Numbers, Signs, and Figures
Mathematical Inspirations in Literature and the Arts

International conference of the School of Language & Literature
Freiburg Institute for Advanced Studies (FRIAS)
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Preliminary List of Participants: Rainer Bayreuther (Freiburg), Leo Corry (Tel Aviv), Laurence Dahan-Gaida (Université de Franche-Comté Besançon), Lutz Danneberg (HU Berlin), Bernd Enders (Osnabrück), Moritz Epple (Frankfurt), Robert Matthias Erdbeer (Münster), Andreas Gormans (Aachen), Joachim Grage (Freiburg), Erika Greber (Erlangen), Mairéad Hanrahan (London), Bettina Heintz (Bielefeld), Aura M. Heydenreich (Erlangen), Erich Hörl (Bochum), Olav Krämer (Freiburg), Dieter Lamping (Mainz/Freiburg), Christine Maillard (Strasbourg), Bettina Marten (Dresden), Dieter Martin (Freiburg), Herbert Mehrtens (Braunschweig), Stefan Rieger (Bochum), Monika Schmitz-Emans (Bochum), Wolfgang Soergel (Freiburg), Rudolf Taschner (Wien), Friedrich Vollhardt (LMU München), Gabriele Werner (Wien).

Abstract

In the framework of the "two" or "three cultures", mathematics inhabits the position of a peculiar hybrid. Viewed by some as "most radical of the humanities" (G. von Randow), it is, for others, a "geistige Naturwissenschaft" (A. Borel). This uncertainty over its proper status and disciplinary affiliations may go some way to explaining the considerable difficulties that mathematics manifestly poses to cultural theory: All too often, the discourse of the humanities portrays mathematics as a mere annex of the natural sciences and relegates it to "the beyond of culture" (H.M. Enzensberger), if it is not simply plundered for imagological material (A. Sokal).

And yet, the interaction with mathematical knowledge, with its methods of quantification, formalization and abstraction, with aleatoric and algorithmic structures, and the artificial status of geometric and algebraic formations has been a constitutive element of cultural self-reflection since ancient time and has polarized art and culture from early modernity to the present day. Time and again, painters, musicians, and writers – such as Leonardo da Vinci, Bach, Novalis, Flaubert, Valéry, Schönberg, Musil, Belyj, Braque, Webern, Max Ernst, Escher, Borges, Cage, Xenakis, and Pynchon – have been inspired by the peculiar distinctiveness of the mathematical enterprise, gauging the abyss between the mathematical and aesthetic paradigms in various modes of affirmation, ambivalence, or opposition. Indeed, modern mathematics, by

its very nature, readily lends itself to such forms of artistic *rapprochement*: as an autonomous, self-referential language game, mathematics itself is often guided by criteria of beauty, consistency, and elegance, thereby pursuing its own principle of *l'art pour l'art*.

On the occasion of the German "Year of Mathematics 2008", the FRIAS-School of Language & Literature will host an inter-disciplinary, comparative conference, centred around the diverse relations between mathematics on the one hand and music, literature and the fine arts on the other. Parting from the premise that the arts constitute a privileged locus of cultural reflection, in which the various strands of the history of knowledge cross and interact, we invite contributions not only from the perspective of the history of literature, music, and the fine arts, but also from the philosophy of mathematics and the history of science. The aim of the conference will be to explore some of the manifold ways in which the reception of mathematical practice, of its epistemology and representational forms have nourished and sustained the myth of "mathématicité" (R. Barthes).

The conference will cover the following <u>topics</u>:
• Fantasia mathematica. Mathematics as theme of the arts
• Algorithmic, combinatorial, and aleatoric methods in music, literature and the fine arts
• Algebra und geometry in aesthetics
• Mathematical and non-mathematical systems of representation and scripture
• „Crises of visual intuition" and abstractions in mathematics and the arts
• Aesthetics of the mathematical sciences
• The myth of „mathématicité". Interactions of culture and mathematics
• Mathematics in between the two or three cultures