PROJECTS

This department welcomes brief notes and article-length manuscripts. The former may include announcements of contemplated ongoing projects, information on doctoral theses in progress or completed (writer, title, institution, supervisor, and available information on completion time), proposals and questions, and requests for assistance. Announcements of individual research projects, including theses, are very important to avoid awkward and wasteful duplication of effort. Articles will ordinarily describe projected, in progress, or completed large-scale projects involving one or several scholars and should follow the same standards as other articles.

A Spanish Edition of *Disquisitiones Arithmeticae*

By *Mark Villarino, Michael Josephy, and Angel Ruiz-Zúñiga*

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The present authors are preparing what they hope will be the definitive Spanish edition of Gauss' *Disquisitiones Arithmeticae*. The *Disquisitiones*, published in 1801 when Gauss was just 24 years old, signaled the birth of modern number theory.

The *Disquisitiones* was written originally in Latin [Gauss 1801], already an outdated practice at that time. (Much of Gauss' subsequent work appeared in German.) Translations into French [Gauss 1807] and into German [Gauss 1889] appeared in the 19th century. An English version [Gauss 1966] was made only comparatively recently.

Preparation of the Spanish edition should take 4 years to complete. The project enjoys the support of the Vice Rector of Research of the University of Costa Rica, the Costa Rican Association for the History and Philosophy of Science, and the Latin American Society of the History of Science and Technology (SLHCT). The final work will include not only the literal translation with appropriate footnotes, but also a historical introduction and an epilog that will consider developments growing out of Gauss' discoveries.

The authors welcome any information or advice that could help the project. They would like especially to learn of other translations of the *Disquisitiones*.

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Project on Interrelations between the Development of Theoretical Mathematics and Applications during the 19th Century

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Recently a research project on the relationship between the development of theoretical mathematics and mathematization in applied fields during the 19th century has been pursued at the Universität-Gesamthochschule Wuppertal. It concerns two case studies selected more or less from the "extremes" of the spectrum of possible applications of mathematics:

—The first case deals with crystallography, which during the period under consideration was transformed from a branch of natural history into a mathematized experimental science. The investigation focuses on the symmetry concepts and their underlying implicit group ideas used by crystallographers of the first half of the century, their relationship to the origins of geometrical group theory, and their role as background for the successful classification of crystallographic space groups by Fedorov and Schoenflies.

—The second case refers to the attempts to theorize the rising new engineering sciences by means of methods from theoretical mathematics. Here different approaches to duality phenomena in graphical methods of engineering statics have been investigated, centering on Carl Culmann's program to theorize graphical statics with methods from projective geometry.

In these case situations we find wide differences with respect to the types of approach to mathematization of an applied field and with respect to styles of theorization, types of interaction of the applied field and mathematics proper, and