

European didactic traditions:

The case of Italy



Maria Alessandra Mariotti

Department of Information Engineering and Mathematics
University of Siena



The Italian Didactic Tradition (1st hour)

Introduction:

M.A: Mariotti: *The emergence and evolution Italian Didactic Tradition, an overview.*



M. Bartolini Bussi: *Specific features of the Italian situation and salient aspects of Mathematics education in the Italian cultural context*



P. Boero: *To be a researcher in Mathematics Education in the Italian cultural and school context*

Interaction with the audience





The Italian Didactic Tradition (2nd hour)

Influences and interactions with other European traditions

The vision of critical friends:

Nadia Douek (France): *SFIDA and other experiences of collaborations between French and Italian researchers.*

Bettina Pedemonte (Italy- USA): *Culture exchange: Italy and France*





The Italian Didactic Tradition (2nd hour)

**Influences and interactions beyond the
European traditions**

The vision of a critical friend:

Sun Xuhua (University of Macau, China) *Some
impressive points on the Italian tradition of
math education from Chinese culture
perspective.*





The emergence and evolution of the Italian Didactic Tradition

Maria Alessandra Mariotti

University of Siena – Italy

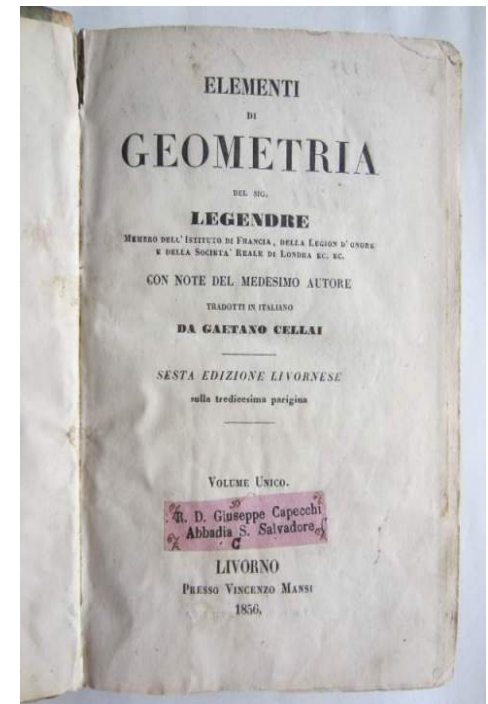
mariotti21@unisi.it

Role of mathematics and mathematicians

Italy has a long history, but it is a very young Nation

Before the Unity of the Kingdom the great influence of France

At the turn of the century a new active engagement of Italian Community of Mathematicians

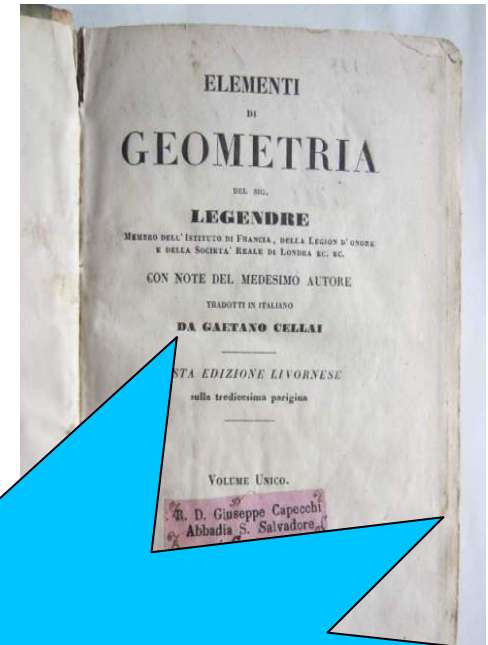


Role of mathematics and mathematicians

Italy has a long history, but it is a very young Nation

Before the Unity of the Kingdom the great influence of France

At the turn of the century a new active engagement of the Italian Community of Mathematicians

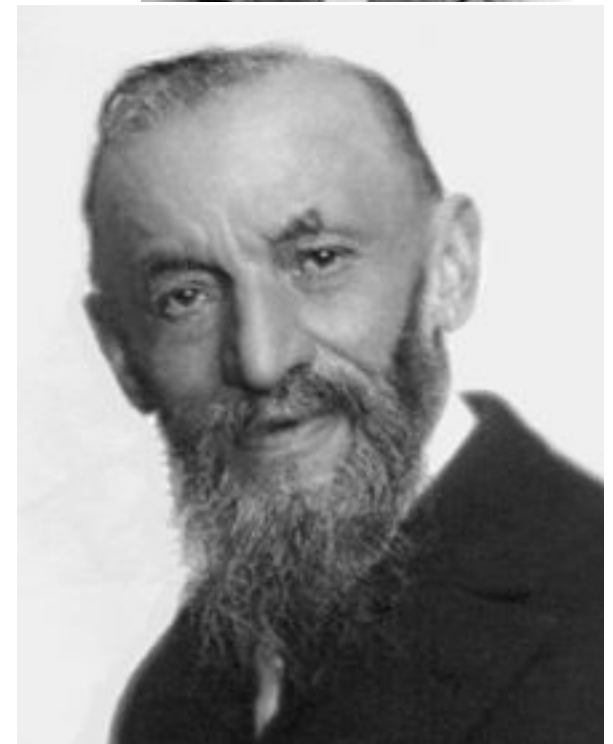


The issue of teachers' schools

Federico Enriquez

Under the influence of the Felix Klein model the new schools for teachers (Scuole di Magistero) involved many professional mathematicians like Padoa, Loria and Peano.

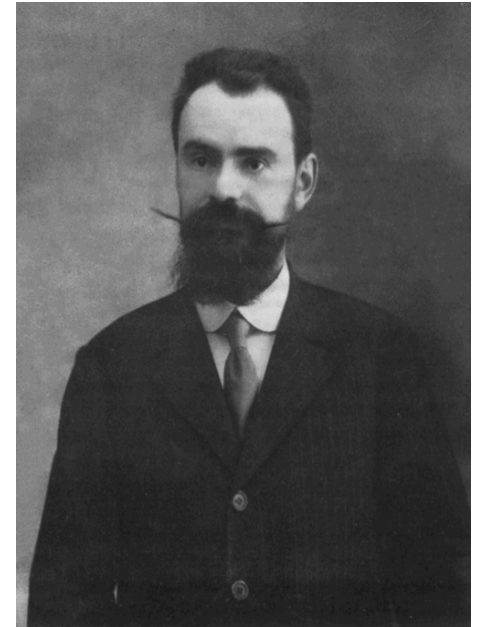
The core of the debate concerned the tension between pedagogical and disciplinary stances.



Federigo Enriquez

A key personage of that time ...

Didactical essays ... didactical principles, like the “Dynamic teaching” elaborated by Enriquez (1921), or the need of a synthesis between intuition and logic argued by Severi (1932).



A permanent trace of this commitment was the institution of specific University courses ...

The new Math movement and the stance of Innovation

- **Curriculum** : the proactive role of Mathematicians (UMI) after a passionate debate about what should be taught at school: “Programmi di Frascati”
- **Methodology** : the specificity of the Italian school system...

The case of EMMA Castelnuovo.

Emma Castelnuovo

Emma has been an
exemple for
generations of Math
teachers ...

In Italy and beyond ...
Her leagcy is still alive



The naissance of Didactics of Mathematics as a reaserch field ...

Two main phases:

- **Research for innovation and the emergence of the action-research model**
- **Overcoming the pragmatic approach, the development of an Italian research paradigm**

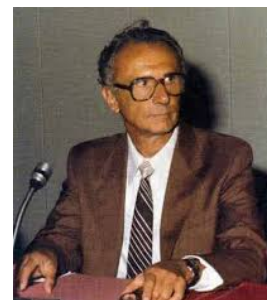
From research for innovation to the emergence of the action-research

The first period is characterized by deep interest in long pragmatic projects teaching in the but weak theoretical didactic suggestions for an effective realization in the reality of the school.

Time of Innovation Projects

landmark : the constitution of the

Nuclei di Ricerca Didattica



From research for innovation to the emergence of the action-research

The first period is characterised by deep epistemological concern, a strong pragmatic interest to improve the mathematics teaching in the classrooms

but

weak theoretical reflection on the didactic suggestions and on their effective realization in the reality of the school.

· landmark : the constitution of the

Nuclei di Ricerca Didattica



Beyond a pragmatic approach: an Italian research paradigm

the second period

the Italian community of researchers started to look outside to the international community

The development of an Italian trend

research for innovation

Italian math education research was definitely integrated into the international community.