perceptively in *A Grain of Truth: The Media, the Public, and Biotechnology* (Rowman & Littlefield, 2001) by Susanna Hornig Priest, a professor of journalism in the United States. It should be read carefully by all who believe that the media get everything wrong, that journalists exercise excessive power over a gullible public or that they are too preoccupied with either doom or hype. Reflective reading of this book might help to bring journalism, biotechnology and even its opponents into a more fruitful relationship. ■

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Not quite the whole story

The Story of Mathematics

by Richard Mankiewicz

Princeton University Press/Cassell: 2001.
192 pp. \$24.95/£18.99

Karine Chemla

The Story of Mathematics guides the reader from prehistoric times to the era of 'chaos and complexity' in 191 lavishly illustrated pages, many of which are magnificent reproductions of mathematical documents, instruments or visual evidence of mathematicians' work. No wonder that, as the preface concedes, ruthless selection was needed in the material covered. Indeed, the author has devoted some attention to the mathematics of most periods, and every ancient tradition in particular. But the severe selection has had a notable effect on the range of topics covered. Mathematics in the twentieth century, for example, has mainly been boiled down to four chapters dealing, respectively, with games, modern art, machines and chaos. So what principles guided the choice of the "key developments in mathematical ideas" in given historical periods?

Richard Mankiewicz's main concern seems to be to bridge the gap between mathematics and the general 'culture'. First, by showing how the development of the mathematical sciences in each civilization was related to the historical context, Mankiewicz hopes to contribute to shaping a "scientific culture" today. This aim probably accounts both for the criteria used to select the mathematical topics and the presence of historical description that cannot always be easily related to mathematics. His second strategy to bridge the gap between the 'two cultures' is to show the long-standing interaction between 'artistic sensibility' and mathematics.

Mankiewicz's reasoning seems to be as follows: the beauty of mathematics can be made accessible through its visual aspects.

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Ordres antiques lettres Numerales.		
DC	60000000	500000000
DCC	70000000	600000000
DCCC	80000000	700000000
DCCCC	90000000	800000000
XX	100000000	900000000
XXX	200000000	1000000000
XXXX	300000000	2000000000
XXXXX	400000000	

J'ay finques icy deduict, & décrit par forme d'exemple, le moyen & methode d'écrire en lettres Latines & communes, les nombres & la mode numerale des Anciens: à fin que d'iceux les ignorants en eussent plus facile intelligence. Et quant à ce, qu'en la suite de la description & apposition des figures d'algarithme, j'auray en quelques endroits laite l'ordre & regle de la vraye supputation & forme de compter, ce n'a esté par erreur, ny aussi par faulte ou omission. Mais par bonne & raisonnable cause j'ay aduise ainsi le faire: & meismement à fin que par trop grand progression & prolixité ne donnasse ennuy à moy, ny aux lecteurs, qui en la figure subsequeute, briefvement cy apres transcritte, verront autres moyens & ordres numeraux, par lesquels les anciens manifestotent leurs grands nombres.

Integrating maths: these images of a celestial chart (top left), roman and ordinary numerals (right) and particle tracks are aesthetically pleasing, but do they make mathematical ideas more accessible?

"All ideas," Mankiewicz claims, "are born of a vision." Hence the multiplicity of illustrations in the book. One might wonder, however, what mathematical ideas and inner conceptual beauty are conveyed by aesthetically pleasing pages of writings that are reproduced without explanation, and whose artistic qualities remain unconnected to their content. Is this the sense of beauty that does justice to mathematical ideas? Is this the way in which we want mathematics to become an integral part of the culture? Such photographs don't seem the best way of showing how mathematicians use visual auxiliaries, such as figures and models, to work on mathematics and to illustrate or produce their ideas. That would seem to me to be a more adequate use of illustrations to convey ideas, a point I do not find addressed in the book.

On a more technical front, the book contains inaccuracies of fact and interpretation. To mention just two of them, it is not the case that, as Mankiewicz states, in Babylonian mathematics, "arithmetical calculations were handled much as we would today". Moreover, one cannot speak without qualification of the "justifications" that Babylonian mathematicians gave to their procedure for solving quadratic equations. The bibliography, which contains an odd selection of titles, is given without dates or publishers' names. The lack of care given to the text contrasts strangely with the undeniable magnificence of the illustrations. ■

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