A tribute to Italian physiologists of Jewish descent evicted during the persecution ordered by the Fascist Regime in 1938

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Troiani D, Manni E. A tribute to Italian physiologists of Jewish descent evicted during the persecution ordered by the Fascist Regime in 1938. Adv Physiol Educ 31: 123–128, 2007; doi:10.1152/advan.00059.2006.—The present report commemorates the persecution of five renown Italian physiologists of Jewish descent that lost their chairs in medical schools because of the anti-semitic policies of the fascist regime. In 1938, Mussolini promulgated the Racial Laws, officially with the aim of safeguarding the purity of the Italian race in conquered African colonies. However, their true intent was to persecute the Italian Jewish community in agreement with the policy of Nazi Germany. In accordance with the Racial Laws, all non-Aryans were banished from professional activities and were evicted from public, social, and academic life. As a result, 98 full professors in Italian universities were removed from their academic positions. In medical schools, physiology, more than other discipline, lost the most prominent faculty members. Of the 17 full Professors of Human Physiology, five were of Jewish descent, and all were evicted: they were Camillo Artom from Palermo, Mario Camis from Bologna, Carlo Foà from Milan, Amedeo Herlitzka from Turin, and Ugo Lombroso from Genoa. All were talented and famous scientists who were forced to leave Italy and take refuge in foreign countries. At the end of World War II, Camis, Foà, Herlitzka, and Lombroso returned to Italy and resumed their previous academic positions, whereas Artom remained in the United States. Unfortunately, Camis died later that year. During the postwar period, some of the fascists responsible for the Jewish persecution were killed or committed suicide while the survivors were imprisoned and prosecuted. However, all were soon released and resumed their former positions.

Background

In the fall of 1938, the fascist government, headed by Benito Mussolini and allied with Nazi Germany, promulgated the Racial Laws, called at that time “Laws in Defense of the Race” with the aim to evict from the public, social, cultural, and academic communities all non-Aryans (Jews in particular) and others, such as homosexuals and gypsies, who were deemed racially or genetically unfit (57). Officially, the fascist regime wished to protect the nation against the “unnatural” influence of Jews and other, so-called “enemies” of the Italian people while safeguarding the purity of the race from degeneration caused by race mixing in Italy and within conquered African colonies. The Laws in Defense of the Race were preceded by vicious and aggressive anti-Semitism propaganda in the official media, newspapers, and magazines headed by fascist politicians with contributions from faculty members within medical schools (34, 35, 45, 48). The Manifesto on Racial Laws (1), a “Decalogue”, was published by anonymous on July 14, 1938 in the “Giornale d’Italia,” which was edited by Virginio Gayda, brother of Tullio, late Professor of Physiology at the University of Pavia. Soon afterward, on August 5, 1938, it was republished (34) and signed by a group of 10 scientists ideologically aligned with the regime. Officially, the Manifesto had been written by a committee, and the most influential members (35, 48) were recognized scholars in Italian medical universities. Namely, the most influential members included the following scientists: Nicola Pende, a prominent endocrinologist and full Professor of Internal Medicine at the University of Rome; Arturo Donaggio, Chairman of Neurology at the University of Bologna; and Sabato Visco, Chairman of General Physiology in Rome. Minor members with national reputations from the University of Rome were Edoardo Zavattari (zoologist), Marcello Ricci (zoologist), Franco Savorgnan (demographist), Lino Businco (pathologist), and Guido Landra (anthropologist). Other members were Lidio Cipriani (anthropologist) from the University of Florence and Leone Franzini (pediatrician) from Milan.

The scientific rationale for the Manifesto was poor, but that was not its intent. Mussolini had personally directed and added corrections to the original text to strengthen its anti-Semitic message. In accordance with Nazi racist ideology, Mussolini used the scientific committee to appraise and legitimate his antagonism policy against the Jews and their international economical and political influences. Thus, the Gran Consiglio of Fascism, the most powerful organ of the Fascist Regime (49), approved in rapid succession a series of edicts (17, 54, 55,
and “The Paper of the Race” on October 6, 1938, which was to become law with the addition of few other regulations on November 17, 1938 (17, 57). As a result, the needs of the alliance with Germany were safe (17, 18) and Mussolini’s racism was satisfied. King Vittorio Emanuele III cynically signed the laws and thus approved an unconscionable iniquity that was also illegal because in the Italian Kingdom Constitution of the time, there was clearly stated that “all citizens are equal versus the law.” The Racial Laws had come with relatively little warning and reversed the prior policy of the fascist regime (35, 50). Tullia Zevi, until recently the longtime president of the Italian Jewish community, was a teenager at the time and recalls that “From one day to the next, we became nobodies, ghosts . . . .” Later, she fled Italy with her family and found refuge in the United States (58). Within the Italian medical community, both approval and disapproval existed for the Racial Laws that was determined according to the individual’s political and ethical orientations. The opposition of the Jewish community to the Racial Laws was absolute and unrelenting. Since no public disapproval could be expressed because of the freedom restrictions applied by the fascist dictatorship, the persecution continued unabated.

Jews in Italy and in Medical Schools

At the time, there were ~47,000 Jews in Italy, which were located mainly in Rome, Milan, and Trieste. All were unexpectedly banished from public life and subjected to a wide range of humiliating and degrading restrictions. Jews had been completely integrated in Italian society; many had been active participants in Italy’s independence movement during the 19th century, most were proud of their Italian identity, many had served in the Italian army during World War I, some had been early supporters of Mussolini, significant numbers were members of the fascist party [Partito Nazionale Fascista (PNF)], and only a few were known to be anti-fascists (11, 51).

Some years later, after the armistice of Italy with the Allied Armed Forces (September 8, 1943) and after the occupation of Italy by the German army, Germany and the militia of Mussolini’s reconstituted fascist republic of Salò exacerbated the Racial Laws, which culminated in the deportation of many thousands of Jews to German concentration and death camps. Approximately 5,700 Italian Jews perished (11, 47). However, we will focus our attention on the persecution of Italian faculty members located in medical schools.

At the beginning of the 1939 academic year, a few weeks after the promulgation of the Racial Laws, 98 full professors, ~200 “liberi docenti” (professors without chairs or tenure), and ~300 school teachers were banned from universities and schools because of their Jewish heritage (43). Many renowned faculty members were evicted; among them were anatomist Giuseppe Levi (Turin), a mentor of three future Nobel Laureates (Rita Levi Montalcini, Renato Dulbecco, and Salvador E. Luria); surgeon Mario Donati (Milan); histologist Tullio Terni (Padua); medical clinician Guido Melli (Parma); pediatrician Maurizio Pincherle (Bologna); and medical clinician Maurizio Mosè Ascoli (Palermo). Also included was Aldo A. Luisada, a distinguished cardiologist from Ferrara who left Italy in 1939 to become a faculty member at the medical school of the University of Chicago. Luisada, founder and first president of the Laennec Society for Cardiovascular Sound, is remembered for his researches in phonocardiography to monitor cardiac performance and on the mechanisms of heart sound generation and cardiac contraction (40, 41).

Because of the Racial Laws, the faculties of medicine lost 18 full professors. Of the academic disciplines, physiology paid the heaviest tribute as five were physiologists. At that time, there were 17 Chairs of Human Physiology and 5 Chairs were held by talented researchers who were full professors located in the most prestigious medical schools but were of Jewish descent. All were evicted. They were Camillo Artom (Palermo), Mario Camis (Bologna), Carlo Foà (Milan), Amedeo Herlitzka (Turin), and Ugo Lombroso (Genoa). This outrageous injustice was not only an affront to academic freedom but it caused irreparable scientific damage. Attempts, including petitions, to defend and protect the evicted physiologists were undertaken by their medical colleagues; however, their results were to no avail. All fled the country: Camillo Artom to the United States, Carlo Foà to Brazil, Amedeo Herlitzka to Argentina, and Ugo Lombroso to France. Mario Camis became a Dominican monk known as Father Albert and went to Manila, in the Philippines, to teach physiology.

Racial Hygiene and the Brain Drain in Physiology

In this section, we commemorate the evicted physiologists and provide a short biography listing their most important scientific achievements before the promulgation of the Racial Laws.

Camillo Artom. Dr. Camillo Artom (1883–1970) is shown in Fig. 1; MD at Padua in 1917. During the years 1921–1923, he was in Frankfurt as a pupil of Gustav Embden (1874–1933) before moving to Amsterdam. Subsequently, he returned to Italy and assumed positions in Palermo and Naples. Later, in 1930, he was appointed the Chair of Physiology in Cagliari; in 1931, he then became the Chair of Physiology until 1938 at the University of Palermo. Because of the Racial Laws, he left for the United States the following year. As a result of his international reputation in lipid metabolism, Artom was offered the position of Chairman of the Department of Biochemistry in the Medical School at Wake Forest University in North Carolina. In 1941, he became Chairman of the Department of Biochemistry at the Bowman Gray School of Medicine, also in North...
Mario Camis (1878 –1946) of Bologna, Italy. [Reprinted with permission from the University of Bologna.]
to Padua. In 1925, he became Chairman of Physiology in Milan, and, soon after, he was elected Dean of the Faculty. Because of the Racial Laws, he left for Brazil, where he remained until 1945. After the war, he returned to Italy, where he was reappointed to his former position and where he stayed until the age of 75.

Foà was an eclectic researcher who analyzed the chemical-physical parameters of blood, studied the effects of periodic breathing, and investigated cardiac automatism and the significance of blood pressure waves. He is remembered for his investigations in endocrinology physiology, which included the analysis of nonuterine development of fertilized eggs, the growth of the mammary gland, and, his seminal discovery, that the ablation of the pineal gland will induce precocious development of gonads in chickens (25, 26). Interest in the physiology of melatonin, the pineal gland hormone, has increased since his discovery, and it is known that the pineal melatonin rhythm serves as an internal daylength signal capable of regulating not only a variety of behavioral and endocrine rhythms but also the seasonal control of reproduction (2, 53).

**Amedeo Herlitzka.** Amedeo Herlitzka (1872–1949) (Fig. 4) was born in Trieste in 1872. He was a medical student at Pisa but was soon jailed (8 mo) in Trieste because of his activity against the Royal and Imperial Government of Vienna. He resumed his medical studies in Florence and then in Rome, where he graduated with a thesis from the Institute of Physiology, which was directed by Luigi Luciani (1840–1919). His thesis dealt with the ontogenesis of amphibian eggs, his most important investigation (28). At that time, the question was debated as to whether splitting a fertilized egg could produce two embryos. He obtained two embryos, although smaller, from the divided and fertilized embryos of *Triton taeniatus*, and, thus, the controversy was settled. This research brought him international fame and recognition that lasted for more than 50 years.

After graduation, Herlitzka worked for a year in the Psychiatric Hospital at Florence with Eugenio Tanzi (1856–1934). In 1898, he entered the Institute of Physiology of Turin to become the pupil of Angelo Mosso (19). He remained in Turin except for his exile period in Argentina because of the Racial Laws.

He became interested in biochemistry and investigated the ontogenesis of enzymes and the catalytic action of nucleoproteins of different organs, such as the liver and kidney, and in the activity of the glycogenic enzymes of *Saccharomices cerevisiae* (29). He also studied cardiopulmonary resuscitation in mammals after cardiac arrest due to asphyxia and developed a device for heart perfusion with epinephrine (31). Later, he became interested in muscle contraction and sport physiology and analyzed heat production during the cardiac cycle, conducted physiological evaluations of athletes, and established criteria of fitness for pilots (33). His selection methods for pilots were reported in the *Handbuch der Biologischen Arbeitsmethoden* by Emil Abderhalden (32). In addition, he made other meaningful contributions to the fields of aviation and muscle exercise physiology (30). Amedeo Herlitzka is remembered as an outstanding scientist who was a dominating influence in the history of Italian physiology.

**Ugo Lombroso.** Ugo Lombroso (1877–1952) (Fig. 5) had a father [Cesare Lombroso (1835–1909)] who was a famous Professor of Criminal Anthropology in Turin. As a student, he was influenced by the teachings of Gustav Embden, Oskar...
Minkowski (1858–1931), and G. van Rijnberk. He was the Chair of Physiology in Messina (1919), Palermo (1923), and Genoa (1935). Because of the Racial Laws, Lombroso fled to France to become Maître de Recherche at the École de Médecine in Paris. After World War II, in 1945, he returned to Genoa to be reinstated as the Chair of Physiology. He was the first to publish in 1908 that a pancreatic lipolytic factor was responsible for the oxidation of lipids (38, 39). Fat liver infiltration in dogs after pancreatectomy was the proof for the fundamental role of the pancreas in fat metabolism. In later years, Lombroso’s observations were extended, and, since 1924, it has been known that the development of fatty livers in insulin-treated pancreatectomized dogs can be prevented by the administration of raw pancreas. When it was recognized that the activity of pancreas fractions upon the liver could not be accounted for by their choline and methionine content, an antifatty liver factor was postulated and called “lipiocic” by Dragstedt et al. (22, 23) and anti-fatty liver factor (AFL) by Chaikoff and Entenman (16). The presence of such a lipotropic pancreatic factor has been debated for more than 50 years.

Ugo Lombroso is remembered as an anti-militarist, a socialist, and an anti-fascist. He was also one of the very few faculty members who never accepted the compulsory membership of the fascist dictatorship.

Conclusion

By the end of World War II, and after the fall of fascism, the Racial Laws were abrogated in Italy. Consequently, evicted professors of physiology were reinstated in their academic chairs. However, this was not the case for Camis, who died in the summer of 1946, or for Artom, who remained in the United States. Faculty members who endorsed the Racial Laws were punished, and some were jailed. However, they were soon released and resumed their previous academic positions.

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GRANTS

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