fascinating old history of mathematics in the nineteenth century, had cited Cauchy's lectures as evidence of the "unusually high requirements on the purely mathematical side that were set as a basis" for the practical instruction in the École Polytechnique. But this turns out not to be true. In fact, there were complaints about Cauchy's teaching—and my, but they do sound familiar! *Five* lectures on the generalities of integration? "That might be all right in the Faculty of Sciences," said a physicist, "but it is not appropriate in the École Polytechnique, where the students are pressed for time." By 1825, when Cauchy repeated the course on differential equations, the Ministry of Education had been persuaded to decree officially that lecturers should stick to the syllabus officially established. Officially, Cauchy agreed: the minutes for November, 1825 say "M. Cauchy announces that, to conform to the wishes of the Council, he will no longer strive, as he has up to now, to give perfectly rigorous proofs." But in fact he did not change. The minutes a year later record that "M. Cauchy has presented only lecture notes that could not satisfy the commission, and thus far it has been impossible to make him...carry out the decision of the Minister." In other words, his notes that year were not considered fit to print.

Cauchy was always a man of prickly principles. Loyal to the old Bourbon regime, he abandoned his positions rather than swear an oath of allegiance to Louis Philippe after the 1830 revolution. (In 1838 he resumed activity in the Académie, which was exempt, but still refused all positions requiring the oath.) He had even less liking for the republican government set up in 1848, but he immediately resumed his position at the Sorbonne—because an oath was no longer required. Personal details like this are usually mere diversions in the history of mathematics, but in this particular case they seem to be important. As several authors (including Grabiner) have pointed out, Cauchy was not the only mathematician to lecture on calculus at the École Polytechnique. Ampère, Poisson, and others did so at about the same time. But Cauchy was stubborn. He would no more choose to give a false proof than to swear a false oath; he would deliver *his* lectures *his* way. And it seems that his stubbornness as well as his genius helped to give us the *Cours d'analyse*.

WILLIAM C. WATERHOUSE

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Numerical methods for stiff equations and singular perturbation problems, by Willard L. Miranker, Mathematics and its Applications, vol. 5, D. Reidel Publishing Company, Dordrecht, Holland; Boston, U.S.A.; London, England, 1981, xiii + 202 pp., $29.95.

Numerical analysis and perturbation theory are two principal approaches to the problems of applied mathematics. It is a little surprising that there has not been more interaction between these approaches. In my opinion this is because the goals and the problem classes are rather different. At the risk of gross