

# “DIG WHERE YOU STAND” 4

**Proceedings of the Fourth International Conference  
on the History of Mathematics Education  
September 23-26, 2015, at University of Turin, Italy**

Editors:

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Editors:

Kristín Bjarnadóttir  
University of Iceland, School of Education, Reykjavík, Iceland

Fulvia Furinghetti  
Dipartimento di Matematica dell'Università di Genova, Italy

Marta Menghini  
Dipartimento di Matematica, Sapienza Università di Roma, Italy

Johan Prytz  
Uppsala University, Department of Education, Sweden

Gert Schubring  
Universidade Federal do Rio de Janeiro, Instituto de Matemática, Brazil  
Institut für Didaktik der Mathematik, Universität Bielefeld, Germany

*In the front cover:* A classroom of a primary school (rural area of Northern Italy in the 1940s)

*In the back cover:* View of Turin, venue of the conference

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# Mathematics and race in Turin: the Jewish community and the local context of education (1848-1945)

Erika Luciano

Dipartimento di Matematica 'G. Peano' dell'Università di Torino, Italy

## Abstract

*After having illustrated Jewish contributions to scientific and technical culture in Piedmont since the Risorgimento period, we will focus on the role played by some Israelite teachers of mathematics and we will outline the consequences of racial laws (1938) on the local milieu of the mathematical instruction in Turin.*

## Introduction

At the beginning of the twentieth century, Turin hosted the fourth largest Jewish community in Italy after Rome, Milan and Trieste. The leading town of Piedmont counted in fact 4,060 Israelis, 0.5% of the urban population. The reason for this concentration is clearly related to the history of Jew's diaspora. In Piedmont, the main Jewish settlements began in the 15<sup>th</sup> century and consisted of Jews who escaped from Provence, attracted by the perspective of moderately good living conditions. Through the 16<sup>th</sup>, 17<sup>th</sup> and 18<sup>th</sup> centuries, the most important Jewish communities (then called universities) were formed in Turin, Asti, Alessandria, Carmagnola, Casale Monferrato, Cuneo, Fossano, Moncalvo, Saluzzo and Savigliano. Jews lived together in specific areas (ghettos), and suffered numerous deprivations included the prohibition against entering schools and belonging to Arts and Trades corporations. At the end of the 19<sup>th</sup> century, in the frame of liberal movement, Count Cavour and the brothers Massimo and Roberto d'Azeglio pleaded for the extension of the constitutional rights of freedom and equality to oppressed minorities in the Sardinia Kingdom, including Jews and Waldensians. Eventually, King Carlo Alberto made a Parliamentary decision (*Statuto Albertino*) in July 1848 permitting the extension of all civil and political rights to the Jews. As a result of this emancipation, Jews began a new life: they could practice any profession or commercial activity and could participate actively in political life, which they did with great determination and success. It thus became inevitable that Jewish communities became depopulated by assimilation, and urbanisation. After a few years,

the families of outstanding prospective mathematicians like Corrado Segre, Beniamino Segre, Beppo Levi, Eugenio Elia Levi, Alessandro Terracini, etc. left their communities (Saluzzo, Ivrea, Asti) and moved to Turin<sup>1</sup>.

Grown up in laic and emancipated families, in which “religion blended with the cult of the State” (in Italian, Morpurgo, 2016), the Turinese Jews constituted a transversal community from a political point of view. Among them were socialists and monarchists, anarchists as well as fascists such as the group of intellectuals that founded the journal *La nostra bandiera*<sup>2</sup>. For example, Emilio Artom (1888-1952), a teacher of mathematics at *liceo* Galileo Ferraris in Turin and husband of Amalia Segre (1891-1972), a private teacher of mathematics, remembered:

Both my father and mother had such a strong sense of Italian patriotism, adhering totally to liberal-monarchic ideals. My father’s devotion to the House of Savoy was limitless. My mother followed the same way of thinking and connected it to religion. I’ll never forget how she taught us that whoever sacrificed their life for their country would go to Heaven, according to the Second Book of the Maccabees. [Emanuele Artom, *Diari 1940-44*, p. 156, transl. by the author]<sup>3</sup>

A really distinctive element of Turinese Jewry was represented by their professional and occupational profiles: they were mostly working in the school milieu (as teachers of all disciplines, headmasters, school inspectors), in research (lecturers and full professors at university) and in the book industry (particularly for school, with famous publishing houses like Lattes and Rosenberg Sellier).

In particular, the weight of the Jewish contribution to scientific instruction in Piedmont was significant at every level of education. The presence of Israelite professors was outstanding in the realm of the University of Turin, so much so that the Turin mathematics ‘school’ drew the attention of the ministry, because of the “Jewish infiltrations”<sup>4</sup> that characterized it. The “tyranny” of the Jewish group, which included nine full professors out of a total of 75 scholars, was for example commented in local newspapers and denounced by an “anonymous fascist black shirt”, in the early thirties:

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<sup>1</sup> About the history of Jews in Piedmont see for example (Maida 2001).

<sup>2</sup> About the Jewish community in Turin during the fascist dictatorship see (Levi, 1991; Levi, 1998; Ventura, 2002).

<sup>3</sup> “Tanto il babbo quanto la mamma erano dotati di un forte senso di italianità, e aderivano alle idealità monarchico-liberali. La devozione di mio padre verso Casa Savoia era illimitata. La mamma seguiva sentimentalmente le stesse correnti, e le collegava con la religione. Non dimenticherò mai che ella ci insegnava che, chi muore combattendo per la Patria, va in paradiso, secondo l’insegnamento del secondo libro dei Maccabei.”

<sup>4</sup> Newspaper *La Stampa Torino*, 5-6 September 1938, p. 1; 13 October 1938, p. 2, 6.

In Turin University's Mathematics Department, a few Jewish teachers (Freemason-socialists headed by the all-powerful Prof. Fubini) with a skill and Jesuitism of the worst kind resort to every measure possible to obstruct the work of the Regime. The Faculty is home to tyranny of all types: "favourites" receive special treatment and protection as those who will one day need to continue the villainous work of destroying the homeland, whilst those who can not enter the hallowed circle are oppressed, boycotted and attacked in countless ways. [Archivio Centrale dello Stato Roma, Ministero della Pubblica Istruzione. Fascicoli personali. Professori ordinari (1940-70) 3° versamento. Busta 214, *Personal dossier of Guido Fubini*, 7 October 1933, transl. by the author]<sup>5</sup>

Due to the numerical relevance and the prestige of Jewish teachers of scientific subjects in Turin, the application of the racial laws in 1938 altered the local environment of education, because it irreversibly changed the composition of teachers staff, and the school population<sup>6</sup>.

In light of these considerations, it appears interesting, first of all, to describe the socio-cultural premises that led to the development of a large and appreciated community of Israeli teachers in Piedmont; secondly to identify their common traits (obviously beyond their 'racial' identity) and finally to illustrate the disruptive effects that their expulsion had on middle and secondary schools in Turin.

### **'Educating is synonymous with emancipating, and emancipating is synonymous with educating'**

In order to answer the previous research questions, we should remember that in 1848 the *Albertine Statute* granted Jews the possibility of enrolling in State schools of all types and levels. It was a concession of maximum importance, since exclusion from education had represented one of the most sinister forms of discrimination. Furthermore, in the eyes of the Savoy leadership, access to study was a key

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<sup>5</sup> "Nella R. Università di Torino, Scuola di Matematica, pochi professori ebrei, social-massoni capeggiati dall'onnipotente prof. Fubini, con un'arte ed un gesuitismo della peggior specie si adoperano con ogni mezzo, per demolire quanto il Regime, con titaniche imprese, sta costruendo. In detta Facoltà si verificano inoltre soprusi di ogni risma: sono favoriti i protetti, i discepoli che dovranno un giorno continuare la opera infame, disfatrice della Patria, e sono oppressi, boicottati, danneggiati in ogni modo quelli che essi fanno di non potere attirare nella loro cerchia. Una severa minuziosa inchiesta metterà alla luce del sole quanto ho avuto l'onore di esporre all'Eccellenza Vostra. Vecchia Camicia Nera, anonima suo malgrado per evidente necessità."

<sup>6</sup> About the consequences of anti-semitic decrees in Italy see (Israel & Nastasi 1998; Israel 2010). As far as concerns the application of racial laws in Turin see (Rinaldelli 1998; Cavaglian & Romagnani 2002).



tool in the process of integration<sup>7</sup>. As the pedagogue Domenico Berti was used to affirm, for explaining this political strategy:

Educating is synonymous with emancipating, and emancipating is synonymous with educating [Domenico Berti, in *Atti della Società di Istruzione ed Educazione ... 1849-50*, p. 724, transl. by the author]<sup>8</sup>.

Until the promulgation of *Albertine Statute*, Piedmontese Jews determined to pursue their studies had only counted on two alternatives: emigrate to States (like the Tuscany Grand Ducky) where less restrictive norms were in force, or attend the Jewish schools.

Among the first Piedmont Israelis that undertook studies in mathematics abroad, in order to become a teacher, Simeone Levi (1843-1913) stands out<sup>9</sup>. Born in a small country village near Turin, Simeone received his first education at home and in 1849 he enrolled in public school, where his unusual talent distinguished him. In 1861, having obtained a diploma at *liceo* Gioberti in Turin, Levi enrolled in the faculty of mathematics at the university of Turin, thanks to a scholarship assigned to him by baron Franchetti von Rotshild. As the degree course in pure mathematics did not start, in 1864 Levi was forced to move to Pisa, where he came into contact with Enrico Betti. After completing his degree with full marks, Levi returned to Turin and started to teach at the technical and accountancy school in Tortona, publishing the handbook *Complementi di aritmetica ed algebra* (Turin, Paravia, 1871). This text appears very modern in comparison to the more widespread books of the time, including contents like a generalization of Newton's formula of the binomium according to Betti, linear systems, continuous fractions, numerical and approximate calculus, the theory of numbers and the first concepts of probability. The originality of Levi's handbook emerges even more if we think that many of the topics dealt with had made their first appearance only few years before in Angelo Genocchi's calculus lectures at the Turin university (1867).

Apart from such few exceptions, most Jews born in the period 1845-1855 had to rely on the school network inside the ghettos<sup>10</sup>. Most of them pursued technical and scientific studies in order to obtain positions as surveyors, accountants or primary school teachers. In 1848, the Jewish educational web in Piedmont consisted of four main institutes (in the towns of Turin, Asti, Casale and Acqui) and a large group of small schools, established in various towns of Piedmont (Cuneo, Fos-

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<sup>7</sup> For an overview of the contributions of Jews to scientific instruction and education in Piedmont from 1848 to 1920 see (Luciano 2013).

<sup>8</sup> "Educare è sinonimo di emancipare, ed emancipare è sinonimo di educare."

<sup>9</sup> Levi's biography is sketched in (Arian Levi & Viterbo 1999; Levi 2001).

<sup>10</sup> On the history of Jewish schools in Turin in the second half of nineteenth century see (Maida 2001, p. 70-90).

sano, ...). In Turin, Colonna Finzi College consisted of a kindergarten and a primary school. Children of both sexes were admitted, free if they came from poor families. The math taught in these schools was reduced to the first four rules of arithmetic and to basic notions of plane and solid geometry. However, bearing in mind the occupational perspectives of the majority of the students, in the fifth grade some notions of accounting and simple and double entry bookkeeping were usually introduced.

There was also a wide and ramified network of Jewish professional and technical institutes for both girls and boys. Among the main features of the teaching offered in these schools for arts, crafts and trades was the tendency to assign a major role to applied mathematics, chemistry and technology. In effect, these competences were considered essential for giving truly modern culture to new generations, so as to allow young Jews to excel in Piedmontese society. The professional and practical character of the scientific instruction offered in these institutes had as a consequence that few of their former students pursued the studies at university in the pure mathematics, physics and natural sciences courses.

Jewish schools enjoyed a good reputation during the *Risorgimento*, that is the period (1815-1861) characterized by the movement for Italian unification that culminated in the establishment of the Kingdom of Italy (1861). As time passed, however, this system declined rapidly and many of these institutions were reduced to being schools *of* and *for* the poor, attended by pupils coming from very observant or needy families. In particular, this school network was damaged by the change in mentality that affected much of emancipated Piedmont Jewry, above all by the belief that equality of rights began from equality of cultural opportunities<sup>11</sup>. Israelite journals and magazines tried (without success) to steam the assimilation process, for example by reporting on the successes achieved in the 1890s by the young scholars Corrado Segre (1863-1924), Beppo Levi (1875-1961), Gino Loria (1862-1954), Azeglio Bemporad (1875-1945), Gino Fano (1871-1952), Ida Terracini (1870-1964) and Costantina Levi (1870-?), in their studies and careers<sup>12</sup>.

For their part, after 1848 young Jews upheld themselves in State schools and universities. In Turin, at the *licei* d'Azeglio, Alfieri, Gioberti and at the technical institute G. Sommeiller, the first enrolments date from the 1850s<sup>13</sup>. The first licenses to teach math and science in technical institutes and normal schools were awarded in 1868. What oriented the first generations in the choice of the course of studies was a complex plot of family and economic factors, as well as cultural models. In brief, we can say that a large number of young Jews was dedicated to scientific studies, but the majority of them only completed the first two years of the university

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<sup>11</sup> See (Artom 1913; Colombo 1925).

<sup>12</sup> For example see the sections of news entitled *Torino* in the journal *Il Vessillo Israelitico*, XL, 1892, p. 265; XLI, 1893, p. 252; XLII, 1894, p. 36-37; XLIII, 1895, p. 242; XLIV, 1896, p. 208, 244, 279; XLVII, 1899, p. 109-110, 155; XLVIII, 1900, p. 160.

<sup>13</sup> See (D'Orsi 2003, p. 175-197; Liceo Gioberti et alii 2012, p. 113-116).

*curricula* and, having obtained the license (*licenza*), went to the school of application (*Scuola di applicazione*), aspiring in careers as architects or engineers. The very testimonies of many mathematicians born in the Sixties confirm the impression that the so-called ‘*humanitas scientifica*’ was a category of thought that was not common to Jewish families and that scientific culture was considered above all in relation to occupational prospects that it opened. Segre, Levi, Fano, Loria, Padoa, Artom described the many generational clashes that opposed them to their fathers: the latter pushed them to a career in engineering or finance, while they were inclined towards pure research only undertaken out of love for knowledge.

The situation changed after 1880. From this date onwards the number of Jews who took up advanced scientific studies was constantly rising: more than 150 Israelite students graduated in pure mathematics, physics and natural sciences between 1848 and 1938 at the Turin University. Most of them became teachers or headmasters in State schools of all levels. As a result of this massive phenomenon, the city’s educational system underwent substantial changes.

## The ‘Small School’ of Corrado Segre

The Piedmontese Jews that entered the university of Turin and the world of education – during the *Belle Epoque* and until the racial laws – had some social and cultural features in common. Regarding the first aspect, they were men and women perfectly integrated in local society, whose religious and racial identity was generally ignored by colleagues and pupils. Furthermore, this group shared a peculiar university training.

They could be defined ‘the small school of Segre’, in the sense that they constituted a network of disciples of Corrado Segre that did not carry out research in advanced geometry under his direction (and so they were never listed among the members of the ‘Italian school of algebraic geometry’), but attended Segre’s lectures of higher geometry and his lessons at the *Scuola di Magistero* (teacher training school). They had Segre as a point of reference, a common leader (*Maestro*) and, in many cases, Segre was the supervisor of their degree dissertations and of their qualification thesis as teachers. They kept in touch with him – before and after studying at university – also because of the common affiliation to the Jewish community (they were Segre’s nephews, relatives, family friends, etc.)<sup>14</sup>. The legacy of

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<sup>14</sup> For example, the Emilio Artom’s library includes some offprints by C. Segre with the handwritten note: “To my beloved disciples Emilio Artom and Amalia Segre, in loving memory of their professor”. The cataloguing of Artom’s library, recently discovered by Erika Luciano in the cellars of the department of mathematics of the university of Turin is currently underway. The Artom’s library comprises more than 240 offprints and booklets.

Segre's mentorship is evident in the textbooks and articles published by Emilio Artom, Alice Osimo (1886-?), Elsa Bachi (1894-1972), Alberto Levi (born in 1874, Beppo Levi's brother-in-law), etc.<sup>15</sup> Through his courses at the teacher training college, Segre instilled his main didactic beliefs in these disciples: the principal objective of teaching should be the development of the powers of induction, visualization and reasoning; the first approach to mathematics should be experimental and intuitive; the concepts of function and transformation (in line with the ideas of Felix Klein) should be introduced at an early level.

At the same time, although assimilating the methodological assumptions defended by the 'Italian school of algebraic geometry', this group of teachers did not limit themselves to inherit the legacy of Segre's methodological thought. Indeed, almost all these Jewish perspective teachers attended one or more courses by Peano in infinitesimal calculus, advanced analysis or complementary mathematics (*matematiche complementari*). So they had an opportunity to learn the meaning and use of his logical symbols and to meditate on the introduction of the research on the foundations of arithmetic and geometry into teaching and textbooks. In addition, many of the members of the 'small school of Segre' maintained fruitful and long-lasting exchanges with the rival 'school of Peano', by attending the *Conferenze Matematiche Torinesi*, a lecture series for teachers that Peano and his coworkers Tommaso Boggio and Matteo Bottasso started in 1915<sup>16</sup>.

As a result, the Jewish teachers belonging to the 'small school of Segre' were able, in their teaching practice, to balance and blend in an harmonic synthesis the two types of approach: the synthetic, intuitive and constructive one, dear to Segre, and the hypothetical-deductive, abstract and formal one, promoted by the Peanians<sup>17</sup>. In this sense, Emilio Artom, Alessandro Padoa, Elsa Bachi, Vittorina Segre, and many others appear like 'bridge' figures between the two famous Turinese mathematical 'schools', commonly depicted by historiography as antagonistic and impermeable regarding collaborations and mutual influences.

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<sup>15</sup> See for example the issues on math education asserted in the prefaces of the following textbooks: Proso, Pietro and Artom, Emilio (1927, 1934), *Elementi di fisica, ad uso degli Istituti tecnici e magistrali*, Torino: Chiantore; Artom, Emilio and Osimo, Alice (1935), *Aritmetica, geometria, algebra ad uso delle scuole d'avviamento professionale: Vol. I-III*, Rocca S. Casciano: Cappelli; Artom, Emilio and Osimo, Alice (1938), *Geometria, ad uso delle scuole medie inferiori*, Rocca S. Casciano: Cappelli; Elsa Bachi (1926), *Testo di geometria piana e solida ad uso delle scuole industriali, commerciali e medie inferiori*, Torino: Paravia.

<sup>16</sup> About the *Conferenze Matematiche Torinesi* see (Luciano & Roero 2008, p. 145-149; Luciano & Roero 2010, p. XI-XVIII, 1-212).

<sup>17</sup> See, for example, the methodological instances supported by E. Artom in *Elementi di aritmetica ad uso delle scuole secondarie inferiori*, Bologna: Cappelli, 1922, p. 5-11, 100-111.

## A gender balance: Jewish female students and teachers

Among the distinctive features of this community of Jewish teachers of scientific subjects is the fact that it counted many women<sup>18</sup>. Having grown up in a context which offered a true equality of educational opportunities, Israelite girls were in a privileged position compared to their classmates. In Turin, since the pre-unity period they had been admitted to attend Jewish schools and they had counted on the support of some welfare structures like the *Israelite Women's Charity Society*, which helped young women to undertake a job and to qualify as schoolteachers, supported them with scholarships, and set up prizes for deserving pupils. Besides, in Turin there were no fewer than 5 boarding schools for girls. At these latter institutions the teaching were actually aimed at providing girls with competences to manage a household efficiently (for example basic notions of home economics, hygiene, pharmacopoeia, etc.), but there were also some cases of young female Jews who, after studying in these schools, became teachers, headmistresses, inspectors, supervisors of summer camps or orphanages etc.

The result of female Jewish schooling was important. In the faculty of sciences, female Israelite students constituted 6% of the graduates in the period of 1892-1938. The majority of them, after having obtained the degree and the qualification, entered the world of school.

In this female universe, Ida Terracini stands out. Born in Asti, Ida attended kindergarten and primary Israelite school in that town, then enrolled at *liceo* Alfieri in Turin and obtained a degree in pure mathematics at the university in July 1892. She was the first woman to take a degree in mathematics in Turin. Soon afterwards, she was qualified to teach and founded a boarding school for Israelite girls in Turin, also open to students of other religions. In addition to directing this private college, she was also a math teacher, and then a headmistress, in many local public schools. No less emblematic is the career of Costantina Levi, who was the second woman to achieve a degree in mathematics at the university of Turin. A disciple of Segre and Enrico D'Ovidio, Levi showed good talent for geometrical research, to the point that she was invited to publish an abstract of her dissertation. She was a 'pillar' of the Turin's school *milieu*, teaching for more than 40 years at *liceo* Alfieri.

## The racial laws

If the Jewish presence represented an aspect numerically and qualitatively so important in the local context of scientific education, it is not surprising that the

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<sup>18</sup> For a first survey of the community of Jewish female teachers of scientific subjects in Turin see (Luciano 2014).

process of aryianization imposed by the fascist regime on the Turinese schools had dramatic consequences: 23 teachers were dismissed from their positions; more than 380 students were expelled<sup>19</sup>; the use of textbooks by Jewish authors was prohibited in all State institutes (this is the so-called procedure of *Bonifica libraria*)<sup>20</sup>. Racial laws threw the Turinese Jewish teachers into incredulous disarray. For the majority, who had often declared that they were of Jewish origin but of no declared religious belief, this move constituted political rather than racial discrimination. Between 1938 and 1943, the teachers of mathematics mentioned before opted for exile, escaped in the mountains, or were deported and killed in extermination camps. At *liceo scientifico* Galileo Ferraris, Emilio Artom was expelled amidst general indifference of his colleagues<sup>21</sup>. The same fate concerned many former disciples of Segre and Peano: Ugo Levi (born in 1903, a teacher in Saluzzo); Amalia Segre Norzi (1898-1943, a teacher in San Remo), etc. A tragic destiny of deportation and death affected two other disciples of Segre and Peano: Vittorina Segre (1891-1944) and Annetta Segre (1897-1944). Graduated in 1914 and in 1918 respectively, both had been supervised by Segre for their qualification thesis in the teacher training school. Indeed, they had also maintained scientific exchanges with the team guided by Peano, by attending the *Conferenze Matematiche Torinesi*. Well integrated into the national scientific community, they were appreciated members of the society of the teachers of mathematics *Mathesis* and of SIPS (*Società Italiana per il Progresso delle Scienze*). They were both arrested in Liguria and deported to Auschwitz, where they died in winter of 1944<sup>22</sup>.

The aryianization did not omit minutiae such as the removal of geographical maps and scientific instruments drawn by Israelite authors. Moreover, the ministry imposed a didactic program which was “frankly racist”. Despite a bit of upheaval, Turin’s schools conformed to these rules. For example, *licei* d’Azeglio, Alfieri and the Technical Institute Sommeiller agreed to actively participate in the *Racial Exhibition* of 1940<sup>23</sup>.

The racial laws stated that in the presence of a sufficient number of pupils, Jewish communities could set up their own para-state schools under the leadership of an Aryan commissioner. In Turin, Israelite schools were not to be set up *ex novo* but

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<sup>19</sup> *La Stampa Torino*, 30 August 1938, p. 7; 2 September 1938, p. 5; 3 September 1938, p. 6; Liceo Gioberti et alii 2012, p. 43-46; 117-124, 167-170.

<sup>20</sup> On the procedure of book cleansing see (Fabre 1998).

<sup>21</sup> Archive of *liceo scientifico* Galileo Ferraris, *Stato del Personale*, Emilio Artom *ad vocem*.

<sup>22</sup> On the deportation of Vittorina Segre and her stepdaughter Betty Foà see (Veiziano 2007, p. 194). Both Vittorina and Annetta Segre had been animated by strong patriotic beliefs; in particular Annetta had worked in the *Laboratorio delle studentesse per i combattenti* during the first world war (see <http://www.grandeguerra.unito.it/items/show/188>).

<sup>23</sup> Cf. Turin State archive: *Minutes of teachers reunions* of *liceo ginnasio V. Alfieri*, 27 February 1940; letter of the headmaster of Technical Institute G. Sommeiller to the ministry of *Demorazzia*, 26 February 1940, digitalized in [http://www.uciimtorino.it/fonti/documento\\_4\\_parte2.htm](http://www.uciimtorino.it/fonti/documento_4_parte2.htm).

the ancient Colonna-Finzi College was to be reformed<sup>24</sup>. The mathematician Alessandro Terracini (1889-1968), former full professor of geometry at the university of Turin, together with his brother Benvenuto (1886-1968), an eminent linguist<sup>25</sup>, investigated the modifications to be introduced in order to make the Colonna-Finzi College more laic and similar to the standards of national institutions:

I therefore believe that the problem of middle schools, which I mentioned already yesterday, is very important and notwithstanding new difficulties should be our priority to resolve in the best way possible, in order to guarantee our children the very best education possible. My thoughts regarding this are currently: a) the need for our schools to be organized with programmes which fully observe the government regulations b) the consequent need to limit the confessional party as much as possible c) I don't know whether or to what point existing buildings and equipment can be used but it's necessary to have a physics cabinet .... [A. Terracini to B. Terracini, 8 September 1938, in Lore Terracini (ed.) 1990, p. 448, transl. by the author]<sup>26</sup>

Regarding this, in Turin the idea of offering the students an eminently practical and professional scientific instruction, as offered by the Risorgimento Jewish schools, was rejected. Colonna-Finzi College was thus restructured, flanking accounting courses delivered by Ester Levi with a classical *curriculum* of studies (*liceo classico*). In Colonna-Finzi high school the mathematical courses were entrusted to Bonaparte Colombo (1902-1989) and Ugo Levi (born in 1903), and the science courses to Olga Viterbi Beer (born in 1890) and Marisetta Fubini Treves (1908-1973); in the middle school, the courses in mathematics and natural sciences were held by Adelaide Diena (1900-1981). For these teachers – who all arrived from State institutes – the racial laws were not only to determine dramatic awareness of

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<sup>24</sup> See (Corinaldi 1988; Bonino 1999, p. 65-92).

<sup>25</sup> Particular attention should be given to the experience of A. Terracini who, in the years 1938-48, for the first time devoted himself in a priority and systematic way to teacher training and to publishing textbooks of mathematics. In the last months he spent in Turin, before his exile in Argentina, Terracini accepted the invitation to publish an algebra textbook for *licei classici*, under a false name. The handbook, which bears the signature of Francesco Tricomi, is in some respects unusual. Terracini here fully developed the theory of real numbers according to Dedekind's construction, respecting a demand for logical-deductive rigor that would seem extraneous to a member of the 'school of Segre' and that would seem to better reflect the rigorist approach typical of the 'school of Peano'.

<sup>26</sup> "Ritengo dunque che il problema di una scuola media, a cui ho già accennato ieri, sia molto importante e che, se non si frappongono nuove difficoltà, sia un dovere impellente di risolverlo, e nel modo migliore, per non far mancare ai nostri figli nel limite del possibile quell'istruzione di cui non devono mancare. Le mie osservazioni in proposito al momento sono: a) necessità che la scuola sia organizzata con programma in nessuna parte inferiore a quello governativo; b) conseguente necessità di limitare al minimo la parte confessionale; c) non so se e fino a che punto si possano utilizzare locali e impianti esistenti ma occorreranno strumenti di fisica..."

their ‘identity’ but also a sort of return to their roots, in the framework of a working experience in contact with an entirely Jewish staff and class. As far as contents, these teachers were not allowed to deviate from the official syllabi. Instead, they rebelled via their cultural and ethical choices, continuing to adopt non-fascistized textbooks and encouraging pupils to continue developing critical free-thinking skills.

## Conclusion

The Turinese teachers did not (and could not) remain detached from the upheavals of the education system following the establishment of fascist dictatorship. In particular, the racial politics imposed by the regime collided with the existence of peculiar local dynamics and socio-cultural traditions. This is what emerges when analyzing the part played by the Jewish network of mathematics teachers in Piedmonts’ educational system. In this case, the regime was faced with a very consistent community, fully integrated and characterized by some cultural landmarks, in particular by its being a bridge between two styles of research and teaching: that developed by the ‘school of Segre’ and that promoted by the Peanians. By emitting racial laws, the regime decisively altered the local context of scientific instruction in Turin. The abrogation of those discriminatory decrees in 1945<sup>27</sup> did not stem their impact and did not succeed in completely restoring the Jewish presence in the Turin school world.

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<sup>27</sup> Some of the decrees concerning the abrogation of racial laws are dated 1944 but they were enacted by the Senate of the University of Turin on 24 May 1945. The Purge Commission (*Commissione per l'Epurazione*) of the University of Turin was nominated on 9 July 1945. Its President was the eminent anatomist and histologist Giuseppe Levi. In Turinese secondary schools the Purge process proceeded a bit more slowly. For example, at Liceo Galileo Ferraris Emilio Artom was reintegrated on 30 October 1945, but because of health reasons he did not resume his position.



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Per ordini: [ordini@nuovacultura.it](mailto:ordini@nuovacultura.it)

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