The Physical Tourist

Geneva: From the Science of the Enlightenment to CERN*

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John Calvin (1509–1564) founded a College and Academy in Geneva in 1559, the latter of which, through the efforts of many of its scholars, was finally declared to be a genuine university, the University of Geneva, in 1872. Meanwhile, thanks to the outstanding achievements of the rich, patrician genevan scientists, in particular during the 18th century, Geneva secured a prominent place in European learned society. With the appointment of Charles-Eugène Guye (1866–1942) to the University of Geneva in 1900, Genevan research entered resolutely into 20th-century physics, particularly relativity, and continued to gain momentum before and after the Second World War when, in 1953, Geneva was chosen as the site of one of the most prestigious scientific laboratories in the world, CERN. I sketch these developments, pointing out many of the locations where they occurred in Geneva.

Key words: Geneva College and Academy; Geneva Observatory; University of Geneva; Institute of Physics; Museum of History of Science; CERN; John Calvin; Carl Vogt; Jean-Robert Chouet; Jacques-André Mallet; Emile Gautier; Horace-Bénédicte de Saussure; Pierre Prévost; Gaspard de la Rive; Auguste de la Rive; Charles-Eugène Guye; Albert Einstein; Ernest C.G. Stueckelberg; physics; astronomy; history of physics; scientific instruments; theory of relativity; quantum theory.

Introduction

Most people probably associate physics in Geneva, Switzerland, with CERN, one of the most prestigious scientific laboratories in the world. Some who are historically inclined, however, will know that Geneva has a glorious scientific past, for during the Enlightenment of the 18th century it witnessed a burst of scientific activity that was unmatched by hardly any other European city of comparable size.¹ Geneva scientists such as Abraham Trembley (1710–1784), Charles Bonnet (1720–1793), Jean-André Deluc (1727–1817), Marc-Auguste Pictet (1752–1825), Horace-Bénédicte de Saussure

* For an interactive map of Geneva, see the website <www.ville-ge.ch/en/cartes/>.
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(1740–1799), Pierre Prévost (1751–1839), and their peers were typical representatives of 18th-century men of science who achieved, without any institutional support, scientific greatness. However, as science became more and more professionalized in the 19th century, Geneva’s learned institutions proved to be outdated and could not keep up with the increased pace of European science. The legacy of the rich, patrician 18th-century Genevan scientists could not be extended without fundamental institutional changes.

**Calvin’s College and Academy**

In 1559 John Calvin (1509–1564) founded a College and Academy in Geneva, but it took three more centuries, until 1872, before Carl Vogt (1817–1895), a German refugee who became an outspoken advocate on the Genevan political and academic scene, succeeded in having Calvin’s Academy declared a genuine university, the University of Geneva, with himself as its first Rector.² He finally made the dream of many liberally minded Genevan scientists and intellectuals since the 17th century come true.

Calvin had conceived his College and Academy as two successive institutions, with students pursuing their primary education in French, Latin, Greek, history, rhetoric, and catechism between the ages of seven and fifteen in the College and then being admitted into the Academy.³ Both were devoted to the education of Geneva’s professional elite, with special emphasis placed upon the training of clergymen, who were required to minister to its growing protestant community. Calvin and his counselors promoted higher education as essential for spiritual progress and leadership, but did not insist that science be taught. The Academy began with four chairs (Theology, Greek, Hebrew, Philosophy) and despite an intense effort by Théodore de Bèze (1529–1605), Calvin’s successor and first Rector of the Academy, to extend its teaching to Law and Medicine, only the former achieved a precarious stability a decade after its founding.* The first dedicated teaching in science had to wait until the beginning of the 18th century with the establishment of the first chair of mathematics in the Academy in 1724 and the first chair of experimental philosophy in 1737, both of which were manifestations of the progressive conviction that science could serve religion through the study of Nature, the glorious creation of God.** Then, as the influence of Cartesianism began to weaken on the European continent, Geneva became an early stronghold of Newtonianism whose representatives reexamined the relationship of science to religion. Much of this spirit guided the endeavors of 18th-century Genevan scientists.

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* The tragic St. Bartholomew’s Day massacre in France (1572) caused a massive influx of protestant refugees to Geneva with many first-rate scholars among them. Some were hired by the Academy and greatly helped to promote the teaching of law and the humanities.

** The slowness in the enlargement of the Academy’s teaching was not only due to the resistance of the clerical authorities. In its early stages, Geneva’s finances were in quite bad shape, which not only prevented the hiring of additional professors, but sometimes led to the suppression or at least temporary suspension of some teaching which, when eventually renewed, often had its name changed. This lack of continuity persisted in the 18th and 19th centuries; it makes the evolution of the teaching of science in Geneva quite difficult to reconstruct chronologically.