

Max Wertheimer MINERVA Center for Cognitive Processes and Human Performance

Report of the Seventh Advisory Council Meeting Haifa, February 24 – 26, 2008

The Seventh Advisory Council Meeting started on Sunday, February 24, 2008, with a scientific colloquium at the University of Haifa. During this colloquium, the principal investigators (PIs) from University of Haifa provided a review of their research areas, each review followed by a presentation of a doctoral student or a post-doctoral member of their group. In addition, a presentation was provided by Dr. Yaffa Yershurun who has recently joined the group of PIs from the University of Haifa. A second, and with respect to the format, equivalent symposium was held on Monday, February 25, 2008 at the Technion. During this colloquium, several doctoral students of the Technion presented their work based on introductions by the PIs. Both symposia were supplemented by lab visits and additional brief presentations of research projects provided by PIs, doctoral and post-doctoral students, or graduate students supported by the Center. On February 24 the members of the Council also met with the Vice-President for Research of the University of Haifa, Prof. Majid Al-Haj, in order to discuss the current situation of the Center and to identify possible options for additional financial support of the Center needed to replace parts of their computers and experimental equipment. The Council's formal meeting took place on Tuesday morning, February 26, 2008.

The three German members of the Council, i.e.

- **Pienie Zwitserlood** (Institute of Psychology, University of Münster),
- **Reinhold Kliegl** (Institute of Psychology, University of Potsdam),
- **Dietrich Manzey** (Department of Psychology and Ergonomics, Berlin Institute of Technology), participated in both symposia, the lab visits and the formal meeting.

Due to teaching obligations, the three Israeli members could not attend all the different activities. **Yaakov Kareev** (School of Education, Hebrew University of Jerusalem) attended the two symposia and lab visits but was not able to participate in the formal meeting. His comments and advices were provided separately to the chair of the Council. **Arie Melnik** (Dept. of Economics, University of Haifa) participated in the symposium and lab visit at the University of Haifa, as well as in the formal meeting. **Hillel Pratt** (Dept. of Behavioral Biology, Technion) participated in part of the colloquium and the lab visits at the University of Haifa, the symposium at the Technion, and the formal meeting.

This report is based on the Center's Report of Activities 10/2005 – 09/2007, including the fiscal report and the budget proposals. On the basis of this information as well as on extensive discussions with all principal investigators (Prof. Ido Erev, Dr. Morris Goldsmith, Prof. Ruth Kimchi, Prof. Joel Norman, Dr. Eldad Yechiam, Dr. Yaffa Yershurun) and the two directors of the Center (Prof. Asher Koriat, Prof. Daniel Gopher), the Council agreed on the following conclusions.

1.

As in the previous years, the scientific work at the Max Wertheimer Minerva Center was evaluated as being excellent and highly productive. Over the years of its existence, the Center has gained a high international reputation for its basic and applied research in Cognition and Human Performance. During the past two years it has continued to provide major contributions to this area. The Council is particularly impressed by the way the Center successfully combines high scientific productivity with a high level of quality of research. This becomes directly evident from the actual report of activities which again lists a high number of conference presentations and publications in highly prestigious international journals. It is also reflected in the quantity of additional funds which could be raised by the PIs of the Center over the last two years, and which also prove the scientific quality of the Center. Based on this impressive balance of scientific activities there can be no doubt that fund(s) allocated to the Center have again been used in a most efficient, appropriate and productive way.

As in the past years, the sub-center at Haifa University is focused on research on attention, perception, and memory with an emphasis more on basic than on applied research. Conversely, the sub-center at the Technion focuses on information processing and decision making, with an emphasis on theoretically-guided human factors research. Although the different research profiles certainly involve different theoretical and methodological approaches, the research of both sub-centers can be regarded as excellent by any scientific criteria. In addition, the programmatic focus on Cognition and Human Performance is clearly visible in the different projects pursued at the two sub-centers. Compared to the last report period, the list of projects has even been enlarged by three new projects. It now includes a total of 13 projects, each of which is directed by one or two PIs of the Center, sometimes also in cooperation with post-doc members. The topics, principal investigators and affiliations of the projects are:

- (1) *Monitoring of one's own knowledge during study* (PI: Asher Koriat, Haifa University)
- (2) *Structural precedence in reading* (PIs: Asher Koriat, Hamutal Kreiner, Haifa University,)
- (3) *Monitoring of control processes in memory* (PIs: Asher Koriat, Morris Goldsmith, Haifa University)
- (4) *Human perceptual organization* (PI: Ruth Kimchi, Haifa University)
- (5) *Configural processing in face perception* (PI: Ruth Kimchi, Rama Amishav, Haifa University)

- (6) *The implications of the two visual systems concept to perception and action* (PI: Joel Norman, Haifa University)
- (7) *Inter- and intra-modal perception of congruity* (PIs: Yaron Alima, Ruth Kimchi, Haifa University)
- (8) *The control of visual attention to objects and space: A dynamic interactive framework* (PIs: Morris Goldsmith, Meni Yeari, Haifa University)
- (9) *Visual spatial attention* (PI: Yaffa Yershurun, Haifa University)
- (10) *Control processes in human processing and response* (PI: Daniel Gopher, Technion)
- (11) *The psychology of small decisions* (PI: Ido Erev, Technion)
- (12) *Individual differences and decision style* (PI: Eldad Yechiam, Technion)
- (13) *SKILLS-Integrated project: multi-modal interfaces for capturing and transfer of skill* (PIs: Daniel Gopher, Ido Erev, Technion)

Projects #9, 12, and 13 have been added to the Center in the last two years. Project #9 is led by Dr. Yaffa Yershurun who has joined the Center as a new PI. The Council is particularly pleased with this development. The presentation provided by Dr. Yershurun at the colloquium, as well as her impressive record of publications prove the excellence of her research in the area of spatial attention. Her membership certainly will contribute to further increasing the scientific reputation of the Center. The projects #12 and 13 are closely related to former activities of the Center and can be regarded as continuations of successful lines of research of the Center. Dr. Yechiam has joined the Center as PI already in 2005. Similar to Dr. Yershurun he represents the “young generation” of PIs within the Center. His new project combines decision research with research on individual differences which seems to be a promising approach for a better understanding of individual decision making. Project #13 directly represents a continuation of the earlier research of Dr. Gopher on the “training and transfer of skills”. It has been incorporated to the Center’s activity as a substantial part of an EU project, and contributes to further strengthening the cooperation of the Center with German and other international cooperation partners.

The written report and the scientific presentations at the colloquia showed impressively that all of the different projects are well under way, and that a number of plans exist for future developments. The Council is convinced that the Center will continue to be a highly prestigious member of the scientific community in the different areas of its activities.

2.

Common to all projects of the Center is that they incorporate as active members young scientists who make substantial contributions not only to research but also to publications documenting this research. The Council was pleased that this was also reflected in the number of scientific presentations provided by doctoral students of the Center at the two colloquia. In addition, the general research atmosphere in both sub-centers again was found to be very motivating and

stimulating. The open and very cooperative relationship between the different members of the Center (PIs, post-docs, doctoral students, master students) in both places demonstrates that the senior researchers of the Center put much effort in educating and coaching young scientists to become successful members of the scientific community. The high quality of presentations provided by post-docs, doctoral and graduate students at the two colloquia clearly indicate the success of this effort.

3.

As in previous years, the researchers of the Center were very successful in acquiring grant money from other sources, including the Israel Science Foundation (ISF), the US Bi-National Science Foundation (BSF), the German-Israeli Foundation for Scientific Research and Development (GIF), and grants from the European Commission's 6th Framework Program (FP6). This impressively attests that the Minerva fund not only is used for direct support of research projects (e.g. funding of PhD students) but also as seed money for new projects and the acquisition of grant money from third parties. It is remarkable that the majority of new grants includes international cooperations. Of particular significance in this respect are the grants from GIF and FP6 because both have established new lines of cooperation between researchers of the Center and partners in Germany.

4.

The Advisory Council was pleased with the format in which the overview of research activities was given in the written report, the oral presentations, and the lab presentations. Yet, the higher number of projects included in the Center might make it more difficult in the future to clearly perceive the programmatic profile of the Center's activities. For future reports it is suggested to cluster the different projects under four to five more general topics. This may also help in better identifying the thematic links between different groups of projects.

5.

Having two sub-centers at Haifa University and Technion, respectively, it is very important for the Center to actively support interactions between the members of both sub-centers. The Council appreciates that several initiatives have been made over the past four years to better institutionalize this kind of interaction. Examples are the *Joint University of Haifa – Technion Minerva Workshops*, joint seminars and a joint lecture series (*Minerva lectures*). However, as becomes evident from the report, not all of these activities really were successful in supporting the desired interaction. Also, the list of publications only includes few that are co-authored by members of the different sub-centers. To some extent this is quite understandable, given the different topics of research at both Centers. Yet, the Council still sees the need to further strengthen the links between both sub-centers in order to keep a common corporate identity with the Max Wertheimer Center. This specifically holds for improving contacts between the graduate and doctoral students actively involved in the Center's activities. Although these students work on different projects with

different foci of research, they certainly can benefit from an exchange of ideas with each other as well as from joint discussions. Moreover, such contacts could strengthen the unique potential of the Center to bring together young scientists who are involved in basic and applied research projects.

In the last report, the Council already raised the idea to institutionalize some kind of annual “student retreat” somewhere outside of Haifa, where the students report about their projects and the progress made. Senior scientists of the Center may attend the retreat as discussion partners and coaches. This was seen as a good means to increase the informal interactions between young scientists of both sub-centers and to increase the common corporate identity with the Center as a whole. The recommendation to organize this kind of retreat is now reiterated by the Council. The Council is well aware that for the organization of such event an effort has to be made and financial resources provided. Yet, the Council would like to encourage the directors of the Center to give such event at least a try. The organization of the retreat could be given in the hands of the students of the Center. The financial resources needed for such an event might be affordable depending on the choice of location and duration of the retreat.

6.

In both places office and lab space is available for (and explicitly dedicated to) Minerva-sponsored research activities. Yet, given the fact that the Center now exists for fourteen years, most of the original computer and experimental equipment urgently needs to be replaced, in order to provide state-of-the-art research technology. This has been stated already in the last two reports of the Advisory Council and is reiterated in this report. In accordance with this perceived need the directors of the Center already had submitted a request for extra funding to the Minerva Foundation in 2005. However, this request was declined. A renewal of this request was submitted this year but was again declined. The Council has thoroughly discussed the current situation with the directors of the Center and is convinced that the request for replacement of information technology and experimental equipment as described in this year’s request is well justified. Furthermore, it is clear that the costs for a replacement of technology are beyond the capabilities of the home institutions. The Council is seriously concerned that the highly successful Max Wertheimer Center might lose some of its strength in the near future if no extra funds can be made available for updating the technological infrastructure. This was also the central topic of a meeting between the members of the Advisory Council and the Vice-President for Research of the University of Haifa. During this meeting the vice-president mentioned that there is some Minerva money available at Haifa University from an endowment which got “frozen” three years ago, after the closure of another Minerva Center at the University. The Council is well aware that this endowment probably cannot be used to provide some extra money for the Max Wertheimer Center. Yet, the possibility was discussed whether it would be possible to dedicate at least the yet unused accumulated increment from this endowment for this purpose. The members of the

Advisory Council requested the chair of the Council to send a separate letter together with this report to the Minerva Foundation in order to propose such a solution.

7.

At first sight, the report gave the impression that the number of current scientific contacts between researchers of the Center and researchers of German institutions has declined. This was raised as an issue in the discussion with the directors of the Center. However, during that discussion it became evident that the Center has continued cooperation with German institutions and research partners at an almost unchanged level. Ongoing projects involve contacts with researchers from different German universities (e.g. Heidelberg, Mannheim, Würzburg), the Max Planck Institute Berlin, and German large-scale research facilities (e.g. DLR, Fraunhofer). Whereas the contacts to Universities and the Max Planck Institute represent a continuation of former activities, the contacts to DLR and Fraunhofer have been established through participation of Technion (Prof. Gopher) in the FP6 SKILLS project. Furthermore, the directors of the Center assured that all PIs of the Max Wertheimer Center will continue their efforts to extend research contacts with Germany. The Council recommends the directors of the Center to make these activities of Israeli-German cooperation more salient in future reports, e.g. by summarizing it in a special section.

8.

At the meeting of the Council in 2004 the researchers of the Minerva Center had agreed to organize a winter school for graduate students from both Israel and Germany, and this idea was reinforced by the Council during the previous meeting in 2006. This plan has not been realized yet and the Council has again discussed it with the directors of the Center. In this discussion it became evident that the directors no longer would like to commit themselves to such an activity, mainly with respect to the great effort needed to organize such a winter school. The Council understands this position and agrees that the organization of an international winter school probably would overload the members of the Center, who already are involved in a number of extra-activities beside their main work. As a consequence, it was mutually agreed to take this idea off the future agenda of the Center. Instead, student retreats, as proposed above, could be open to participation of overseas, and particularly German students and PIs.

9.

Given the Center's excellent condition, the Council concluded that its next meeting at Haifa should be scheduled for spring 2010, preferably the second half of February. The Advisory Council and the members of the Center agreed that a full report will be provided by the beginning of 2010 just before the next site visit of the Council.

10.

The Advisory Council took the following formal decisions:

- The Report of Activities 1/10/2005 – 30/09/2007 is fully approved (for evaluation of scientific activities, see above).
- The Fiscal Report for the period 1/10/2006 – 30/09/2007 is fully approved (pp. 99, 100 of the report).
- The Budget Proposal for 2007-2008 is fully approved (pp. 101-102 of the report).
- The Budget Proposal for 2008-2009 (see attachment to this report) is fully approved
- The upcoming fiscal report 1/10/2007 – 30/9/2009 shall be approved on a written basis in due time.

These decisions were taken in accordance with all Council members who participated in the Council meeting.

11.

The Advisory Council gave its unanimous consent to this report.

Berlin, 30/03/08

A handwritten signature in black ink, appearing to read 'Dietrich Manzey', written in a cursive style.

Prof. Dr. Dietrich Manzey