

Foreword

The Centre for Advanced Study (CAS) in Oslo has two paramount long-term objectives. The first is to raise the quality of Norwegian basic (fundamental) research to the highest international calibre and standards, not least by improving in-depth specialization and penetration. The second objective is to promote high quality in an effort to reach the same level of excellence when it comes to interdisciplinary basic research. This calls for a holistic approach, i.e. for integration in breadth as well as in depth, to improve basic complex system science. The two objectives relate equally to the humanities, the social sciences and the natural sciences, and the intention is that they find expression within and between the three fields of academe.

CAS has no scientific staff of its own. Consequently, to meet its objectives, the Centre recruits among the most distinguished, accomplished researchers, and provides first-rate working conditions that enable them to devote themselves completely to research. Six Norwegian universities and one high-level research college contribute towards this end (see the presentation of CAS at the back of the title page). Through formalized cooperation arrangements, these institutions nominate candidates for an annual competition among leading scientists. The winners will spend one year at the Centre as heads of international research projects and teams. The rather lengthy selection process is guided by one criterion only: *scientific quality*. It involves multiple screening phases and international peer reviews of the more promising nominees. After eight to nine months of screening and assessment, three outstanding scientific groups are selected by CAS' Board of Directors for a one-year stay at the Centre. The Board selects one group in the humanities, one in the social sciences and one in the natural sciences. In cooperation with its partners, the Centre provides full funding for these groups.

There are no preferences regarding the topics chosen for research at the Centre. As long as the topics are researchable and the project proposals and team members can be held to high scientific standards, any topic is eligible for nomination. Thus, CAS has no enduring thematic profile. CAS' profile is compositional, in that humanists, social scientists and natural scientists are present at the Centre at all times. This opens up interesting opportunities for interdisciplinary work, not least because CAS' premises are physically restricted, i.e. the logistical structure is one of oneness. This means that CAS is located in one building, and has one seminar room, one luncheon room, one administrative staff and one scientific director. This is a new situation for most of CAS' guest professors. Most of them are used to working at different faculties located in different buildings and in different departments located on different floors, using different seminar rooms, auditoriums and dining facilities. On an ordinary campus, professors are separated by lawns (do not step on the grass?), asphalt (hard to walk on?) and floors (linked by steep stairs and out-of-order elevators?). All such small but telling obstacles must be overcome to meet with colleagues in other departments. At CAS, the fellows are all located in the same multidisciplinary faculty. They share all facilities, so there are no obstacles to overcome. This mix of academic special-

ties, the physical closeness of the groups and the oneness of the infrastructure, makes CAS an ideal arena for science dialogue across disciplinary boundaries and academic fields.

This book embraces the results of a series of weekly luncheon seminars at which the Centre's fellows have presented their respective specialties for the purpose of fostering multidisciplinary dialogue between the groups and across disciplinary delineations. Three scientific groups were in operation throughout the 2006/2007 academic year. The humanists addressed the topic of *Metamorphoses: Resurrection, Taxonomies and Early Transformative Practices in Early Christianity*. The social scientists aimed at developing a more comprehensive understanding of the *Changing Family Patterns in Norway and other Industrialized Countries: Determinants, Consequences and Projected Trends*, while natural scientists were concerned with *Spin and Charge Flow in Nanostructures*.

It turned out that the central topics of discussion at the seminars focused on differences and overlaps in methods, theories and approaches. World views were contrasted. The social and natural scientists had a common denominator in quantitative methods and mathematically based statistics, whereas the methodological tools of the humanist group involved qualitative assessments and the interpretation of ancient texts and archeological finds. This made up a highly diverse and varied basis for the intellectual interchange of ideas between partly contrasting research cultures, highlighting their pros and cons, flaws and strengths.

To provide an overall synthetic perspective on the book, the editor has contributed an introductory article on *Crossing Scientific Boundaries by Way of Disciplines*, arguing that disciplinary specialties have become *de facto* mergers of scientific disciplines acting as the first principle of interdisciplinarity. To succeed in synthesizing bits and pieces across disciplinary boundaries, we must consider the nature of disciplines in light of hybridization.

All the articles in this book have been peer reviewed and adapted to preserve a reasonable standard of popularization without compromising the high standards of sound scientific and scholarly research and reporting. Altogether, specialists from eight countries took part in the evaluation process.

CAS is publishing this book for two reasons: first, to make the multi- and interdisciplinary discussions of the groups available to a wider readership, nationally as well as internationally. Hopefully, providing the e-mail addresses of the authors will facilitate communication between readers and authors. Second, and closely related to the first point, we aspire to help break down the alleged "ivory tower of basic research" by disseminating a scientifically reliable book written to appeal to readers outside the realm of pure experts.

Enjoy!

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