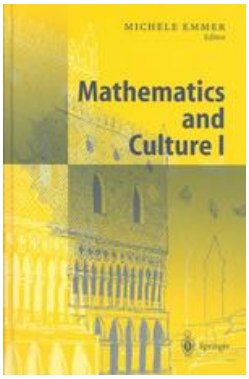
Michelle Emmer (ed.) *Mathematics and culture*, Springer, Berlin, 2004 (360 p.) ISBN 3-540-01770-2.
Michelle Emmer, Mirella Manaresi (eds.) *Mathematics, art, technology and cinema*, Springer, Berlin, 2003 (253 p.) ISBN 3-540-00601-x.

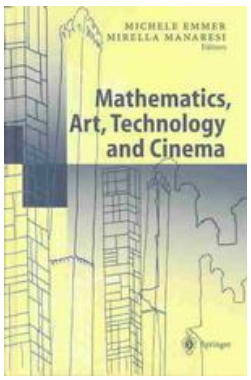


The first book contains the English translations of the proceedings of a conference on *Mathematics and Culture* held in Venice in 1999. The original Italian version appeared as *Matematica e Cultura 2000*. This type of conferences takes place on a regular basis. The proceedings of the 2000, 2002 conferences are available in Italian only. The proceedings of the 2004 conference is announced in English.

That mathematics has a great impact on all aspects of society and vice versa, is obvious, but it is rarely seen that mathematicians lecture about social issues or that artists lecture about the impact of mathematics on their art. The first book gives a cross section of all this. Each of the 27 contributions, grouped in 11 chapters are warmly recommended reading.

One may find a discussion of the tension between mathematics teaching and mathematics research, but also on the history and the importance of the mathematical development of linear and nonlinear programming and its impact. More historical are the contributions about the mathematical scenery under repressive political regimes, like fascism in Italy and Germany or the former Russian regime. Also the influence of mathematics on economy has direct consequences for the evolution of societies. There is no Nobel price for mathematics, but nevertheless there are several mathematicians who won Nobel prices in different areas. Very interesting is the parallel that is drawn between the historical evolution towards mathematical abstraction and the corresponding concepts that were governing the arts at the same time. My favorite chapter is the one on mathematics and cinema. There is a great analysis of the film *Moebius* made by students of the *Universidad del Cine de Buenos Aires* in 1996, and Peter Greenaway uncovers the concepts that he used to make all his films, of which *Drowning by numbers* is just one step in the evolution. But the feast goes on and there is much more. What would be the concept of a mathematics museum? How to popularize mathematics? What relations are there between mathematics and literature and music? Furthermore, there is a chapter on mathematics in Venice (the conference place), on mathematics and technology (visualization, cryptography), on mathematics and medicine (diagnosis, risk analysis, Radon transform), etc.

In summary: a delight to be read by any mathematician who is prepared to admit that he is part of the society and by anyone else who cares to admit that mathematics has a tremendous impact on the world he lives in. Buy it! Read it!



The second book was conceived as a contribution to the world mathematical year 2000. This is less "mathematical" and much more "cinema" but the idea is the same: it argues that the difference between the culture of science and the culture of humanism is a thing of the past. The book consists of two parts. The first one contains papers presented at the conference "Mathematics and

Culture" and some of the papers in part 2 were presented in "Mathematics and cinema" both events were held in Bologna in the year 2000. They emerged from the facts that 2000 was the UNESCO World Mathematical Year, and that Bologna was then also Cultural city of Europe. Most of the papers deal with mathematics and vision in the broadest sense: the influence of mathematics on the work of sculptors, but also on CAD, visualization programs, the geometry of sight, cryptography, etc. The second part of the book is completely devoted to cinema. Several films that deal with some mathematical theme are discussed, analyzed, or an interview with a director is reproduced, or at least all the technical data are given. It is amazing how many films that became rather well known to a broader public deal with such themes. You will remember "A beautiful mind" about the life of John Nash, "Enigma", "Good Will Hunting", "Cube", and "Fermat's last tango".

This book is written for a broader public, even for those who are not especially fond of mathematics. It suffices to be interested in film, or just be passionate about shape and images, and have an interest for the underlying (mathematical) blueprint.

Adhemar Bultheel