The Department of Psychology

THE HEBREW UNIVERSITY OF JERUSALEM

Report of the Review Committee

March 2008

The Committee

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EXECUTIVE SUMMARY

Executive Summary of the External Review Committee for Psychology

Richard Shiffrin, Chair;
Susan Andersen, Tony Greenwald, Mike McCloskey, Wolfgang Prinz

- Psychology worldwide has become a laboratory-based natural science, and Psychology departments are increasingly located in the natural sciences
- Consistent with this trend, Psychology at Hebrew University has evolved as a laboratory based natural science, but remains in the Faculty of Social Sciences with resources determined by this affiliation
- Psychology at HU is a world class department in research quality, reputation, and funding; it has achieved a leadership position in Israel and is renowned internationally
- The excellence of psychology at HU cannot be maintained under current conditions; the department is at a tipping point
    - the Department has achieved success under conditions that would be intolerable in any other world-class Psychology department or in any natural sciences; however, the department's ability to cope with these conditions has reached its limits
    - competition within and outside Israel is increasing
    - psychology can continue to prosper only if significant changes are implemented
    - without such changes Psychology will lose faculty and student recruits, research funding, and excellence

Recommendations

To maintain and increase excellence, the HU Psychology Department must obtain:

- a substantial increase in space, especially for laboratories
- financial resources appropriate to Psychology's status as a natural and laboratory science, including startup costs, ongoing laboratory support, graduate fellowships, and staff support
- support for the ongoing transition from a traditional clinical psychology program to a cutting edge evidence-based clinical science program, including two additional protected faculty positions in clinical science to help promote this change
- markedly improved access to fMRI and other brain imaging technologies
- improved access to colleagues in the natural and medical sciences, including those in Life Sciences, ICNC, the Center for Rationality, and the proposed Neuroscience Institute
- support for implementing the department's proposal to shift gradually away from offering MA degrees to an emphasis on the PhD program, consistent with other leading psychology departments

- year round daily access, without obstacles, to laboratories and offices

Implementing the Recommendations

- The entire Psychology Department should move physically to the Givat Ram campus, and administratively to the Faculty of Natural Sciences
- The Psychology Department should be situated in a new and separate Institute for Psychological and Cognitive Sciences. This institute would also be an appropriate home for the Department of Cognitive Science
- Faculty positions in the new institute should be protected for a period of five years, until Psychology's integration with the natural sciences matures
- The Psychology Department should be a full partner in planning the proposed Neuroscience Institute in order to promote joint interests and synergy
- Everything possible should be done to establish a brain imaging center on the Givat Ram campus

Anticipated Benefits to the Psychology Department and Hebrew University

- HU will continue to lead Israel into the modern age of science-based psychology, staying at the forefront of developments in psychological and brain sciences
- Psychology at HU will spearhead the transformation of clinical psychology to evidence-based clinical science, and the production of the next generation of clinical academics
- Hebrew University will benefit from enhanced collaborations between Psychology and other units, including the Institute for Life Sciences, ICNC, the Center for Rationality, and the proposed Neuroscience Institute
- The move to Givat Ram will eliminate the need to maintain two separate animal facilities
- Positioning Psychology in the Natural Sciences, and at Givat Ram, will better serve science oriented students, including those in the highly successful Psychobiology and Cognitive Science programs
- Laboratories and offices will be readily accessible throughout the year, increasing research productivity

Alternative Implementations of the Recommendations

The committee considered the following alternative implementations but judged the first to be less desirable and the second undesirable, because they run counter to developments in Psychology worldwide, and fail to address critical needs.

Maintain the Psychology Department on the Mt. Scopus campus while substantially increasing, space, facilities and funding

This alternative would likely be as costly as a move to Givat Ram, would perpetuate the problems created by the placement of laboratory-based psychological sciences within the Faculty of Social Sciences, would continue the difficulties of laboratory and office access whenever the campus is closed, would continue to place obstacles in the way of collaborations with researchers at Givat Ram, and would not serve the needs of science-oriented students.

Split the present Psychology Department, moving a subset of faculty and laboratories to another campus

This alternative would eliminate a critical and long-standing component of Psychology departments worldwide, harm both the faculty who leave and those who stay, reduce the reputation of the department, hinder intra-departmental collaborations, harm the teaching mission of the department, leave in place many of the present structural problems, and pose a distinct possibility of dissolution of the department.

Report of the Review Committee for the Department of Psychology, Hebrew University

March 10, 2008

Richard M. Shiffrin, Chair

Susan Andersen

Anthony Greenwald

Michael McCloskey

Wolfgang Prinz

Introduction

Richard Shiffrin, chair, and Susan Andersen, Anthony Greenwald, Michael McCloskey, and Wolfgang Prinz (the external review committee) visited Hebrew University from February 24, 2008 to Feb 28, 2008, carrying out a thorough review of the Psychology Department.

We read various reports and interviewed:

Senior administrators of Hebrew University, including the University President, the Rector and the Deans of the Schools of Social and Natural Sciences

Members of associated Institutes and Centers, including the Center for Rationality, ICNC, and Life Sciences

Members of associated programs, including Neurobiology and the Department of Cognitive Science

Administrators, faculty members, retired faculty members, academic staff, Ph.D. students, M.A. students, and B.A. students of the Department of Psychology

The committee spent most of its time on the Mt. Scopus campus, but also made a short trip to the Givat Ram campus, visiting the Center for Rationality, ICNC, and the Institute for Life Sciences.

The committee briefed the President, the Rector, the Dean of Life Sciences, and the representative of the School of Social Sciences on the afternoon of Feb 27, wrote its executive summary on Feb 28, and submitted it at the end of the day. This submitted executive summary consisted of a precis that is presented on pages 3-5 of this document, and a longer text that now serves as the basis of the following report.

Background

Recent advances in theory, scientific knowledge, instrumentation, functional neuroimaging, and computational methods have re-shaped the discipline of Psychology worldwide. The Psychology Department at Hebrew University reflects and has contributed to this evolutionary trend. One consequence of the advances in the discipline is a move of many Psychology departments worldwide, particularly those leading the field, particularly in the US and Europe, from Social to Natural Sciences faculties.

Psychology is a field that continues to broaden its scientific scope. Some departments have split into subfields such as cognitive science, systems neuroscience, and social and clinical science (albeit in close physical and administrative proximity), while others have simply expanded their traditional areas of scientific focus, adding researchers from fields such as computer science, physics, psychobiology, computational statistics, linguistics, and cognitive neuroscience. It is increasingly difficult to maintain a presence in the forefront of the field without participating in these trends.

Major historical trends worldwide have gradually shifted the focus of science from mathematics, physics, and chemistry through the biological sciences, and now to the brain, neural, cognitive, and social sciences. These shifts are due in part to the development of new measurement tools and methods, and in part to the needs of society. The role of the psychological and brain sciences will only increase in the future.

Departmental Quality

The Hebrew University Psychology Department is well-recognized among the strongest European and American universities: The department is comparable in quality to the best departments internationally, with an extremely strong presence in psychobiology and behavioral neuroscience, sensory and cognitive processes, and social psychology, as well as an emerging strength in clinical science. The researchers are doing state-of-the-art research, have excellent grant support, publish in the best journals, and attract excellent students at both undergraduate and graduate levels. This quality has been achieved by a relatively small department (~22 full time tenure track faculty) in the face of severe budgetary and space limitations. The department faculty work together with remarkable accord, and share an almost unanimous vision of the way forward.

In a department the size of that at Hebrew University, it is impossible to maintain strengths in all areas of the increasingly wide field of psychology. The committee was impressed by the vision and choices made by the department, and its movement toward the brain and cognitive sciences. The areas of excellence in the department both build on historical strengths, and reflect recent changes and developments in the field. With the partial exception of some recommendations concerning the strengthening of departmental advances in clinical science (to be described in detail later), our committee saw no need to redirect departmental decisions concerning areas in which to hire new faculty. To the contrary, we see the department as being in close touch with developments in the field and fully capable of making optimal decisions concerning areas for hiring.

There is no simple way to divide up the domains of interest in the department, as these overlap in many ways. Many collaborations, teaching, and training will cross the artificial boundaries created by any classification system. A circle graph listing all full and part time faculty in the department with their active intradepartmental collaborations was prepared at our request by the department and is included in our report as Appendix C. The many collaborations in every direction make it clear that any clasification system would be arbitrary. Nonetheless, to provide at least a brief overview, we decided to partition the department into these areas: psychobiology; cognitive, cognitive neuroscience, and cognitive science; developmental; social cognition and decision science; clinical and clinical science. We next describe strengths in these (arbitrary) areas, in outline form.

Psychobiology

The Psychobiology Area is a small but very strong and visible component of the Department. The two Psychobiology faculty, *Raz Yirmiya* and *Yehuda Shavit,* study issues at the interface of psychology and neurobiology (e.g., neurobiological mechanisms underlying pain and analgesia; post-surgery pain management; effects of pain and pain management on immune system functioning; and the roles of brain cytokines in depression and memory). These research efforts primarily involve animal studies, but also include studies with human participants.

The Psychobiology faculty have been extremely successful in obtaining extramural funding (more than $1 million US over the past five years), and publish at a high rate in first-rate journals. Also, both of the Psychobiology faculty maintain active collaborations with colleagues at Hebrew University, at other Israeli universities, and at institutions elsewhere in the world (e.g., Germany, Netherlands, US).

The Psychobiology Area is integral to the Department's undergraduate and graduate teaching mission. Both of the Psychobiology faculty teach large courses required for the Psychology B.A., as well as graduate-level courses for M.A. and Ph.D. students; and both have been very active in supervising M.A. and Ph.D. students. Especially noteworthy is the central role of the Psychobiology faculty in the undergraduate Psychobiology B.Sc. Program. This program, offered jointly by the Department of Psychology and the Institute of Life Sciences, has been extremely successful, consistently attracting the best undergraduate students.

Psychobiology – the study of biological mechanisms underlying psychological and behavioral processes – is a crucial component of Psychology departments worldwide, and the Psychobiology Area must remain a strong and active part of Hebrew University's Department of Psychology if the Department is to enjoy continued success in its research and teaching missions.

Cognitive, Cognitive Neuroscience and Cognitive Science

This area is the largest, and perhaps most visible section of the department. This section comprises ten faculty (*Merav Ahissar, Shlomo Bentin, Asher Cohen, Leon Deouell, Ram Frost, Dany Hoofien, Yonata Levi, Anat Maril, Yehuda Pollak, Benny Shanon*) four of whom have joint affiliations with other institutes or departments at Hebrew University (Hoofien, Levi, Maril, Pollak).

In their research and teaching scientists in this area contribute to both basic and applied science. Much of the Department's high international visibility can be traced back to its long-standing record of cutting-edge contributions to basic research in the cognitive and cognitive neuroscience domain. For instance, researchers like Merav Ahissar, Shlomo Bentin, Asher Cohen, Leon Deouell and Ram Frost are well-known, on a world-wide scale, for their continuously outstanding research contributions to such diverse fields like visual and auditory perception, phonological and morphological

foundations of reading, face perception, change detection, brain bases of unilateral neglect, attention, action control and computational models of semantic networks. It is to faculty from these fields of study that the department owes its worldwide reputation as a leading center of cognitive and neurocognitive research on perception, attention and action control.

This group of faculty has been extremely successful in obtaining extramural funding, and most of them publish at a high rate in first-rate journals. Also, the faculty from this section have strong collaborative links both with scientists at esteemed institutions outside Israel, and with scientists from the medical and/or natural science faculties at Hebrew University (cf. appendix E). The continued prosperity and development of this area will clearly depend on measures that insure and improve on the ease of and opportunities for such collaborations. We note in particular that many of the projects carried out by this group of faculty involve or will require brain imaging studies, particularly including fMRI. Insuring adequate and convenient access to such brain imaging centers is an absolute necessity.

Developmental Psychology

Hebrew University's Psychology Department has two developmental psychologists who contribute strongly to the department. One of the two, *Marsha Kaitz*, is an established senior investigator. The other, *Ariel Knafo*, is quite junior, but obviously a rising star who has achieved substantial recognition, including international awards for his dissertation research and his early career performance. They face some limitations in attracting top PhD students because two faculty in this area are insufficient critical mass in comparison with larger programs internationally, and because no other Israeli university has a strong enough program to supply students in this area. Developmental psychology is an increasingly important area of psychology, and it would be desirable for ar least one Israeli university to establish a strong PhD

program. We would be tempted to recommend that the department at Hebrew University make additional hires in this area, but recent departmental attempts to do so have failed to attract sufficently strong new applicants. There is strong international competition, and the pool seems to be depressed by the need to find Hebrew speaking teachers. Eventually Hebrew speaking students sent abroad for training may change the present situation. Until that happens, Hebrew University's two developmental psychologists can nevertheless function well in the context of the Psychology Department because of their strong collaborative connections with other areas. Knafo's training had a very strong social psychology focus and therefore now functions cohesively with Hebrew University's strong Social Psychology program. Kaitz could play an effective role in promoting developments in clinical science (especially if this Committee's recommendations concerning clinical science are adopted) because her interests overlap clinical topics involving young children.

Social Psychology and Decision Making

Hebrew University's Social Psychology group in the Psychology Department includes two strong and effectively cooperating subgroups — one centered on Social Cognition and the other on Human Decision Processes. Strategically, both are important areas in which to have strong faculty representation. Social Cognition has been the internationally dominant focus of Social Psychology for the last two decades, and Decision Processes is an important cross-cutting area that connects Social Psychology to applications in Management and Business — this is an area represented at all major universities, either in Psychology Departments or in Business Schools.

The Social Cognition group includes Yaacov Schul, Ran Hassin, and Ruth Mayo (not noted here is Shalom Schwartz, emeritus, who remains an active and internationally renowned scholar). Even though two of these three faculty members are quite junior by age, all three are well known to colleagues outside of Israel because of

both their contributions to the international research literature and their regular participation in international meetings. Yaacov Schul, a 1981 PhD from University of Michigan, has a continuous record of publication in prominent, refereed, international journals and a sustained record of obtaining research grants. His recent work focuses on judgments of trust. Schul has strong connections with colleagues in other countries (especially the United States) among whom he is highly regarded. Ran Hassin is a 1999 PhD from Tel Aviv University. Despite his youth, he has established multiple effective international collaborations, most strongly with a colleague at Cornell University, Melissa Ferguson. Hassin has obtained grant support not only in collaboration with Ferguson, but also for a few independent projects. He is visible as an annual presence at international meetings of social psychologists. Ruth Mayo is a 2004 PhD from Hebrew University (supervised by Yaacov Schul). She received postdoctoral training at University of Michigan with Norbert Schwarz, who is an internationally recognized leader in Social Cognition. She has grant support from ISF. Although very young professionally, Mayo already has achieved publications in the major international journals of Social Psychology.

The Decision Processes group includes Gary Bornstein and Ilan Yaniv. Gary Bornstein received his PhD in 1983 from University of North Carolina. He has maintained continuous grant support and is recognized for contributions to research on intergroup conflict and group decision making. His research in both of these areas makes use of "experimental games", an approach developed by econometricians in the mid-20th century that continues to connect well with researchers in Economics and Business. His active participation in the Center for the Study of Rationality provides an important connection for collaborations with that significant unit at Hebrew University. Ilan Yaniv is a PhD from University of Michigan (1988). Like others in the

Social/Decision group he is successful in obtaining grant support. He has been successful in placing his publications in internationally leading refereed journals.

Clinical Psychology and Clinical Science

The Department of Psychology has made substantial progress in establishing a top-flight clinical science program by successfully recruiting two superb clinical scientists who have made ground-breaking scientific contributions and are exceptionally productive (*Jonathan Huppert, Iftah Yovel*). Huppert, recruited from the University of Pennsylvania's Center for the Treatment of Anxiety Disorders, examines the cognitive underpinnings of obsessive-compulsive disorder (OCD) and of social phobia, as well as co-morbidity of the latter with some forms of psychoses. Yovel is a more recent Ph.D. from Northwestern University who systematically examines attentional processes in post-traumatic stress disorder (PTSD) and in OCD, while also making substantial methodological/measurement contributions (i.e., in psychometrics). Both are well published in peer-reviewed international journals and are well-funded, Huppert by the National Institute of Mental Health (NIMH) in the U.S. and Yovel by the Marie Curie Foundation in the E.U.

These researchers represent the best of modern clinical science for three reasons: First, they examine basic cognitive processes underlying psychopathology and its treatment in a way that readily coheres with modern psychological science, facilitating cross-area collaborations in the department. Second, they study the disorders in which they specialize in a way that allows for developing and testing evidence-based interventions. Third, they not only investigate the cognitive and emotional underpinnings of change in treatment but also examine the latest neurochemical interventions. In short, the research trajectories of these researchers represent an integrative approach to clinical science that promotes advances in the field while also facilitating rigorous training for the next generation of researcher-clinicians.

Longstanding faculty in the clinical area include one full-time senior faculty member (*Rachel Blass*), another with a joint appointment in the School of Education (*Nurit Yirmiya*), and three who are respected, part-time practitioners working in mental health facilities around Jerusalem, while carrying substantial MA and undergraduate teaching and supervisory responsibilities at HU (*Eytan Bachar, Gaby Shefler, Hanoch Yerushalmi*). Blass is well published in qualitative scholarly journals in psychoanalysis and has written and edited books focused on truth and ethical issues in analysis, while funded by small grants and a larger international grant (from the E.U.). Yirmiya is an accomplished, well published clinical scientist who studies the development of autism. Having done her Ph.D. with one of the best researchers in this field (Marian Sigman, UCLA) with whom she continues to collaborate, she examines cognitive/affective abilities (e.g., empathy) and interpersonal processes among parents and siblings of children with autism, funded by two large grants (e.g., ISF) and several smaller ones. Bachar publishes on psychodynamic and cognitive treatments of PTSD and eating disorders (anorexia and bulimia), and transgenerational influences on the latter, with some funding. Shefler is well published in psychoanalysis, research ethics, and expressed emotions in schizophrenia, having written and edited books and published journal articles with the assistance of several small grants. Yerushalmi is an analyst who publishes in qualitative psychoanalytic journals and who has recently written a book on crisis and personal growth.

The recent hires complement longstanding clinical faculty and provide HU with the critical building blocks of a first-class training program in clinical science, one that can come to fruition with just a few more targeted hires. The scientist-practitioner model in clinical psychology is here to stay given scientific advances in the field, and the nascent clinical science area within HU's Department of Psychology is poised to lead Israel to the forefront of developments in modern clinical science. As clinical

science continues to develop internationally, it will be crucial that HU is on the cutting edge by taking part in the modern era of scientific training in clinical psychology.

Challenges

The department is in a precarious position, poised either to move forward to the continuing credit and benefit of both the department and Hebrew University, or to fall back and lose much of its stature. The Department's participation in the shift of Psychology from social to a natural science has brought with it greatly increased needs for space, personnel, and financial resources. Given the limited resources available within the Faculty of Social Sciences, satisfaction of these needs is virtually impossible. The problem is especially acute in light of the growing competition from other universities within and outside Israel. Other Israeli universities have built and are building new facilities for their Psychology departments. At our request, the department prepared a summary of developments in other Israeli universities and this is attached as Appendix D. It should be clear that facilties and resources of the Psychology Department at Hebrew University are rapidly falling behind other universities, notwithstanding the leadership position of the department in Israel and its outstanding reputation internationally. This disparity between quality on the one hand and facilities and resources on the other is even more pronounced internationally, where departments have large laboratory buildings with adequate space for faculty, postdoctoral visitors, and graduate students, adequate staff and space for staff, and increasingly often have dedicated brain imaging research centers in house (including fMRI). Therefore, if laboratory space, equipment, and funding are not dramatically improved, Hebrew University will increasingly fail in efforts to attract and retain talented faculty and graduate students. Just as critical would be the failure to build upon

existing collaborative ties, and to build new collaborative ties to relevant units in the natural sciences (see next).

Collaborative Opportunities

Members of the psychology Department currently have many collaborations with members of other units, most of which are with Faculty of Natural Science members on the Givat Ram campus and Faculty of Medicine members on the Hadassah campus, although a few are with members of the other social sciences at the Mt. Scopus campus. At our request the department prepared a table listing the present collaborations with the Faculties of Science and Medicine, and these are listed in Appendix E. As shown in the table, present collaborations occur with members of the Center for Rationality, the ICNC, Neurobiology, Life Sciences, and Faculty of Medicine; not shown are some collaboarations with the Department of Cognitive Science (a department that we we recommend relocating with Psychology to the Givat Ram campus). The number of such collaborations is impressive and speaks to the dedication of the Psychology faculty and their interest in interdisciplinary interactions. The collaborations are even more impressive in light of the difficulties imposed by the separation of the relevant faculty. It would greatly benefit both Psychology and the collaborators in other units if such collaborations could be facilitated and eased, preferably by relocation of Psychology (see below). Relocation would also promote the formation of additional collaborations, again benefitting both Psychology and the other participating unit.

It is particularly important to discuss opportunities afforded by the proposed and hopefully forthcoming Institute for Neuroscience. There are several relevant parts in the Opportunities section of the report of the Neuroscience Review Committee :

On page 12, the committee says: '*...address the exciting prospect of precise structural and functional definition of neural circuits that control specific behaviors.*' Research of this sort is already underway in Psychology, and researchers in Psychology can play a direct and supporting role in seeing that this forward-looking opportunity succeeds. This opportunity can of course be pursued in humans as well as other organisms, and should be, as is the case in leading Psychology departments internationally. Present and future researchers in the Neuroscience Institute should take advantage of collaborative possibilities to pursue this goal with psychologists, both those using non-human organisms, and those studying humans.

On page 15, the report also says: '*One important goal of neuroscience is to understand human cognition and behavior at a mechanistic level*....(there is a need for) *careful behavioral investigation in human subjects*.' This prescription is of course a definition of psychological research. A few lines later : '*...human and primate neuroimaging play crucial roles.*' We note that many members of Psychology are presently using various forms of brain imaging techniques in their research, and this effort needs to be promoted and encouraged, both in Psychology and the Institute for Neuroscience. Enhanced and inmproved access to fMRI and other imaging technology would be of critical importance for both Psychology and the Institute for Neuroscience. (We elaborate on this point later in the report).

On page 16, the report noted that : '... brain diseases and neuropsychiatric disorders represent the most significant public health issue of our time'. Psychology and its clinical science program of teaching and research are of course central and critical in enabling advances in this area. Opportunities abound for collaborations between Psychology and the Institute for Neuroscience that will focus on mental health. In addition, we will discuss later recommendations for enhancing the movement beginning

in the Department of Psychology to hire clinical science researchers, and to train students in this evidence based approach.

In general, in light of the statements in the Neuroscience committee report, the Institute for Neuroscience would do well to give strong support to researchers studying humans as well as non-human organisms, to scientists carrying out computational modeling of neural circuits in humans (as is suggested specifically in the first paragraph on page 15), and should support collaborations with members of psychology. .

Recommendations

Three needs are critical for the future health of Psychology at Hebrew University. The first is a substantial increase in space. Increased laboratory space is essential, and space is also needed to provide more office space for graduate students, teaching assistants, and staff. Current laboratories, especially for recent hires, are so small that one researcher may have to leave a room for another to enter. Graduate students and research assistants (sometimes ten or more per lab) are forced to share a few computers on a small bench top, and often no space is available when a researcher needs lab facilities (e.g., access to raw data, or software for data analysis). Graduate students repeatedly stated that they were forced to work at home much of the time, due to the lack of space in the laboratory and the absence of quiet office space for reading and writing. Space for testing research participants is also unacceptably cramped. These conditions are not conducive to scientific productivity. Satisfying the space needs of newly recruited faculty will be virtually impossible, because space within the department has been exhausted. In fact at the time of this writing the department's space problems are causing difficulties in efforts to hire a stellar faculty candidate.

The second critical need is for financial resources commensurate with Psychology's status as a natural and laboratory science. The required resources include

- startup costs adequate for setting up a research laboratory competitive with those elsewhere in Israel and the world,
- support for some of the ongoing costs of operating a world-class laboratory
- graduate fellowships adequate in number and size for Psychology's status as a laboratory-based science. Present support levels are more closely tuned to social science standards, and are inadequate to allow students to complete their Ph.D.s within a reasonable time.

The third critical need is support for the ongoing transition from a traditional clinical psychology program to a cutting-edge evidence-based clinical science program. The Department has recently hired two junior faculty in clinical science (Huppert, Yovel). To create a critical mass for operating a science-based clinical program the Department requires two additional faculty positions in clinical science. These positions should be in addition to the present number of faculty in the Department. The new positions might also contribute to strengthening other areas in the department, such as developmental and social/personality psychology. It is especially important for Hebrew University to lead rather than follow such developments in Israel, given that an Israeli group of university and community practitioners to promote and adopt clinical science has already formed and will soon become an official organization[1].

[1] After the site visit, the committee chair learned from Varda Shoham, the immediate past president of the US Academy of Psychological Clinical Science, that a substantial group of professors from universities throughout Israel, and community practitioners, had formed under the chairmanship of Ben Gurion University Professor Golan Shahar to promote clinical science teaching and practice in Israel. The group is denoted OFAKIM ((Horizons), and is planning to become an official organization in the near future.

Another need concerns functional neuroimaging research (e.g., fMRI). Many members of the Department are actively involved in neuroimaging studies, and many more aspire to do so. However, access to neuroimaging facilities is both limited and inconvenient under present conditions, hindering research productivity. Faculty members must travel across Israel looking for access to facilities, whereas many top departments around the world have dedicated research imaging facilities in their own buildings. Accordingly, the Department needs markedly improved access to fMRI and other functional neuroimaging technologies.

An analogous need concerns collaborations. Many members of the Department collaborate with faculty in the natural and medical sciences, and the potential exists for additional collaborative work. However, such collaborations are hindered by the difficulty of working across campuses. Psychology faculty therefore need improved opportunities to interact and collaborate with colleagues, most notably those in Life Sciences, ICNC, the Center for Rationality, and the proposed Neuroscience Institute. Faculty in these units would, of course, also benefit.

There is an obvious need to make laboratories and offices accessible on a daily basis year-round. Although access is supposed to be possible during Mt. Scopus campus closings, we learned of many obstacles to access, for faculty, students, and human participants in experimental studies.

A final pressing need concerns graduate training. The Department has previously submitted a formal proposal to shift gradually from a system dominated by M.A. training, to a system focusing on the Ph.D. The Committee strongly endorses this proposal, and recommends that the shift include increased fellowship support for Ph.D.

students. This shift would bring the department in line with research universities around the world. We recognize that the shift in graduate training would have budgetary implications; however, the change is necessary if Psychology is to remain competitive on the international stage. In addition the shift to a Ph.D. in the clinical program would allow the Department at HU to lead Israel toward scientifically-based training in clinical psychology, while continuing to allow training for licensure in clinical practice. Further, this shift would distinguish the training at HU from that offered at colleges in Israel. Finally, the new program would produce the faculty who would teach succeeding generations of clinical students.

Implementing the Recommendations

The committee spent much of its time on campus exploring possible means of implementing the above recommendations. We realize that a university distributed across multiple campuses offers no perfect answer, but agree that one option is far superior to others.

The committee's strong and unanimous recommendation is that the entire Psychology Department move physically to the Givat Ram campus, and administratively to the Faculty of the Natural Sciences. This recommendation reflects Psychology's status as a laboratory-based natural science. The Natural Science Faculty should be better able to appreciate the need for, and provide, adequate laboratory space, research startup funds, and graduate fellowships.

We believe it important that the Psychology Department be situated in a new and separate Institute for Psychological and Cognitive Sciences. We note that this institute would also be an appropriate home for the Department of Cognitive Science.

We recommend a new and separate institute because incorporating the Psychology Department in an existing well-established institute or even the proposed Neuroscience Institute would run the risk of Psychology being marginalized. Psychology brings its own extremely valuable set of approaches to the table, mostly aimed at human behavior, and these might not be appreciated, initially, by other sciences and even some neuroscientists whose research focuses on non-human organisms.

Thus we believe that a period of time would be required for Psychology to become established on a par with other sciences in the Natural Sciences Faculty. Accordingly, we recommend that faculty positions in the new institute, both the recommended new clinical positions, and other positions in the department, should be protected for a period of five years until Psychology's integration with the natural sciences matures.

The Psychology Department, with its expertise in cognitive and behavioral theory and method, and its many behavioral neuroscience, cognitive neuroscience, and brain imaging researchers, is in a position to make important contributions to the proposed Neuroscience Institute at HU. The Psychology Department should therefore be a full partner in planning and implementing the Neuroscience Institute, thereby promoting joint interests and synergy.

The committee also recommends that everything possible be done to establish a functional neuroimaging center on the Givat Ram campus. We understand that there are plans to build an fMRI facility on the medical campus. Whether or not this is done, we believe it will prove unavoidable in the near future to place an imaging center on the Givat Ram campus, where most users are likely to reside.

Anticipated Benefits to the Psychology Department and Hebrew University

Adopting the committee's recommendations and suggestions for implementation will benefit not only the Psychology Department, but also Hebrew University. First, Hebrew University will continue to lead Israel into the modern age of science-based psychology, staying at the forefront of developments in psychological and brain sciences. In addition HU will spearhead the transformation of clinical psychology to evidence-based clinical science, and the production of the next generation of clinical academics.

The Hebrew University will also benefit from enhanced collaborations between Psychology and other units, including the Institute for Life Sciences, ICNC, the Center for Rationality, and the proposed Neuroscience Institute (e.g., via increased extramural funding and research productivity). The committee believes that the benefit of these enhanced opportunities for collaboration outweigh the costs associated with increased difficulty of collaborations between Psychology faculty and faculty in Social Science departments. We note that at present the Psychology Department has far more extensive collaborations with colleagues at Givat Ram, than with those at Mt. Scopus.

The move to Givat Ram will eliminate the need to maintain two separate animal labs.

The move will eliminate the continuing problem of access to laboratories and offices during closings of the Mt. Scopus campus.

Finally, positioning Psychology in the natural sciences, and at Givat Ram, will better serve science-oriented students, who currently find it difficult to study Psychology because of the need to commute between campuses. In this way the move would facilitate a shift in the composition of the Psychology BA population, from students predominantly interested in psychotherapy, to those with a broader range of scientific interests. Among students already studying Psychology, the move to Givat Ram would benefit students in the highly successful Psychobiology and Cognitive Science programs (who again suffer from the need to commute). We believe that the benefits to the science-oriented students would exceed the cost to those who would like to combine the Psychology track with a track based on the Mt. Scopus campus.

Of course a move of the department to Givat Ram and the Natural Sciences would have costs as well as benefits. Perhaps most significant would be extra difficulties imposed on collaborations with Social Science faculty remaining at the Mt. Scopus campus, and extra difficulties in teaching courses appropriate for students who frequent the Mt. Scopus campus.

We note that it is probably easier to carry out distance collaborations when these do not involve laboratory research, so this cost is probably the best one to tolerate, especially in light of the fact that most collaborations presently occur with scientists at the Givat Ram and medical school campuses. We note that costs might be lessened through the additional use of joint faculty appointments.

Given split campuses there is no convenient way to arrange course offerings that will serve the needs of students who predominantly frequent the campus where psychology does not reside. Although placement of Psychology at Givat Ram would

naturally produce a shift in the nature of students who choose to pursue psychology, there would still be a need for course offerings aimed at needs of students in the social sciences and humanities. Whether such offerings are better handled by a commute of the teacher to the Mt. Scopus campus, or a commute by students to the Givat ram campus, is a technical matter best left to the discretion of the department.

Alternative Implementations of the Recommendations

The committee considered the following alternative implementations but judged the first to be less desirable and the second undesirable. These alternatives both run counter to developments in psychology worldwide and fail to address critical needs.

The first alternative would be retention of the entire Psychology Department on the Mt. Scopus campus, with substantially increased space, funding, and other resources. This alternative would likely be as costly as a move to Givat Ram, would perpetuate the problems created by the placement of laboratory-based psychological sciences within the Faculty of Social Sciences, would leave in place the problems of access to laboratories and offices during campus closings, would continue to place obstacles in the way of collaborations with researchers at Givat Ram, and would not serve the needs of science-oriented students.

The second alternative would be division of the present Psychology Department (i.e., moving a subset of faculty and laboratories to another campus, while keeping the remaining faculty and labs at Mt. Scopus). This alternative is strongly contrary to the interests and expressed wishes of all Psychology faculty. The faculty who might be considered for a move believe that they would be harmed immeasurably. We agree. If, for example, the Psychobiology faculty were to be separated from the rest of the

Department, the move would eliminate a critical and long-standing component of Psychology departments worldwide. This or other divisions of the Department would hinder existing collaborations and other interactions among Department members, thereby harming both the faculty who leave and those who stay. Any division would also reduce the reputation of the department, harm its teaching mission, leave in place many of the present structural problems, and create new ones. There is a realistic danger that dividing the Department would result in the dissolution of Psychology at Hebrew University. Finally, many of the structural problems we have identified would remain unresolved in such a plan.

Teaching and Allocation of Faculty across Specialty Areas

The committee realizes that a small department cannot cover all desirable areas within the broad discipline of psychology. It is clear that a moderate-sized department cannot be a major player on the world and national scene if it is not highly selective in its choices of areas of strength.The committee believes that the Department has made judicious and reasonable choices in its hiring decisions, producing an allocation of faculty across areas that reflects history within the department, needs of the university, and evolving trends in the field. Our major recommendation is that the department should be given two additional faculty positions to be filled by researchers and teachers in the domain of clinical science.

Clinical Science

Market forces and job potential produce a need in Israel for training in clinical areas. Students predominantly seek to be trained in psychotherapeutic practice, because such training matches market demand and accreditation requirements. This committee notes that the discipline of psychology continues to evolve as a natural and laboratory

based science, and as such must train students in evidence-based approaches. The disjunction between clinical practice in Israel and the evolving state of psychological, neural, and cognitive science is particularly noticeable in the Hebrew University Psychology Department : Not only do market forces cause many students to seek psychotherapy based training, but the department's location on the Mt. Scopus campus tends to draw many more such students than those interested in scientific approaches to clinical practice and research. This committee makes no commitment to a particular form of teaching, diagnosis, and therapeutic intervention. Rather we believe that these elements of clinical training and practice need to be based on the best scientific evidence, not simply history, tradition, and belief. It is absolutely essential that the Psychology Department move toward a clinical training and research program that fully embraces the scientific approach. The department itself recognizes this need and has recently hired two young faculty (Jonathan Huppert, Iftah Yovel) and Yovel) who represent this position, and who can begin the shift in teaching and training that is required.

We note that two faculty are insufficient to fill the need, given that a large number of students enter psychology with the goal of practice in the community. We judge that a minimum of two additional faculty positions devoted to clinical science would build a core program sufficient to fulfill the teaching and research needs, and allow Hebrew University to lead the way toward science based clinical training. Note that these positions should not be extracted from the present departmental pool, but added as additional positions—the department is already quite small and the research and teaching needs in non-clinical areas would suffer if non-clinical positions were cut further.

An additional potential benefit of added positions in clinical science would be the opportunity to add strength through these new hires in areas currently underrepresented such as personality or developmental, or to build on strengths in areas like neurobiology, cognition, or cognitive neuroscience.

We have recommended a move of the department to the Givat Ram campus where it would join the natural sciences. Such a move would naturally produce a shift in the students seeking clinical training, away from the humanistic goals and background that is common in the present population of students to students with scientific goals, training, skills, and expertise. To the extent that this occurs Hebrew University will produce the teachers and researchers of coming generations, and will lead the way toward scientific clinical practice in Israel, with interventions and treatments based on science ranging from biological to neuroscientific to cognitive, behavioral and social.

MA and PhD degrees.

Most strong departments internationally have moved away from MA programs to PhD training, particularly including the clinical area. In line with the evolution of psychology worldwide and at Hebrew University toward a laboratory based natural science, it is critical that the Department of Psychology join this movement. We learned that the department had already made such a proposal to the university, one we were informed had been supported by the rector. We learned that the department's proposal gave a great deal of attention to the financial implications, and made a case for such a change despite requirements for modest budgetary increases. The department believes that the proposal has (not yet) been implemented due to the budgetary implications. We believe it is past time for the department to join the almost universal international trend. among leading psychology departments, to award Ph.D.s rather than

M.A.s. This must be done despite the increases in budget that such a move requires. The reasons are laid out in large part in the preceding section describing the essential need to provide training in clinical science.

Other teaching issues

Beyond these two major issues and recommendations, the committee had modest additional recommendations concerning teaching. We note that a move to the natural sciences (as we have recommended) could well produce changes in the course requirements and offerings at undergraduate and graduate levels. Thus any recommendations we might make could be overtaken by events. That being said, we have the following observations. We were struck by the many students who remarked about the redundancy of material in the required courses. Most students take double majors and the conflicting timing of offerings in different departments means that the core courses are taken in different years and semesters by different students. Thus no teacher can assume a common educational background, and must devote at least some considerable portion of the course to those students who are effectively new to the field. The result is considerable repetition and redundancy as additional courses are taken. The students seem to favor a return to a common introductory survey course. Of course the students are (largely) unaware that a previous generation of students voiced complaints about just such an introductory course, prompting a change to the present system. The members of the committee (and indeed psychologists worldwide) have faced similar issues at our own universities, and there does not seem to be a perfect answer. We simply call the problem to the attention of the department and ask them to address it with care.

We noted also that there do not seem to be enough upper level optional courses in speciality areas to satisfy student interests and demands, especially courses more closely aligned with humanistic psychology and psychotherapeutic practice. The demand for such courses might lessen if the department joins the natural sciences, and moves to Givat Ram, but will not disappear. It is not clear how a small department can satisfy such needs, given the limited number of courses that can be offered. The department could continue to rely on part-time faculty to satisfy such residual demand, or possibly the revant teaching could be carried out by relevant units remaining at the Mt. Scopus campus. On the other hand, a move to the natural sciences at Givat Ram might promote more upper level optional courses because such courses would better match both student and faculty interests.

Concluding Remarks

The committee would like to emphasize that we were very impressed by the excellence of the Psychology Department, the collegiality and collaborative spirit of the faculty members, and the industriousness of the students. The Department is a major asset to the Hebrew University, and we trust that the University will take all necessary steps to protect this asset.

Acknowledgments

We are grateful to President Menachem Magidor, Rector Haim Rabinowitch, Vice-Rector iri Gur-Arye, Prof. Jacob Metzer, Dean Boas Shamir, and Dean Hermona Soreq for the time and effort they spent in meeting with us and making our visit useful and fruitful.

We wish to extend special thanks to Frances Neumark, who escorrted us throughout our visit, kept us on schedule, made special arrangements that we requested at the last minute, and helped us enormously in every possible way.

Last but not least we wish to thank Professors Gary Borenstein, Ram Frost, Asher Cohen, Udi Shavit, and all the other dedicated members of the Department of Psychology who met with us, faculty who share a common and inspired vision of what Psychology should be, can be, and with luck, will be.

APPENDICES

APPENDIX A

RESUMES OF COMMITTEE MEMBERS

1. Prof. Richard Shiffrin, Indiana University, (Chair)
2. Prof. Susan Andersen, New York University
3. Prof. Anthony Greenwald, University of Washington
4. Prof. Michael McCloskey, Johns Hopkins University
5. Prof. Wolfgang Prinz, Max Planck Institute

Richard M. Shiffrin,
Distinguished Professor,
Indiana University, Psychological and Brain Sciences Department, Bloomington IN 47405

Professional Positions:

1968-1970: Assistant Professor of Psychology, Indiana University
1970-1971: Visiting Assistant Professor of Psychology, The Rockefeller University
1971-1973: Associate Professor of Psychology, Indiana University
1973-present: Professor of Psychology, Indiana University
1975-1976: Visiting Professor of Psychology, The Rockefeller University
1980-present: Luther Dana Waterman Professor. Indiana University
1988, Fall: Visiting Professor of Psychology, U. of Queensland, Brisbane, Australia
1994-1995: Visiting Professor of Psychology, University of Amsterdam, The Netherlands
2002-present: Distinguished Professor, Indiana University

Awards and Honors:

2007: William James Fellow Award, Association for Psychological Science
2006: Hermes Award, School of Informatics, Indiana University
2005: Member, American Philosophical Society
2004: American Psychological Association (APA) Distinguished Scientific Contribution Award.
2003: Fellow of the Cognitive Science Society
2002: Distinguished Professor, Indiana University
2002: The David E. Rumelhart Prize for Contributions to the Formal Analysis of Human Cognition, Gluschko-Samuelson Foundation
1999: Howard Crosby Warren Medal, Society of Experimental Psychologists
1997: Honorary Doctorate, University of Amsterdam
1996: Member, American Academy of Arts and Sciences
1996: Fellow, American Psychological Society
1995: Member, National Academy of Sciences
1996-99: Co-director, Alliance of Distinguished Rank Professors, Indiana University
1994-95: James McKeen Cattell Sabbatical Fellowship
1991-1994: Co-chair, Distinguished Rank Professors, Indiana University
1991-present Associate Director, Institute for the Study of Human Capabilities, Indiana University
1988-2006: Director, Cognitive Science Program, Indiana University
1987: Chairman, Governing Board, Psychonomic Society
1985: Chairman, Society for Mathematical Psychology
1983: Governing Board, Society for Mathematical Psychology
1982: Governing Board of the Psychonomic Society
1981: Society of Experimental Psychologists
1981-1984: Editor, *Journal of Experimental Psychology: Learning, Memory, and Cognition*
1980-present: Luther Dana Waterman Research Professor, Indiana University
1978: Advisory Council for the International Association for the Study of Attention and Performance
1977-present: Fellow of the American Association for the Advancement of Science
1975-1976: John Simon Guggenheim Fellowship

SELECTED PUBLICATIONS (chronological)

Atkinson, R. C., & Shiffrin, R. M. (1968). Human memory: A proposed system and its control processes. In K.W.Spence and J. T. Spence (Eds.), The Psychology of Learning and Motivation: Advances in Research and Theory (Vol. 2, pp. 89-195). New York: Academic Press.

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Director of Clinical Training, New York University, 1997
Associate Professor of Psychology, New York University, 1987-94
Assistant Professor of Psychology, University of California, Santa Barbara (Associate w/tenure '87), 1981-87

EDUCATION

University of California, Santa Cruz	B.A.	Psychology	1977
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HONORS AND AWARDS
Fellow, and Founding Member, American Psychological Society
Fellow, American Psychological Association
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Fellow, Society for the Psychological Study of Social Issues
Outstanding Faculty Award, Graduate Student Council, Graduate School of Arts and Science, NYU, 2006
Distinguished Teaching Medal, NYU, 1996-1997
Harold J. Plous Award, UCSB, an award for excellence in teaching, research, and service, 1986

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SELECTED EDITORIAL ACTIVITIES: GRANTING AGENCIES / SCIENTIFIC JOURNALS
Panel Member, Review Panel. Integrative Graduate Education and Research Training (IGERT), NSF, 2003
Regular Panel Member, Standing Review Panel. Social and Group Processes Committee, NIMH, 1992-94.
Associate Editor: Self and Identity (2004-); Psychological Review (1998-00); Journal of Personality and Social Psychology (1994-95); Social Cognition (1993); Journal of Social & Clinical Psych (1987-92)

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Andersen, S.M. (1984). Self-knowledge and social inference: II. The diagnosticity of cognitive/affective and behavioral data. Journal of Personality and Social Psychology, 46, 294-307.
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Zimbardo, P.G., Andersen, S.M. & Kabat, L.G. (1981). Induced hearing deficit generates experimental paranoia. Science, 212, 1529-1531.

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Positions

1959-63 Research assistantships with Richard L. Solomon, Richard Alpert, Elliot Aronson, Walter Mischel, (Harvard) and Frank Logan and Allan R. Wagner (Yale, Summer, 1960)
1963-65 USPHS Postdoctoral Research Fellow, Educational Testing Service, Princeton, NJ (Personality Research Group)
1965-86 Assistant to Associate (1967) to Full Professor (1971) of Psychology, Ohio State University
Misc. Visiting Scholar, Stanford University (1978-79); Yale University (1992-93); Radcliffe Institute for Advanced Study (2004-05)
1986- Professor of Psychology, University of Washington

Honors

1955-59 Yale University: Phi Beta Kappa, 1958; Scholar of the House, 1958-59
1959-63 Harvard Univ: Woodrow Wilson Graduate (1959-60) & Dissertation Year (1962-63) Fellowships
1995 Donald T. Campbell Award of Society of Personality and Social Psychology (1995)
1998 Elected Fellow, Society of Experimental Psychologists (1998)
2001 Thomas M. Ostrom Award, Person Memory Interest Group (2001)
2006 Distinguished Scientist Award, Society of Experimental Social Psychology
2007 Elected Member, American Academy of Arts and Sciences

Selected Editorial Duties

Editor, *Journal of Personality and Social Psychology*, 1977-79
Associate Editorships, *Journal of Personality and Social Psychology*, 1972-76; *Experimental Psychology*, 2001-present
Editorial Boards, *Journal of Experimental Social Psychology*, 1970-1981; *Journal of Personality and Social Psychology*, 1971-72; *Memory & Cognition*, 1972-1997, *Psychological Review*, 1985-1990; *Journal of Experimental Psychology: General*, 1990-1995 & 2002-2007; *Journal of Personality and Social Psychology: Attitudes and Social Cognition,* 1996-present; *Consciousness and Cognition*, 1998-present; *Psychological Science,* 1999-2007; *Perspectives on Psychological Science,* 2007-present.

Selected Peer-Reviewed Publications

Greenwald, A. G. (1968). Cognitive learning, cognitive response to persuasion, and attitude change. In A. G. Greenwald, T. C. Brock, and T. M. Ostrom (Eds.), *Psychological foundations of attitudes* (pp. 147-170). New York: Academic Press.
Greenwald, A. G. (1970). Sensory feedback mechanisms in performance control: With special reference to the ideomotor mechanism. *Psychological Review*, **77**, 73-99.
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Michael McCloskey
Professor of Cognitive Science, Neuroscience,
and Psychological and Brain Sciences

Emory University	BA	1975	Psychology
Princeton University	MA	1977	Psychology
Princeton University	PhD	1978	Psychology

A. Positions

Employment

1978-1983	Assistant Professor of Psychology, Johns Hopkins University
1983-1987	Associate Professor of Psychology, Johns Hopkins University
1987-	Professor of Psychology, Johns Hopkins University
1988-	Professor of Cognitive Science, Johns Hopkins University
1990-	Member, Zanvyl Krieger Mind-Brain Institute, Johns Hopkins University
1997-1998	Program Director, Human Cognition & Perception Program, National Science Foundation
1994-	Member, Center for History & Philosophy of Science, Johns Hopkins University
1994-1995	Acting Chair, Cognitive Science Department, Johns Hopkins University
1995-1997	Chair, Cognitive Science Department, Johns Hopkins University
1998	Chair, Knowledge & Distributed Intelligence Program, National Science Foundation
1999	Acting Chair, Cognitive Science Department, Johns Hopkins University
2001-	Professor of Neuroscience, Johns Hopkins University
2002-	Chair, Homewood IRB

Other Experience and Professional Memberships

1978-	Member, Psychonomic Society
1983-1988; 1994-1997	Consulting Editor, *Memory & Cognition*
1984-1989	Consulting Editor, *Journal of Experimental Psychology: General*
1984-1991	Consulting Editor, *Brain & Cognition*
1988-1991	National Science Foundation Human Cognition & Perception Panel Member
1989-1994	Consulting Editor, *Journal of Experiment al Psychology: Learning, Memory, & Cognition*
1991-1994	Consulting Editor, *Cognition*

1993-	Consulting Editor, *Cognitive Neuropsychology*
1994-2000	Consulting Editor, *Mathematical Cognition*
1995-	Member & Fellow, American Psychological Society

B. Selected peer-reviewed publications (in chronological order)

1. McCloskey, M., Caramazza, A., & Basili, A. (1985). Cognitive mechanisms in number-processing and calculation: Evidence from dyscalculia. *Brain and Cognition*, *4*, 171-196.
2. McCloskey, M., Sokol, S., & Goodman, R. (1986). Cognitive processes in verbal number production: Inferences from the performance of brain-damaged subjects. *Journal of Experimental Psychology: General*, *115*, 307-330.
3. Sokol, S., & McCloskey, M. (1988). Levels of representation in verbal number production. *Applied Psycholinguistics*, *9*, 267-281.
4. Caramazza, A., & McCloskey, M. (1988). The case for single-patient studies. *Cognitive Neuropsychology*, *5*, 517-528.
5. McCloskey, M., & Caramazza, A. (1988). Theory and methodology in cognitive neuropsychology: A response to our critics. *Cognitive Neuropsychology*, *5*, 583-623.
6. Sokol, S. M., McCloskey, M., Cohen, N. J., & Aliminosa, D. (1991). Cognitive representations and processes in arithmetic: Inferences from the performance of brain-damaged patients. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, *17*, 355-376.
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8. McCloskey, M., Aliminosa, D., & Sokol, S. M. (1991). Facts, rules, and procedures in normal calculation: Evidence from multiple single-patient studies of impaired arithmetic fact retrieval. *Brain and Cognition*, *17*, 154-203.
9. McCloskey, M., Aliminosa, D., & Macaruso, P. (1991). Theory-based assessment of acquired dyscalculia. *Brain and Cognition*, *17*, 285-308.
10. McCloskey, M. (1992). Cognitive mechanisms in numerical processing: Evidence from acquired dyscalculia. *Cognition*, *44*, 107-157.
11. Dagenbach, D., & McCloskey, M. (1992). The organization of arithmetic facts in memory: Evidence from a brain-damaged patient. *Brain and Cognition*, *20*, 345-366.
12. Aliminosa, D., McCloskey, M., Goodman-Schulman, R., & Sokol, S. M. (1993). Remediation of acquired dysgraphia as a technique for testing interpretations of deficits. *Aphasiology*, *7*, 55-69.
13. Macaruso, P., McCloskey, M., & Aliminosa, D. (1993). The functional architecture of the cognitive numerical-processing system: Evidence from a patient with multiple impairments. *Cognitive Neuropsychology*, *10*, 341-376.
14. McCloskey, M., Badecker, W., Goodman-Schulman, R. A., & Aliminosa, D. (1994). The structure of graphemic representations in spelling: Evidence from a case of acquired dysgraphia. *Cognitive Neuropsychology*, *11*, 341-392.
15. McCloskey, M., & Macaruso, P. (1994). Architecture of cognitive numerical processing mechanisms: Contrasting perspectives on theory development and evaluation. *Cahiers de Psychologie Cognitive*, *13*, 275-295.
16. McCloskey, M., Rapp, B., Yantis, S., Rubin, G., Bacon, W. F., Dagnelie, G., Gordon, B., Aliminosa, D., Boatman, D. F., Badecker, W., Johnson, D. N., Tusa, R. J., & Palmer, E. (1995). A developmental deficit in localizing objects from vision. *Psychological Science*, *6*, 112-117.

17. McCloskey, M., & Macaruso, P. (1995). Representing and using numerical information. *American Psychologist*, *50*, 351-363.
18. McCloskey, M., & Palmer, E. (1996). Visual representation of object location: Insights from localization impairments. *Current Directions in Psychological Science*, *5*, 25-28.
19. Whalen, J., McCloskey, M., Lesser, R. P., & Gordon, B. (1997). Localizing arithmetic processes in the brain: Evidence from a transient deficit during cortical stimulation. *Journal of Cognitive Neuroscience*, *9*, 409-417.
20. McCloskey, M., & Rapp, B. (2000). Attention-referenced visual representations: Evidence from impaired visual localization. *Journal of Experimental Psychology: Human Perception and Performance*, *26*, 917-933.
21. McCloskey, M., & Rapp, B. (2000). A visually-based developmental reading deficit. *Journal of Memory and Language*, *43*, 157-181.
22. Whalen, J., McCloskey, M., Lindemann, M., & Bouton, G. (2002). Representing arithmetic table facts in memory: Evidence from acquired impairments. *Cognitive Neuropsychology*, *19*, 505-522.
23. McCloskey, M. (2003). Beyond task dissociation logic: A richer conception of cognitive neuropsychology. *Cortex*, *39*, 196-202.
24. McCloskey, M. (2004). Spatial representations and multiple-visual-systems hypotheses: evidence from a developmental deficit in visual location and orientation processing. *Cortex*, *40*, 677-694.
25. McCloskey, M., Macaruso, P., & Rapp, B. (2006). Grapheme-to-lexeme feedback in the spelling system: Evidence from a dysgraphic patient. *Cognitive Neuropsychology*, *23*, 278-307.
26. McCloskey, M., Valtonen, J., & Sherman, J. (2006). Representing orientation: A coordinate-system hypothesis, and evidence from developmental deficits. *Cognitive Neuropsychology, 23*, 680-713.
27. Dilks, D. D., Serences, J. T., Rosenau, B. J., Yantis, S., & McCloskey, M. (2007). Human cortical reorganization and consequent visual distortion. *Journal of Neuroscience*, *27*, 9585-9594.

Curriculum Vitae
Prof. Dr. Wofgang Prinz

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Education

1962 - 1966	Psychology, Philosophy, and Zoology (University of Munster, Germany)
1966	Diploma in Psychology (University of Munster, Germany)
1970	PhD at the School of Philosophy, Pedagogy, and Psychology (Ruhr University Bochum, Germany)

Professional Experience

1966 - 1970	Research Assistant at the Chair of Cognitive Psychology (Department of Psychology, Ruhr University Bochum, Germany)
1970 - 1974	Senior Researcher at the Department of Psychology (Ruhr University Bochum, Germany)
1974 - 1975	Interim Professor of Psychology of Learning (University of Essen, Germany)
1975 - 1990	Professor of Experimental Psychology (University of Bielefeld, Germany)
1976 - 1977	Dean of the Faculty of Pedagogy, Philosophy, and Psychology (University of Bielefeld, Germany)
1982 - 1989	Research Director at the Centre for Interdisciplinary Research (University of Bielefeld, Germany)
1990 - 1998	Professor of Psychology and Philosophy (Ludwig Maximilian University of Munich, Germany)
1990 - 1998	Director at the Max Planck Institute for Psychological Research, Munich, Germany
1997 - 2000	Head of the Humanities Section of the Max Planck Society
since 2004	Director at the Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig (merged from the Max Planck Institute of Cognitive Neuroscience, Leipzig, and the Max Planck Institute for Psychological Research, Munich)

Membership in Research Councils and Societies

Academia Europea; Scientific Advisory Board of the Centre for Interdisciplinary Research (ZiF), University of Bielefeld; German Academy of Natural Scientist Leopoldina, Halle (Saale); Scientific Advisory Board of the European Society of Psychology (ESCoP); Psychonomic Society; German Society of Psychology

Awards

1993 Gottfried Wilhelm Leibniz Award of the German Research Foundation (DFG)

APPENDIX B

List of People who Met with the Committee

The President, Prof. Menachem Magidor
The Rector, Prof. Haim Rabinowitch
The Vice-Rector, Prof. Miri Gur-Arye

Head of Academic Review for the Humanities, Prof. Jacob Metzer

Dean of the Faculty of Social Sciences, Prof. Boas Shamir
Dean of the Faculty of Sciences, Prof. Hermona Soreq

Head of the Depart of Psychology, Prof. Gary Borenstein
Evaluation Team, Prof. Ram Frost, Prof. Asher Cohen, Prof. Udi Shavit

Senior & Emeriti Faculty:
Prof. Merav Ahissar, Prof. Gershon Ben-Shakhar, Prof. Shlomo Bentin, Prof. Yoram Bilu, Prof. Richard Ebstein, Prof. Shalom Schwartz, Prof. Benny Shanon, Prof. Yaacov Shul, Prof. Nurit Yirmiya, Prof. Raz Yirmiya

Junior Faculty:
Dr. Ran Hassin, Prof. Jonathan Huppert, Dr. Ariel Knafo, Dr. Anat Maril, Dr. Yuval Yiftach

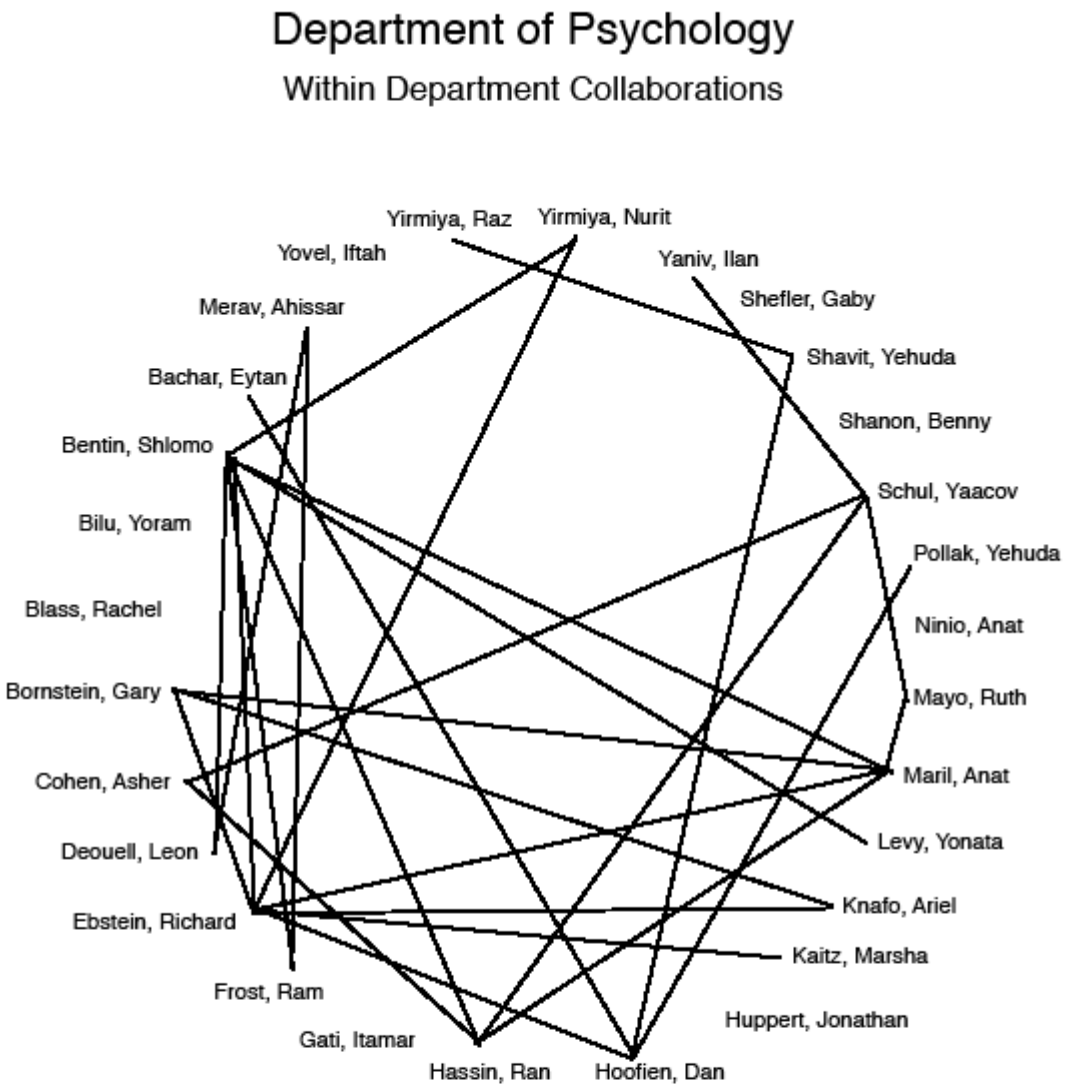
Clinicians:
Dr. Dan Hoofien, Dr. Yehuda Pollak, Prof. Gaby Shefler

Outside Teachers:
Dr. Anat Ben Simon, Dr. Shai Shoham

Development/Steering Committee:
Prof. Ilan Yaniv, Dr. Eitan Bachar, Dr. Leon Deouell

Faculty from the Faculty of Science/Medicine:
Prof. Shaul Hochstein, Prof. Yisrael Nelkin, Prof. Michael Tal, Prof. Sergiu Hart, Prof. Michael Brandeis
BA Students - 9
MA Students - 6
PhD Students - 6

Appendix C


Department of Psychology
Within Department Collaborations
Yirmiya, Raz
Yirmiya, Nurit
Yovel, Iftah
Yaniv, Ilan
Merav, Ahissar
Shefler, Gaby
Shavit, Yehuda
Bachar, Eytan
Shanon, Benny
Bentin, Shlomo
Schul, Yaacov
Bilu, Yoram
Pollak, Yehuda
Blass, Rachel
Ninio, Anat
Bornstein, Gary
Mayo, Ruth
Maril, Anat
Cohen, Asher
Levy, Yonata
Deouell, Leon
Knafo, Ariel
Ebstein, Richard
Kaitz, Marsha
Frost, Ram
Huppert, Jonathan
Gati, Itamar
Hassin, Ran
Hoofien, Dan

Appendix D

Report on the status of the infrastructure of the Department of Psychology at the Hebrew University compared with psychology departments at other universities in Israel:

In the past, the research and teaching facilities at the Hebrew University were considered modest, yet comparable to those available in other universities in Israel. However, significant changes have recently taken place that worsen our position at the Hebrew University as other universities are in the process of upgrading the infrastructure of their psychology departments.

At Bar-Ilan University a new spacious building was recently opened to serve the Brain Research Center, which houses laboratories and offices of relevant psychology faculty member. Also the psychology department in BIU is housed in a newer and better-equipped building.

At Ben-Gurion University, a large new building is in the process of being built these days for the psychology department. Any visitor to the BG campus would be immediately impressed with this new construction which is due to open in the near future. Also, at BGU an animal facility has recently opened for faculty members of the psychology department.

Haifa University has completed the construction of the social science building, including much improved space for the psychology department, and a large space for the "information-processing and decision making research lab."

There are glaring differences between us and other institutions also in terms of teaching facilities, including media presentation, equipment, furniture, and air condition. The lecture rooms in these other universities supersede the means available to us here at the social sciences. The Hebrew University has upgraded the lecture halls adjacent to the school of business administration (block 1), whereas the rest of the lecture halls in the social science area (wings 2-7) are mostly in very poor shape, comparatively speaking.

It appears that within a couple of years, the disparity between the facilities at the Hebrew University and those available in three other major research universities in Israel will be very apparent to prospective undergraduate and graduate students and new faculty members, a fact that would jeopardize our hiring and research positions.

Appendix E

Department of Psychology

Collaborations with Faculty of Science (Givat Ram)

Faculty member	Collaboration with Department
Ahissar, Merav	Udi Zohari Neurobiology
Ahissar, Merav	Shaul Hochstein Neurobiology
Ahissar, Merav	Tali Tishbi Computer Sciences
Ahissar, Merav	Yonathan Lowenstein Neurobiology
Ahissar, Merav	Israel Nelken Neurobiology
Bentin, Shlomo	Shaul Hochstein Neurobiology
Deouell, Leon	Shaul Hochstein Neurobiology
Ebstein, Richard	Hermona Soreq Biological Chemistry
Ebstein, Richard	Ariel Darvasi Genetics
Ninio, Anat	Sorin Solomon Physics
Shavit, Yehuda	Hermona Soreq Biological Chemistry
Yirmiya, Raz	Hermona Soreq Biological Chemistry

Collaborations with Faculty of Medicine (Hadassah)

Ebstein, Richard	Roland Chisin Nuclear Medicine
Ebstein, Richard	David Lichstein Physiology
Frost, Ram	Gadi Goelman Nuclear Medicine
Knafo, Ariel	David Mankuta Ob & Gyn
Pollak, Yehuda	Bernard Lerer Psychiatry
Pollak, Yehuda	Yoav Kohn Psychiatry
Shavit, Yehuda	Michael Tal Dental Medicine
Shavit, Yehuda	Menachem Hanani Surgery & Physiology
Yirmiya, Nurit	David Mankuta Ob & Gyn
Yirmiya, Nurit	Shlomit Levy Child Psychiatry
Yirmiya, Raz	Tamir Ben Hur Neurology
Yirmiya, Raz	Haim Ovadia Neurology
Yirmiya, Raz	Itai Bab Dental Medicine
Yirmiya, Raz	Esther Shohami Pharmacology
Yirmiya, Raz	Michael Tal Dental Medicine
Yirmiya, Raz	David Lichstein Physiology
Yirmiya, Raz	Ephrat Lahad-Levi Medical Genetics

Appendix F

Departmental Self Evaluation
(under separate cover)