HISTORY AND MATHEMATICS TEACHING IN ITALY : A GLORIOUS PAST, AN UNCERTAIN PRESENT, A PROMISING FUTURE

Fulvia FURINGHETTI
Dipartimento di matematica,
Università di Genova.

In the attitude of Italian school towards history in mathematics teaching there has always been a discrepancy between theory and practice : at the theoretical level in some periods of the past and of the present times we find a clear agreement on the opportuneness, even more the necessity, of introducing history in mathematics teaching, while in the school practice we find poor realizations of the intentions.

Certainly Italy has a good tradition of research in history of mathematics, from Pietro Cossali and Guglielmo Libri to Baldassarre Boncompagni who founded his bulletin in 1868 and Gino Loria who founded a journal that may be considered its prosecution in 1898. Loria was also a strong supporter of the importance of history in mathematics teaching; other personages of the period, among them some teachers, shared this opinion. In particular it has relevant the contribution of the secondary school teacher Gaetano Fazzari, editor of a mathematical journal for students (*Il Pitagora*), that contains a high percentage of papers on historical topics, since the editor ascribed to history a central role for rousing students' interest (and love) for mathematics.

Loria advocated the presence of history in university courses (Barduzzi & others, 1903; Loria, 1930); he was author of books in history of mathematics and also of a book of selected pages on history of science for students (Loria, 1925).

This was the pioneering period in the modern mathematics education in Italy; the interest for history (as well as epistemology) in mathematics teaching continued in the successive years, specially thanks to Federigo Enriques. This university professor, leading researcher in the famous Italian school of algebraic geometry of the first half of XX century, showed a great interest in mathematics education. He wrote a book important for the teacher training and re-training (*Questioni riguardanti la geometria elementare,* Zanichelli, Bologna, 1900, afterwards *Questioni riguardanti la matematiche elementari*, Zanichelli, Bologna, 1912), edited an important journal for mathematics teaching (*Periodico di matematica*, from 1921 to 1946), founded a journal on epistemology and philosophy of science (*Scientia*, 1907); in these last subjetcs he wrote books translated in foreign languages.

The official programmes launched in 1923, still in use in upper secondary school, contains some directions referring to history; but we have to say that in this period the neo-idealistic philosophy fostered a split between humanistic and scientific orientation of Italian culture and a consequent decreasing interest for the humanistic side of mathematics (and science).

In the 1970s thing started to change and some new textbooks appeared containing little historical notes addressing the teachers' attention to a historical view of mathematics; for example, in my work with teachers I ascertained the impact of the textbook by Lina Mancini Proia and Lucio Lombardo Radice (1977) in rousing a certain interest for this view. Other significant elements have been the new programmes (1979) for lower secondary school (ages 11-13) that contain hints about history and the creation of regular courses of history of mathematics in many Italian universities.

At present the new programmes proposed for the initial two years of upper secondary school (ages 14-16), under experimentation in a relevant number of classes, encompass

indications about history of mathematics; unfortunately these indications are embedded in a lot of other various indications of innovations without practical suggestions for implementation (Furinghetti, 1993). In the programmes under discussion for the last three years of upper secondary school (ages 16-19), a level where it would be possible to work with history in a significant way, the indications are generic.

In this situation it may be considered positive the interest for a humanistic dimension of mathematics and its teaching timidly emerging in the cultural environment; one of the effects is that books of history of mathematics (original or translated) are published more than in the past and reach a larger number of readers (among them teachers). All these elements encourage an effective introduction of an historical perspective in teaching both by individual attemps and in structured projects.

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