Sasaki Chikara, Sugiura Mitsuo, and Joseph W. Dauben (Ed.). *The Intersection of History and Mathematics*. Basel-Boston-Berlin: Birkhäuser, 1994. x + 257 pp. (Science Networks, vol. 15.) ISBN: 3-7643-5029-6

This collection of essays is based on a selection of the papers presented at the History of Mathematics session of the International Congress of Mathematicians at Kyoto, Japan, 1990. Though the title suggests something beyond the usual history of mathematics session, only a few of the sixteen papers (plus one abstract) seem to be inspired by the noteworthy occasion of this, the first ICM to be held in the eastern hemisphere. In 'Mathematics: An Historian's Perspective' Joseph W. Dauben addresses the question of what history of mathematics should be and who should be doing it. This is done mainly through a critique of André Weil's view that this is a subject only mathematicians can properly do or appreciate —a view which Dauben describes as damaging to mathematics itself as well as to its historical treatment. Though not history of mathematics, Chandler Davis's lively paper, 'Where Did Twentieth-Century Mathematics Go Wrong?', suggests thought-provoking reasons for the turn of mathematics in this century away from applications and towards a 'naive platonism', a process which he believes has become so accepted that its basic strangeness when compared with the development of other sciences is commonly overlooked.

Sasaki Chikara in 'Adoption of Western Mathematics in Meiji Japan, 1811-1903' gives an enlightening answer to the question of how Japan was able to rapidly introduce Western mathematics in the face of a well-established and sophisticated native mathematics known as *wasan*

Annick Horiuchi addresses the earlier, Chinese, influence on Japan in 'The *Tetrajutsu Sanke* (1722), an 18th Century Treatise on the Methods of Investigation in Mathematics', one of the very few windows available into the way ancient Chinese mathematicians constructed their algorithms. The only other paper relating directly to the history of Japanese mathematics is that by Miyake Katsuya, 'The Establishment of the Takagi-Artin Class Field Theory', which investigates influences of the works of Weber, Hilbert and others on T. Takagi's work in the 1940s.

The only other paper not dealing with 19th and early 20th century European mathematics is that by Roshdi Rashed, 'Indian Mathematics in Arabic', previously published in a fuller version elsewhere. It seems to be a paper worth multiple publication since it reveals a little known source on the possible nature of just what Indian mathematics was known to Arab mathematicians.

Liliane Beaulieu shows in 'Dispelling a Myth: Questions and Answers about Bourbaki's Early Work, 1934--1944', how the Bourbaki group's objectives evolved in a way that one would not surmise from the grandly unitary nature of its publications. In 'Hermann Weyl's Contribution to Geometry, 1917-1923', Erhard Scholz follows "Weyl's geometric thought during the years of his most intense involvement in relativity theory". David E. Rowe contrasts and compares 'The Philosophical Views of Klein and Hilbert' and claims that Hilbert "was an utterly ahistorical thinker" with an exclusively self-centered view of others' work. Takase Masahito explores the formation of Kronecker's 'youthful dream' concerning the construction of Abelian equations over an imaginary quadratic number field in "Three Aspects of the Theory of Complex Multiplication". Closely related to this is "The Reciprocity Law from Euler to Eisenstein" by Günther Frei which includes analytic methods from Euler to Artin. Eberhard Knobloch suggests in 'From Gauss to Weierstrass: Determinant Theory and Its Historical Evaluations' that historians know more about the 19th century origins and development of invariant theory than of determinant theory, in spite of the latter's continuing value. In the course of addressing 'Complex Curves Origins and Intrinsic Geometry', J.J. Grey relates the 19th-century debate about the meaning of complex numbers to Riemann's work and its reception. In 'Une Méthode de Restitution-quelques exemples dans le cas de Pascal' Hara Kokiti discusses the critical historical reconstruction of Pascal's mathematics.

Sugiura Mitsuo, in "The Origins of Infinite Dimensional Unitary Representations of Lie Groups" gives examples of how, after 1925,

infinite dimensional representations arose from certain physics and mathematics problems. W. J. Ellison, in 'The Birth of Maxwell's Electro-Magnetic Field Equations', traces "how observations of physical phenomena got transformed [...] into a set of abstract equations".

Unfortunately there is no index.

Albert C. Lewis trabaja en el proyecto editorial sobre Bertrand Russell en Canadá. Actualmente trabaja en el proyecto de edición sobre Charles S. Peirce. Otra de sus actividades se centra en el legado de R. L. Moore. Ambos proyectos los desarrolla en Austin, Texas.