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Max Wertheimer MINERVA Center for Cognitive Processes and Human Performance

Report of the Fifth Advisory Board Meeting Haifa, March 7 – 9, 2004

The Fifth Advisory Board Meeting started on Sunday, March 9, 2004 with a three hour open discussion between the Advisory Board members and the Minerva researches. This meeting addressed the points raised in the report of the review committee of November 8, 2003, which were partly reiterated in the letter of Mr. Kahle from the Minerva Foundation, Munich, of January 9, 2009. The meeting continued with a scientific colloquium on Monday in which current research projects were presented by young scientists supported by the Minerva Center. These presentations were supplemented by laboratory visits of the Advisory Board members on Tuesday. The Advisory Board's formal meeting took place on Monday afternoon.

Participants at the Advisory Board's formal meeting were: Aaron Ben-Zeev, Joachim Hoffmann, Wolfgang Prinz, Frank Rösler and Dan Zakay. Peretz Lavie could not attend due to being abroad. This report is based on the Center's Overall Report of Activities 10/1997 – 09/2002, i.e. the document which was the basis of the reviewing process for deciding on a continuation of the Center, and on the Center's Supplement Report of Activities 10/2003 – 09/2003. On the basis of this information as well as on extensive discussions with the two directors of the Center (Prof. Asher Koriat, Prof. Daniel Gopher) and all other principal investigators (Prof. Ido Erev, Dr. Morris Goldsmith, Prof. Ruth Kimchi, Prof. Joel Norman), the Advisory Board agreed on the following conclusions:

1.

The scientific work at the Max Wertheimer Minerva Center is excellent and contributes to many facets of basic and applied research in Cognition and Human Performance. The Advisory Board shares the opinion of the reviewing board that the Center is a major international player in these areas of research. This is not only documented by the extensive work done during the first six years which is summarized in the overall Report of Activities but also by the Supplementary Report of the activities of the last year. The Supplementary Report lists many core achievements of the Center, as intensification of collaborations with German partners and partners in other European countries, a number of successful grant acquisitions and submitted grant proposals. The report further lists a large number of conference contributions and of full papers in highly prestigious international journals which were contributed by the members of the Center and which document its impressive output. The Advisory Board was very enthusiastic about the international standing of the Center and how the funds allocated to it are used in a most efficient and appropriate way.

As outlined in the overall report, the Center currently pursues and plans to continue in the future research on 8 topics. Some of these are projects guided by one PI, others are joint projects guided by two PIs of the Minerva Center thus integrating mutual research interests. All projects incorporate younger scientists as active members which make substantial contributions and which also act as first authors in some of the already finished and further planned publications. The topics, principal investigators (PIs) and affiliations of the projects are:

- Monitoring and control processes in learning and memory (PIs: Prof. Asher Koriat, Dr. Morris Goldsmith, Haifa University)
- Basic processes in human perceptual organization (PI: Prof. Ruth Kimchi, Haifa University)
- The implications of the two visual systems concept to perception and action (PI Prof. Joel Norman, Haifa University)
- Inter- and intra-modal perception of congruity (PIs: Dr. Yaron Alima, Prof. Ruth Kimchi, Prof. Joel Norman)
- Structural precedence in reading (PIs: Prof. Asher Koriat, Dr. Hamutal Kreiner, Haifa University)
- Control processes in human processing and response (Prof. Daniel Gopher, Technion)

- Small decisions and learning among cognitive strategies (Prof. Ido Erev, Technion)
- Training and learning among cognitive strategies (Prof. Ido Erev, Technion)

The Supplementary Report shows that these projects which were outlined in detail in the Overall Report are well under way. First experiments have been completed in the past year and some of the results have already been prepared for publications and conference presentations. As before, the subcenter at Haifa University concentrates on perception and memory, with an emphasis of basic over applied research. In contrast, the subcenter at the Technion focuses on information processing and decision making, with an emphasis of theoretically guided applied research. Thus, the Max Wertheimer Center is in its essence combining two influential Centers, one at the University of Haifa and one at the Technion. Though they are different in profile, they are both excellent by any scientific criteria. They both have a clear focus on basic aspects of human cognition and performance.

2.

As on previous visits, the Advisory Board noted that there is an excellent research atmosphere in both places. The Advisory Board members found students and post-docs enthusiastic about their work and competent in both defending their work against criticism and still taking up suggestions for further improvement. In both places there appears to be an open and intellectually stimulating atmosphere, providing ideal training opportunities for young students.

The Advisory Board concluded that the Max Wertheimer Center is a first-rate place not only for research, but also for educating young people in this endeavor. This aspect of the Center was also stressed in the open discussion between the Advisory Board members and the researchers. The researchers of the Center understand part of their mission as the providing of an optimal basis for educating students in their masters and graduate phase as well as to give young scientists additional training in their post-doc phase. The researchers also think that for this achievement it is an advantage that the Center does not focus on a narrow topic of research, as it might be the case in other Minerva Centers, but rather that a broader perspective of both basic and applied research topics can be offered to the students and young scientists.

3.

The Advisory Board was pleased with the format in which the overview of research activities was

given in both written report and oral presentations. Different to previous meetings of the Advisory Board all of the oral presentations were given this time by the young scientists which are involved in the various projects. This proved very convincingly the policy of the Center (mentioned above in 2.) that research should always be used also for academic training purposes. The Advisory Board was impressed by the high and professional standard of the presentations, the in-depth knowledge of the young scientists and the students which participated in the discussions and in the lab presentations. As before and as also acknowledged by the reviewing committee the written report was well-structured in its format and comprehensive in contents.

4.

In both places lab space is available for (and explicitly dedicated to) Minerva-sponsored research activities. At Haifa University some additional lab space could be added recently in close neighborhood to the main part of the Center for housing new equipment to be used for research in visual perception and action.

As in previous years, Minerva funds are used in two ways: for direct support of ongoing projects (with a strong component of financing PhD students) and for seed money for preliminary work on projects for which additional money is attracted. As the reports show the Center was highly successful in acquiring additional grant money to continue research which was originally started on the basis of Minerva funds but which is now pursued on a larger scale. Among others the Center was able to win a DIP grant for research on metacognition which will also intensify the cooperation between members of the Center and partners in Germany.

Other grant applications were successful at the Israel Science Foundation, the USIsrael Binational Foundation, and the European Commission 5th Program. These resources allowed to enlarge the groups of graduate students and post-docs. As a consequence, both places have clearly reached, and exceeded, the critical minimum of mass for productive scientific interaction.

5.

The Center has continued and increased the contact with German institutions and research partners. The DIP grant involves cooperation with five PIs in Germany located at 4 places (Mannheim, Heidelberg, Würzburg, and Erfurt). Another submitted grant proposal for a GIF

project will start, if successful, collaborative work between the Center and the Psychological Department at the University of Frankfurt/Main. Moreover there were several visits of Center members in Germany and one longer stay of a young German Scientist at the Technion working together with Prof. Gopher and Prof. Erev.

In discussing future plans and the points raised by the reviewing committee the researchers of the Center agreed on planning a winter school in 2007 which should be open for graduate students from both Israel and Germany. The school will focus on one of the topics pursued by the Center. Members of the Center as well as additional researchers from Israel and Germany shall be recruited as teaching staff and the school shall be advertised in both countries. It is expected that this enterprise will not only intensify the contact between young scientists from both nations. It will also increase the visibility of the Center which will go clearly beyond the normal accomplishments as they can be achieved by publications and conference presentations. The winter school should advertise the message to younger scientists and students that the Max Wertheimer Center is an excellent and outstanding place for research in basic and applied cognitive science.

The Advisory Board and the researchers of the Center understand that an exchange of graduate students from Israel with German labs is not easy to achieve. However, as many labs in Germany went international in the meantime, i.e. they mostly publish in English and have many contacts to US institutions, it should no longer be a problem for Israeli students to join a German group for some time. It will no longer be necessary to study German for such a short or medium term visit because the communication can be in English. The principal investigators at the Max Wertheimer Center will continue their efforts to extend research contacts with Germany. Moreover by updating and extending the web page of the Center the activities will be made more visible to interested German partner institutions and scientists such that they can plan short term visits and cooperative projects as well.

6.

Given the Center's excellent condition, and the extremely positive evaluation by the reviewing committee, the Advisory Board concluded that its next meeting at Haifa should be scheduled for spring 2007, preferably the second half of February. It is planned to combine the meeting of the

Advisory Board with the planned winter school such that the Advisory Board members can possibly attend some of the sessions of the school. The Advisory Board and the members of the Center agreed that a short written account of the achievements of the Center should be sent to the members of the Board after 18 months, i.e. around September 2005. A full report will be provided by the beginning of 2007 just before the next site visit of the Board. It would be desirable to hold that meeting in a similar format as the present one.

7.

As already outlined in the paragraphs above, the Center has started to act constructively on the comments of the reviewing committee. The specific actions will be summarized in a letter of the directors of the Center attached to this report and to be sent directly to the Minerva Foundation, Munich. The Board supports unanimously the position of the directors and of the PIs of the Center that there is already a clear focus on basic and applied research in cognition and human performance. The fact that there is not only one common topic but rather a broader approach which addresses the four major fields

- learning and memory
- perception and action
- control processes in human performance
- decision making

and which are pursued with a variety of methods is seen as an advantage rather than a disadvantage.

It provides excellent conditions for teaching students experimental methods and indepth knowledge and it also contributes to the visibility of the Center, as the PIs and students are presenting their work in different subsections or contexts of the scientific community (different conferences and journals).

With respect to developing new focal areas of research the Center will start a common seminar which will bring together graduate students from Haifa University and from the Technion on a regular (possibly monthly) basis such that members from both subcenters can obtain better knowledge about possible mutual research interests. The Board and the members of the Center are convinced that by this approach new research questions will develop quite naturally.

Visibility of the Center, the suggestion of organizing an international conference, and the request

to establish a stronger collaboration were addressed above. As outlined, the Board is convinced that the planned winter school will satisfy all three requests. In particular it will promote the visibility of the Center and the basis for collaborative work between Israeli and German scientists.

8.

The Advisory Board agreed on the following formal decisions:

- The Report of Activities 1/10/2002 – 30/09/2003 is fully approved (for evaluation of scientific activities, see above).
- The Financial Reports for the period 1/10/2002 – 30/09/2003 are fully approved (pp. 55, 56).
- The Budget Proposal for 2003-2004 and 2004-2005 is fully approved.
- The upcoming fiscal reports and budget proposals in 2005 and 2006 will be approved on a written basis in due time.

These decisions were taken in accordance with all Advisory Board members who participated in the Advisory Board meeting (Profs. Ben Zeev, Hoffmann, Prinz, Rösler, Zakay)

9.

The Advisory Board gave its unanimous consent to this report.

Marburg, 26 April 2004 Prof. Dr. Frank Rösler