BAIRE'S LEÇONS D'ANALYSE.

Leçons sur les Théories générales de l'Analyse. Par RENÉ BAIRE. Tome I: *Principes fondamentaux, Variables réelles.* 1907. 8vo. 17 figures, x + 232 pp. 8 fr. Tome II: *Fonctions analytiques, Équations différentielles, Applications géométriques, Fonctions elliptiques.* 1908. 8vo. 35 figures, x + 347 pp. 12 fr. Paris, Gauthier-Villars.

THE prefaces of these books express in vigorous and convincing language the author's beliefs and plans. Baire has abundantly demonstrated his right to strong opinions; what he thinks regarding comparatively elementary instruction is not to be despised. As a specimen, I quote the following to avoid loss of force in translation: Rigeur et simplicité ne sont nullement inconciliables, si l'on prend nettement le parti de faire pénétrer, dans l'enseignement des principes fondamentaux, certaines idées qui ont été acquises à la Science dans l'étude de questions d'ordre plus élevé. Pour en prendre un exemple frappant, la notion de bornes supérieures et inférieures d'un ensemble, qui commence seulement à être vulgarisée."

This bugle call to the standard of rigor may affright some to whom rigor and difficulty seem synonymous: precisely to such persons Baire's treatise will be a revelation — it *is* simple. That it is also reasonably accurate, Baire's name and the preceding quotation guarantee; indeed one's expectation outruns the author's intention, and one notes the careful avoidance of difficult questions far more than any tendency to finesse.

A very special interest attaches to the introductory work and to the treatment of the foundations of the subject, both because the presentation is somewhat novel, and because the main body of the work is strictly limited to rather usual topics which give rise to little comment.

The first chapter is a treatment of the fundamental concepts of irrational numbers, sets of points, limits, and continuity. As noted in the preface, this chapter is substantially a reproduction of Baire's Théorie des nombres irrationels, des limites et de la continuité, published in 1905 by Vuibert et Nony. As a whole it is clear, exact, and elegant, and may well serve any student as an introduction to this subject.

A consistent treatment of irrationals by the Dedekind cut process is followed by brief treatments of the bounds of an assem-