from the Eastern Mediterranean to Northern Europe.

In the first contribution, John Scarborough takes the remnants of an epic poem about the battle of Actium as his point of departure. Its author describes Cleopatra's experiments testing various ways of dying on criminals, similar to the poison trials described by Plutarch. On the basis of these accounts, Scarborough paints a picture of the doctors (one of them mentioned by Plutarch) associated with the Ptolemies' court and their pharmaceutical remedies.

Alain Touwaide manages to extract valuable information from the probably pseudo-Galenic *quid pro quo* list of substances that can be used in place of others. Printing the lists in transliterated Greek, which makes for awkward reading, was presumably an editorial decision, perhaps with a view to making the material more accessible (or to avoid the pitfalls of identification?), but it is difficult to see how this would help. The transliterated *peristeras kopros*, for example, is as incomprehensible to those without Greek as it would have been in Greek script.

The next stage in the itinerary of ancient pharmaceutical knowledge toward the West looks at its transmission via Salerno, beginning with Florence Eliza Glaze's treatment of the eleventh-century Gariopontus's *Passionarius* and the glosses on Greek technical terminology that were added to it over time in an attempt to create a shared medical language. Faith Wallis contributes what is in fact the first edition of a twelfth-century commentary on Constantine's *Liber graduum*, the earliest Latin text to tackle Galen's theory on the properties of *materia medica*. Winston Black describes the long afterlife this work enjoyed in didactic poetry, especially in medieval Western Europe, a form of survival that led to a simplification of its medical content.

The next group of four papers follows the movement of pharmacological knowledge toward Northern Europe and into early modern times. Maria Amalia D'Aronco uses the plant name *elehtre* as an example of the difficulties facing those who translated Latin into Old English, whereas Linda Ehrsam Voigts shows how authors who included satirical references to herbal healing in Middle English texts could expect to be understood by their audiences. Karen Reeds looks at the sudden emergence, in the 1990s, of Saint John's wort as a treatment for depression, accompanied by largely unsubstantiated claims as to its long history as an antidepressant. Even in a volume filled with information about writings unknown to most medical historians, the fifteenth-century *Moravian-Silesian*

Surgical Field Manual presented by Gundolf Keil must surely take the prize for arcaneness. Written in a dialect form of German and discovered in a manuscript of the Upper Silesian aphorisms on Roger's *Surgery*, it may be the oldest piece of medical writing in German containing a reference to gunshot wounds.

John K. Crellin recalls the polemics triggered by Riddle's two books about the history of contraceptives and abortifacients and revisits his analysis of a British court case of 1871, in which the defendant was charged with supplying a drug to cause abortion.

The final, rather technical, chapter of *Herbs and Healers from the Ancient Mediterranean through the Medieval West* brings the discussion up to the digital age, with Helmut W. Klug and Roman Weinberger presenting a new Internet tool, the Portal for the Medieval Plant Survey. This is still at an early stage, but the aim is to create a vast database and a platform for interdisciplinary collaboration.

This diverse collection may not be one that everyone will want to read from cover to cover; rather, it offers a selection for browsing and choosing. Medical historians, historians in general, classicists, medievalists, and those with an interest in botany should all find something here that they will enjoy—and most certainly an opportunity to learn something new.

C. F. SALAZAR

Suzanne Féry (Editor). *Aventures de l'analyse de Fermat à Borel: Mélanges en l'honneur de Christian Gilain.* (Histoires de Géométries.) 728 pp., illus., bibl., index. Nancy: Presses Universitaires de Nancy, 2012. €30 (paper).

Analysis has been central to the history of mathematics from the seventeenth century to the present. The conceptual development of analysis had been the focus of considerable intellectual interest. There is also recognition in countries such as France that the achievements of past mathematicians are an important part of the nation's cultural heritage.

This collection of essays honors the French historian of mathematics Christian Gilain on the occasion of his sixty-fifth birthday. Gilain has contributed to several different areas of the history of analysis, focusing in detail on Jean d'Alembert, Nicolas de Condorcet, Augustin Cauchy, and Henri Poincaré. He is also one of the founders and has been an editor of the journal *Revue d'Histoire des Mathématiques* and has actively led seminars in Paris and coordinated research there in the history of mathemat-

ics. The editors use the term "conceptual history" to refer to his approach to history, although this term should be taken broadly and does not preclude an interest in biography and institutions. Referring to his own historical orientation, Gilain has written, "My interest bears less on the establishment of a detailed chronology of a succession of results than on the particular study of the emergence of new types of problems and methods" (p. 18).

Beginning from the early differential and integral calculus, analysis in the eighteenth century developed into several distinct branches of mathematics. During this period there was a close connection between analysis and topics in mathematical physics such as mechanics and physical astronomy. Perhaps more so than other areas of Enlightenment science, mathematical analysis achieved a maturity and a detailed level of theoretical elaboration, something that was most clearly evident in the writings at the end of the century of such figures as Joseph-Louis Lagrange. The transition from the eighteenth to the nineteenth century was marked by a major change or "rupture" in the outlook of the subject. A well-established algebraic and formal approach was superseded by a more abstract episteme in which the concept of the numerical continuum played a fundamental role. During the nineteenth century the roots of analysis deepened, its various branches grew and extended, and analysis became the very heart of mathematics. (Morris Kline, writing in *Mathematical Thought from Ancient to Modern Times* [Oxford, 1972], is more specific on this point, observing that in the nineteenth century "partial differential equations became and remain the heart of mathematics" [p. 671].)

Suzanne Féry, the supposed editor of the volume, is a pseudonym for the actual editors: Olivier Bruneau, Pierre Crépel, Jean Delcourt, Alexandre Guilbaud, and Irène Passeron. The decision to use a pseudonym expresses the fact that the volume was the contribution of many people: the editors, the authors of the essays, and colleagues who assisted in its production. In 1962, at the age of fifteen, Christian Gilain participated in a demonstration against the Algerian War at the Charonne metro stop in Paris; "Suzanne Féry" is a compound of the names of two of the people who were killed in this demonstration: Suzanne Martorell (who was thirty-six) and Daniel Féry (who was sixteen).

The 728 pages of *Aventures de l'analyse de Fermat à Borel* embody the contributions of more than twenty historians and encompass a wide range of topics and approaches. Although the essays reflect in broad outline Gilain's fields

of historical research, the coverage is neither systematic nor strongly unified by theme. The essays are presented chronologically, with about 70 percent of the contents of the volume devoted to pre-1800 developments. While the editorial material and most of the essays are written in the French language, there are two contributions in Italian and four in English. Overall, the reader is presented with a variety of interesting perspectives on the history of analysis. Significant and rewarding in themselves, these studies will provide useful directions for further study and research.

Subjects in analysis that are explored include Riccati's differential equation (Silvia Mazzone and Clara Roero), some work of Maupertuis on the tractrix curve (Dominique Tournès), partial differential equations in J.-A.-J. Cousin's work in the 1770s (Guillaume Jouve), Monge and ordinary differential equations (Jean Delcourt), complex analysis in d'Alembert and Cauchy (Umberto Bottazzini), Poincaré's uniformization theorem (Jeremy Gray), and Weyl on Riemann surfaces (Christophe Eckes). Jouve's study is notable in calling attention to Cousin as a transitional figure whose work anticipated some nineteenth-century ideas. Topics in mathematical mechanics are central forces in Varignon and d'Alembert (Christophe Schmit), the rotation of the moon (Michelle Chapront-Touzé), fluid dynamics in the *Encyclopédie* (Alexandre Guilbaud), and elastic collision in d'Alembert and Euler (Ryoichi Nakata). There are studies of some subjects related more or less to analysis: number theory in the seventeenth century (Catherine Goldstein), algebraic curves in Newton and Cramer (Thierry Joffredo and Olivier Bruneau), and Lagrange and the theory of finite differences and its connection to probability (Maria Teresa Borgato).

Three essays are devoted to matters of correspondence: d'Alembert and academic correspondents in the eighteenth century (Marie Jacob), Laplace (Roger Hahn), and letters from French mathematicians to Weierstrass (Gert Schubring). Several of the contributions concern biography. There are examinations of Jean Itard's biographical studies of Clairaut (Fabrice Ferlin), Bézout and his mathematical work (Liliane Alfonsi), Lagrange and the question of his nationality (Luigi Pepe), Lagrange's manuscript lectures at the Ecole Polytechnique (Christine Phili), and Borel and political engagement (Hélène Gispert). Finally, mention should be made of an essay on the history of analysis in Portugal around 1800 (Luis Saraiva) and a study of the loss of French mathematicians in World War I (David Aubin).

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