Center and Lecturer in the Educational Psychology Department at the University of TX, Austin; and Director for Training at the University Counseling Centers at the University of Texas and at Colorado State University. Among her hundreds of publications, invited addresses, workshops, and professional presentations is her book on Ethics in Psychotherapy & Counseling: A Practical Guide. Her honors and awards include Fellow status in 7 APA Divisions 1, 9, 17, 35, 42, 45, and 49; the APA Distinguished Contributions to Psychology in the Public Interest Award; the Janet E. Helms Award for Mentoring and Scholarship; Division 17's John Black Award for Outstanding Achievement in the Practice of Counseling Psychology; APA's Committee on Women in Psychology's Distinguished Leader Award; the American Board of Professional Psychology's Award for Extraordinary Contributions in the Professional Practice of Counseling Psychology; and Division 45's Distinguished Career Contributions to Service Award. She has served as President of APA Divisions 17 and 35; Chair of the Board of Professional Affairs and the Board for the Advancement of Psychology in the Public Interest; Council Representative for Divisions 17, 42, and 45; Consulting Editor for Cultural Diversity and Ethnic Minority Psychology and the Psychology of Women Quarterly and on numerous other boards and committees.

I grew up in a small central Texas town during the 1950's. I was the first child born to two first-born parents, each of whom had 8 siblings. In other words, I had the privilege of a considerable amount of attention, adoration and regard from my large extended family. I also grew up in a loving small community. It was not ideal; there were stresses and dysfunction, including poverty and alcoholism. But overall, the first five or six years of my life were relatively safe. In retrospect, I grew up in a small college community that was socially segregated. I had no substantive contact with the White European community until I entered first grade in the public school system. Those of us who were Latino/a were treated in negative, and at times harsh ways. Our parents, although

relatively poor, were able to send us to the local Catholic school for part of our education. The school was run by Mexican and Mexican American nuns, and afforded a reprieve from the negativity of discrimination as well as the opportunity to develop good study skills and the capacity to adjust to different environments.

I consider myself to be very lucky to be born into a family where parents were politically active in their local community. I experienced a unique empowerment that came from being a participant in political rallies, voter registration projects, and related activities. I have no doubt that this role modeling and orientation, including the fact that my mother in particular served as a leader in all activities in which she became involved, have influenced my very strong belief that active involvement can lead to positive change. I saw first hand as a child that one vocal person can make a difference. Although there were struggles and painful events along the way, the overall effect of my parents' activism was that proactive involvement was the way to direct the pain and anger of disenfranchisement. The privilege of being oriented to activism was a gift handed to me by my

The attitudes on the part of my parents and their Chicano peers in our community included the value that education was important. Although my parents had only elementary level education, they believed that education was vital, as do most Latino parents. The organizations in which my parents and their friends were involved were geared to fundraise for scholarships for Hispanic students, and to further the education of Latino children in the community. As a result of this influence, four of us in my family have at least college bachelor degrees, and three have technical associates degrees.

Were it not for affirmative action, I would not be a psychologist. I was one of the first of several graduate students of color who were admitted into the doctoral programs at the University of Texas in the 1970's in an attempt to diversify the profession of psychology. Although my GRE's were in the acceptable range, they were not as high as many of the students. I stubbornly set out to prove that I could achieve despite others' superior scores. In addition, my parents' belief that we could belong even when others thought we didn't, and the organization of a support system of graduate students of color and of women's groups helped me through the challenges of those years. Although there were no Latino faculty members, there was an African American faculty member in the department, as well as White faculty members who provided occasional encouragement, and I am grateful to those individuals. I was in the first cohort of APA Minority Fellowship recipients, and that also served as a major support and motivator!

ogy: Human Perception and Performance, the Canadian Journal of Psychology, and Visual Cognition, and member of many national and international committees and boards.

I was born in England where I lived until 1977. My father was in Education administration. My mother was French and I spoke French before English. We often went to Paris to visit my French family. Education in England was very specialized. Forced to choose between Arts and Science, I began doing science in high school, but switched to Arts, read Modern Languages at Cambridge, then switched again to get a one-year BA in Psychology. It was right at the transition to the Cognitive Revolution. Psychologists were excited by the idea of the mind as an information-processing, symbolic system rather than a mechanical switchboard. I was lucky to be assigned Richard Gregory as my tutor. I read about vision and information theory, and he showed me his experiments. There were just 12 undergraduates in Psychology, and only about 4 journals to be read, so it seemed a little less absurd than it would be now to get a degree in one year with no science background whatever.

In 1958 Donald Broadbent published his filter theory of attention in his seminal book Perception and Communication. Neville Moray and I were both graduate students in Oxford and we learned some chapters more or less by heart. We were each given a tape-recorder and left to get on with whatever experiments we wanted. There were no lectures, no exams, and no requirements except to produce a thesis. Few people other than Broadbent and Colin Cherry were doing research on selective listening, so we had it more or less to ourselves (hard to imagine for graduate students in this day and age!) We competed for ideas for experiments and then to find the most convincing accounts. Eventually we each proposed a modification to Broadbent's filter theory. Mine was that the filter might attenuate rather than block the unattended messages. In addition a top-down lowering of thresholds could ensure that relevant or important stimuli would be detected, even in their attenuated state.

In 1960 I married Michel Treisman who became a lecturer at Oxford. A year after completing my PhD, I had the first of my four children and 16 months later the second. St. Anne's College, (then a women's college) where I had a teaching position was enlightened enough to open a nursery when several of its Fellows had babies. I am very grateful for how easy the college made it for me to continue to work— a contrast with what happens to many academic women in the States.

After a year at Bell labs, Michel and I returned to Oxford where I also became a University lecturer and had two more children. My research interests in the 70s were turning from audition to vision. I

had the idea that the brain might analyze separate features in specialized areas, posing the problem of integrating them again in the correct combinations. I suggested that attention might play a role in binding features together by focusing on filled locations, one at a time, and integrating whatever features were currently in the window of attention. Feature integration theory (FIT) predicts that if attention is overloaded, we should see illusory conjunctions. With some trepidation I tested the prediction and was surprised to find it confirmed. Around this time neuroscientists were discovering many separate visual areas, which fit well with the multiple feature maps I had proposed. So the theory aroused some interest and I went to conferences in Neuroscience and AI as well as Psychol-

My first marriage ended in 1976 and I remarried with Daniel Kahneman. We moved to Canada, and eight years later to the US. Together we developed the idea of object files—temporary episodic representations that mediate conscious awareness of a currently present object and maintain its perceptual continuity through motion and change. These ideas proved useful in explaining the perception of dynamic events, and also in object perception in infants. I was becoming increasingly interested in linking mental processes to underlying neural mechanisms. L. C. Robertson and I collaborated in testing a patient with bilateral parietal lesions, whose problems fit well with predictions from FIT. In addition to his loss of spatial perception and his simultanagnosia, he had major problems in binding features correctly. With my students and post-doc I've also begun to use brain imaging, to separate different components of binding, combining behavioral tests and brain localization.

Perhaps the fact that I was educated with girls until the age of 17, then went to a women's college, made me less aware of any obstacles due to gender. It was not a salient dimension. I didn't pay much attention to occasional sexist comments just took them for granted as a regrettable part of social life. I assumed that I could do whatever I was capable of and wanted to do. In my case this proved to be true, but I was certainly lucky. I was never disadvantaged, although I was initially the only woman on the psychology faculty at Oxford. I was also lucky in being able to combine a large family with an academic career. This seems to be getting harder, not easier to do, as the pressure of work increases. Many young academic women are wondering whether they should have "one baby or none". I find this lack of options sad. I'm not sure that much is gained by accelerating the pace of papers published, tenure demands, and grant getting. If less emphasis were placed on quantity and more on quality, I don't believe that science would suffer, but our personal lives might be enriched.

When I was a child, I thought I had a special distinction being born smack in the middle of the 20^{th} century. It was always so easy to calculate my birthday! As developmental theory would predict, I was oblivious to the fact that the special distinction belonged, not just to me, but to thousands of babies born in the boom following World War II. The open door symbolizes opportunity that often results when things don't turn out they way you want or expect, a theme that permeates my experiences so far. Here are a few examples:

- 1. My mother was a working mom, atypical for the 1950s. As a child, I hated her working, yet she modeled for me the joy that has characterized my own professional life.
- 2. Although my childhood wasn't terrible, many elements were not fun. I had asthma, suffering many attacks and hospitalizations until cortisone therapy diminished my symptoms but also ballooned my weight. As a consequence, I experienced the torment of unkind classmates, a fact that probably opened the door to my pursuit of a clinical career. I also believe that the downtime spent in dealing with my asthma fueled not only my imagination, but my adult wanderlust.
- 3. When I applied to graduate school in my senior year, I was dismayed to learn that a low GRE score—Verbal of all things—kept me from serious consideration in any of the programs to which I had applied. (I thoroughly enjoy the irony of that reality now given the scope of work I do with ETS.) That particular closed door has also served me well as an undergraduate advisor, especially in advising broken-hearted graduate school applicants and in avoiding the heartbreak of graduate school rejection in the first place by encouraging a thoughtful application procedure.
- 4. When I began to look for academic work in Chicago, no such doors opened. Instead, I landed a job for which my training was truly minimal. I became the Director of Shore School serving seriously disabled children for two years. The lessons I learned were profound ones about patience and hope.
- 5. When I began to work at Alverno College, I regularly started having to deal with attitudes that somehow working at a women's college was "second best." The irony is that Alverno not only provided a distinctive context in which to learn and to concentrate on women's issues, but also, the college garnered national and international recognition for educational reform. What may have seemed to many to be a second-class work context was in fact world class. At Alverno, I finally caught fire for wanting to know how things worked and could begin teaching and enjoying research in a different way.
- 6. About six years ago, one year after leaving private practice, I determined that I was ready for a different kind of change. I became the Director

of the School of Psychology at James Madison University. Most of those years as director were especially invigorating and gratifying. I had the wonderful opportunity to work with a huge group of faculty in a full service psychology shop. The programs thrived, the students were enthusiastic and competent, and the faculty was committed and energetic. Sadly, reorganizing fevercoupled with budgets that would make Thomas Jefferson cry—upended the psychology community that I had grown to love. I decided to pursue another open door. I am just one month into my new and challenging life, serving as the Dean of the College of Arts and Sciences at the University of West Florida in Pensacola. I am also optimistic that I can integrate an assortment of life lessons, both thrilling and painful, to help us envision President John Cavanaugh's goal to "go where no university has gone before."

I am proud of my work in curriculum development, my contributions in helping to build a variety of psychology-related communities, and my reputation as a "tough, but fair teacher."

Last year it was my good fortune to host a Fulbright Scholar, Victor Karandashev from St. Petersburg. In the midst of a discussion about strategies for coping with life's inevitable disappointments, Victor offered this observation: "It may not be what you want, but it may be what you need." What a good suggestion that is for helping you look for your next open door.

Anne Treisman

An internationally distinguished scholar in perception, attention, memory, and cognition, Anne Treisman is James S. McDonnell Distinguished University Professor of Psychology at Princeton University. Previously, she was Professor of Psychology at the University of California, Berkeley (1986-1993) and the University of British Columbia (1978-1986), and University Lecturer in Psychology at Oxford University (1968-1978). She was Fellow at Oxford's St. Anne's College, Stanford's Center for Advanced Study in Behavioral Sciences, and the Canadian Institute for Advanced Research, as well as Russell Sage Foundation Visiting Scholar. The author of many prestigious journal articles and book chapters, her honors and awards include Fellow status in the Royal Society, London; William James Fellow status in APS, election to the National Academy of Science, the American Academy of Arts and Sciences, and the Society of Experimental Psychologists. She is the recipient of the Spearman Medal of the British Psychological Society for Experimental Research, the Howard Crosby Warren Medal of the Society of Experimental Psychologists; the APA Distinguished Scientific Contribution Award, and the Minerva Foundation's Golden Brain Award. She has served as Chair of the Governing Board of the Psychonomic Society, as member of the Executive Committee of the International Association for the Study of Attention and Performance, on the editorial boards for the Journal of Experimental Psycholparents were college graduates, and so from the time I knew what "college" was, I assumed I'd go there. The respect for education in my family was clear and never questioned.

My parents divorced when I was in junior high school, and following the probabilities, my own marriage also ended in divorce. Interestingly enough, my parents had a fairly friendly post-divorce relationship, and my ex-husband, Jack, and I pride ourselves on having had the first truly friendly divorce in our neighborhood. We even wrote a book together AFTER we were divorced! And we're still good friends. In fact, two of Jack's students and I recently edited a book of papers discussing his contribution to psychology.

I was also greatly influenced by my experiences in school. I had many excellent teachers in the public schools I attended. And I never felt that my gender was of any importance academically until I talked with the high school guidance counselor about going to the University of Virginia. To my surprise, I learned that only nurses could be admitted during their first year. Other women had to transfer in at the beginning of their junior year. UNC Chapel Hill was similar, although architects were included with nurses. It was with great relief that I learned I could go to Duke University because it took women.

In the early 1960s, Duke was on its way to becoming the national powerhouse that it is today, and there was great excitement about being at such an ambitious place. Even more important, it was at Duke that I learned the importance of diversity. Not only did I see that all these women barred from so many colleges and universities at the time were extremely bright and very successful in our mixed-sex classrooms, but also, I lived for the first time in a racially integrated environment. The first-year undergraduate class in 1963 was the first such class to include African-Americans. It was at that place at that time that my enduring commitment to gender and racial equality became part of my life.

After completing my BA, an AM at Harvard, and the PhD back at Duke, I became a professor of psychology at the University of Kansas for 15 years. It was there I had my first experience of academic administration outside of my academic department. In 1987, 1 became Director of the College Honors Program and Associate Dean of the College of Liberal Arts and Sciences.

During that time, I realized that I very much enjoyed administration (my friends were shocked and horrified) - and that I'd like to be a Dean. However, Jim Muyskens, the very fine dean to whom I reported, wasn't about to move over to let me take his job - so I went on the job market. This is a saga that was to repeat itself several more times!

In 1990, I became Dean of Harpur College of Arts and Sciences at SUNY Binghamton. In 1996, I

became Provost at Ohio University. And in 2001, I became Chancellor of Indiana University Bloomington, where I still am.

I feel fortunate that I've been able to stay "in school" for almost all of my life. The importance of education has never been greater--and the challenges we face have never been more complex. But while I'm often frustrated, I am almost never bored. And I am able almost every day to do something (large or small) that will have a beneficial impact on somebody's life (student, faculty, staff, alumnus, my administrative colleagues, etc.).

One of the earliest memories I have is as a very young child, when I'd sit on the floor of my grandmother's bedroom and play with her costume jewelry: putting the pieces into patterns, arranging and rearranging them. I had this great feeling of satisfaction when everything was exactly in its proper place. This is the mark of α serious obsessive-compulsive. And, in many ways, much of my life has been a variation of playing with that costume jewelry. But I have learned to appreciate life's beneficent accidents, and discovered the joy of serendipity. Thus, although an obsessive-compulsive by birth, I turned into an accidental administrator, who wandered into a new career in academic administration, without any deliberate preparation for it, and without any clear sense of where it would lead. And yet, this is clearly where I belong.

Jane S. Halonen

A clinical psychologist, recognized teacher, and leader, Jane S. Halonen is Dean of the College of Arts and Sciences at the University of West Florida, Pensacola. Her earlier positions include serving as Director and Professor of the School of Psychology at James Madison University, Chair of the Behavior Sciences Division of Alverno College, Private Practitioner and Co-Director at the Phoenix Clinic, and Director of the Shore School in Evanston, IL. Her books include Psychology: Contexts and Applications; Your Guide to College Success; The Psychology of Adjustment; The Critical Thinking Companion for Introductory Psychology; and Teaching Critical Thinking in **Psychology**. She has served as President of APA Division 2 and President of the Council of Teachers of Undergraduate Psychology, as Chair of the APA Task Force on Undergraduate Learning Goals and Outcomes, and as faculty advisor to the National Standards for High School Psychology. She is Chief Reader for the Advanced Psychology Placement Exam at the Educational Testing Service, Associate Editor of the Teaching of Psychology journal, and member of numerous national boards and committees. Her honors and awards include APA Fellow status in Division 2, the APF Distinguished Teaching Award, the Ruth Hubbard Cousins Distinguished Lecturer Psi Beta Award, the APA Harry Kirke Wolfe/G. Stanley Hall Lecturer Award, and the Butler University Distinguished Alumni Award.



EMINENT WOMEN IN PSYCHOLOGY: HISTORICAL AND PERSONAL PERSPECTIVES - 2003

Agnes N. O'Connell, Chair: Opening Remarks

The Twenty-Fifth Annual APA Symposium on Eminent Women: Historical and Personal Perspectives in 2003 marks an extraordinary and unusual convention event—a symposium that has reached its Silver Anniversary. As Head of the Division 35 Task Force on Women Doing Research in the mid-1970s, I chaired a series of national and regional convention workshops whose outcomes underscored the need to preserve the contributions of women to psychology and the need to provide strong, resilient role models for the acculturation of women into the field.

The first symposium that I organized on eminent women, a quarter of a century ago, originated an important annual tradition at the convention and a significant new sub-field—that of preserving and celebrating women's lives and strengths, their heritage in APA, the field of psychology, and society. Over the last twenty-five years, these symposia have inspired many varied publications that illuminated and analyzed women's lives, careers, and contributions, for example, *Models of Achievement: Reflections of Eminent Women in Psychology, Volume 3* (O'Connell, 2001).

These multiple reflections and assessments provide a major knowledge base for the study of women's lives and the evolution of psychology as they provide a sense of heritage and achievement, increase the visibility of distinguished women and their contributions, and act as a source of inspiration. The Silver Anniversary Symposium participants, like their predecessors, have demonstrated impressive leadership, made "outstanding and unusual contributions" to psychology and society, and received prestigious honors and awards that underscore their distinguished status and facilitate their serving as role models.

Sharon Stephens Brehm

A prominent social and clinical psychologist, Sharon Stephens Brehm is Chancellor of Indiana University Bloomington and Professor of Psychology. Previously, she served as Provost at Ohio University; Dean of Arts and Sciences at the State University of New York at Binghamton; and Associate Dean of the College of Arts & Sciences at the University of Kansas.

Her books include Social Psychology (5e); Intimate Relationships (3e); Seeing Female: Social Roles and Personal Lives; Psychological Reactance; Developmental Social Psychology; Help for Your Child: A Parent's Guide to Mental Health Services; and The Application of Social Psychology to Clinical Practice. She is an APA Fellow in Division 8 (Society of Personality and Social Psychology) and has had visiting academic appointments in Germany, France, and Italy. She has served as Chair of the APA Coalition for Academic, Scientific, and Applied Psychology, Secretary of the APA Women's Caucus Council of Representatives, Chair of the Governing Board of OhioLINK and founding chair of the Governing Board of the Ohio Learning Network. She has served as a member of the APA Finance Committee, the APA Task Force on Women in Academe, as member of the Editorial Board for the Journal of Social and Clinical Psychology, the Journal of Personality and Social Psychology, and the Journal of Autism and Developmental Disorders. She is currently a member of the American Council on Education's Commission on International Education and the Advisory Committee for the AAU/ARL Global Resources Program.

I have been fortunate in my life to have had two careers. The first was in psychology, where much of my emphasis was on interdisciplinary work. And the second has been as an academic administrator. What ties the two together is that, at heart, I've always been a generalist. Much of my work has focused on creating collaborations between existing fields (such as the clinical and social "interface") and helping to develop areas of study that are inherently interdisciplinary (such as intimate relationships). Somewhere along the way, I also discovered that I enjoyed writing textbooks. It was a great challenge to try to understand the science in great depth and detail, and then attempt to communicate that understanding to college students in an accurate, engaging presentation that was appropriate for their level of preparation. Obviously, being interested in a very wide variety of academic disciplines has served me well as an academic administrator, and the ability to communicate effectively to a wide range of audiences has been extremely helpful.

My family background played a crucial role in preparing me to have a career, since in my generation it was not typical for women to have one. My parents read. My grandmother read. Reading seemed to me to be the most wonderful activity in the world. It still does. My mother worked, and she loved to work—and I, too, love to work. Both my

A Message from Society President Overmier: Don't be a Lurker!

Lurkers. People who subscribe to chatrooms and discussion lists and who read but never contribute are commonly referred to as "lurkers". A related phenomenon exists in organizations: members who accept what the organization offers but who take no responsibility for the organization beyond paying their dues. Although this is certainly legitimate, the organization is weakened by their non-participation.

The success of an organization in setting goals that will serve the members and then achieving those goals depends upon the coordinated personal efforts of the organization's active members and those who take on and carry out the various functions required by the organization—the organizational representatives, secretary, treasurer, editors, committee members and chairpersons, historian, contributors to journals and newsletters—even vocal critics. All serve the organization and its membership. Organizations both are and create the infrastructure of the discipline.

Service to the organization requires attention, planning, time, effort—sometimes modest, sometimes substantial. Those who do serve in the organization —whether our division, national or international organization, institutional review boards/panels, etc.—are not 'lurkers'. They give substance to the organization, sustain its vitality, and contribute to the health and vigor of the discipline. And, we are all indebted to them. We should explicitly offer them our thanks because they receive virtually no remuneration other than that thanks. In the past few of years, I have had the good fortune to work with many who give such service—selflessly. And to all, I offer my sincere "Thank you".

But...actually this note is more than a 'thank you' to these contributors to the discipline of psychology and to its success in increasing our knowledge and enhancing peoples lives. It is a note—a plaintive note—about how few psychologists contribute in this way. When called upon, a vast number "excuse themselves"—not because they are serving elsewhere—because they are too busy,

too young, too old, too......well something. As a result the organization is less enriched, less representative, less effective, and perhaps even less relevant than it otherwise could be. I know our colleagues to be responsible persons, so why do these responsible citizens not see the constructive opportunity inherent in volunteering to serve or saying "yes" to the invitation to serve?

Where does this "Let George do it" approach to our discipline come from? Well, certainly I do not know; I can only ask speculative questions. Is it in senior colleagues emphasis to young ones to keep focused on their own development and to eschew committees and organizations? Is it the threat of failure should they look up from the grindstone—even if to get a wider view of where their work contributes? Is it the focus on their work rather than on their lives and their role in the discipline? Indeed, all of these are pressures young colleagues must feel in this ever more challenging work environment and world. As mentors, have we failed to ingrain a sense of service to the discipline? Indeed, I wonder if we have failed even to ingrain a sense of belonging to the discipline as a member of the organizations that give it structure; many young colleagues do not join and, worse, they do not perceive the loss that both they and the discipline experience as a result.

I do not know what the solution is. I do know that organizations are critical to the success of our discipline. They create public understanding of our discipline; they foster demand for what we have to offer whether it be research or applied/clinical skills; they provide vehicles of communication without which we become isolated toilers; and they help us become more effective in impacting the world. These outcomes require organizational structures. Organizational structures require persons to step up and take on the mantle of responsibility for the discipline.

They need YOU. Answer the call. Although sometimes trying, it is actually a rewarding experience.

J. Bruce Overmier