THE DAVIS CALCULUS.

THE attack on our Calculus in the June BULLETIN perhaps
calls for a word of protest. It is some consolation to know that
the book has attractive elements, even though it is not stated
what they are. Pleasant also is it that the reviewer recognizes
that we did try to introduce interest into the subject. To get
the student interested is certainly an important matter; and
it is our belief that a text can and should help a teacher in
doing so. The exciting of interest, however, is but a means to
an end, that end being the stimulation of accurate thought on
the many and varied applications of the calculus.

Mayhap the reviews of the book in the *American Mathe-
matical Monthly*, in the *Bulletin* of the Society for Promoting
Engineering Education, and in *Science* were far too favorable;
yet, taken altogether, they would seem to indicate that we
had been reasonably successful in carrying out our ideas.
Still more satisfactory is it to know that of the seventy-odd
institutions who will use the book for the coming year, a
majority have already used it for three years.

Might we indeed possibly suggest that a review, to be valu-
able, should be accurate and judicial, not marred by exaggera-
tion, by guesses as to how the book was written and what its
reception will be, or by remarks on visionary ideals that have
nothing to do with the use of the book?

ELLERY W. DAVIS.

NOTES.

THE July number (volume 16, number 3) of the *Transactions
of the American Mathematical Society* contains the following
papers: "Sur les fonctionnelles bilinéaires," by M. FRÉCHET;
"Oriented circles in space," by D. F. BARROW; "A new isos-
celes triangle solution of the three body problem," by D.
BUCHANAN; "Surfaces Ω and their transformations," by L. P.
EISENHART; "The general theory of congruences," by E. J.
WILCZYNSKI; "On matrices whose coefficients are functions
of a single variable," by J. H. M. WEDDERBURN; "Conformal
classification of analytic arcs or elements: Poincaré's local
problem of conformal geometry," by E. KASNER; "Extensions
of Descartes' rule of signs connected with a problem suggested
by Laguerre," by D. R. CURTISS; "On parastrophic algebras,"
by J. B. SHAW.

THE July number (volume 37, number 3) of the *American Journal of Mathematics* contains: "Projective differential geometry of one-parameter families of space curves, and conjugate nets on a curved surface," by G. M. GREEN; "Linear combinants of systems of binary forms, with the syzygies of the second degree connecting them," by W. F. SHENTON; "Elimination d'une inconnue entre plusieurs équations algébriques," by M. STUYVAERT; "Congruences associated with a one-parameter family of curves," by R. D. BEETLE; "Plane sextic curves invariant under birational transformations," by A. HELEN TAPPAN.

THE academy of sciences of Paris has recently announced the following awards of prizes in the mathematical sciences:

Francoeur prize (fr. 1500) to Professor M. J. MARTY of the Lycée Alby, who has since been killed in battle.

Poncelet prize (fr. 2000) to Professor M. RABUT, emeritus professor in the Ecole des ponts et chaussées.

Boileau prize (fr. 1300) to Professor U. PUPPINI, of the University of Bologna.

AT the meeting of the Edinburgh mathematical society on June 11 the following papers were read: "On spheroidal harmonics and allied functions," by G. B. JEFFERY; "Determinants connected with the periodic solutions of Mathieu's equation," by A. G. BURGESS; "On the oscillation functions derived from a discontinuous function," by L. R. FORD; "The angle between two lines in trilinears," by W. L. MARR.

THE Helvetian society of natural scientists held its annual meeting at Geneva, September 12–15, this being its centenary celebration. The mathematical section was presided over by Professor H. FEHR.

A NEW edition of de Morgan's Budget of Paradoxes, edited by DAVID EUGENE SMITH with extended biographical, historical, and explanatory notes, has just been published by the Open Court Publishing Company.

The following advanced courses in mathematics are offered at the Italian universities during the academic year 1915–1916:

UNIVERSITY OF BOLOGNA.—By Professor P. BURGATTI: Classical problems of celestial mechanics, three hours.—By Professor L. DONATI: Modern electromagnetic theories. Thermodynamics and its relation to radiations; hypothesis of quanta, three hours.—By Professor F. ENRIQUES: Geometric theory of algebraic equations and functions, three hours.—By Professor S. PINCHERLE: Functional calculus. Integral equations and applications, three hours.

UNIVERSITY OF CATANIA.—By Professor E. DANIELE: Vibrations of elastic bodies. Theory of sound, four hours. —By Professor G. PENNACCHIETTI: Dynamics of rigid bodies (advanced part). Elasticity. Viscous fluids, four hours.—By Professor C. SEVERINI: Partial differential equations, four hours.—By ——: Higher geometry, three hours.

UNIVERSITY OF GENOA.—By Professor C. C. LEVI: Selected topics in the theory of partial differential equations, four and one half hours.—By Professor G. LORIA: Numerative geometry, three hours.—By Professor O. TEDONE: Electromagnetic theory of light, three hours.

UNIVERSITY OF NAPLES.—By Professor F. AMODEO: History of mathematics: the middle ages, three hours.—By Professor A. DEL RE: n-dimensional analysis of Grassmann, with application to mechanics of the spaces of constant curvature, four and one half hours.—By Professor R. MARCOLONGO: Fourier's series with several applications, three hours.—By Professor D. MONTESANO: Theory of birational correspondences of three-dimensional space, three hours.—By Professor E. PASCAL: Analytic functions and selected topics of mathematical analysis, three hours.—By Professor L. PINTO: Geometrical optics. Theory of optical instruments, three hours.

UNIVERSITY OF PADUA.—By Professor F. D'ARCAIS: Functions of a complex variable; elliptic functions; integral equations, four hours.—By Professor A. COMESSATTI: Projective and descriptive geometry of hyperspaces, three hours.—By Professor P. GAZZANIGA: Theory of numbers, three hours.— By Professor T. LEVI-CIVITA: Mechanics of continuous media: the technical, classical and relativistic point of view, four and

one half hours.—By Professor G. RICCI: Absolute differential calculus. General theory of elasticity, four hours.—By Professor F. SEVERI: Algebraic varieties from the point of view of reality, four hours.—By Professor A. SIGNORINI: Technical applications of elasticity, three hours.—By Professor A. TONOLO: Partial differential equations of the second order, three hours.—By Professor G. VERONESE: Geometrical applications of the theory of sets, four hours.

UNIVERSITY OF PALERMO.—By Professor G. BAGNERA: Calculus of variations, three hours.—By Professor M. DE FRANCHIS: Hyperelliptic surfaces and Picard's varieties, three hours.—By Professor M. GEBBIA: Mechanics of continuous bodies. Potential. Hydrodynamics. External acoustics, four and one half hours.—By ———: Mechanics (advanced part), three hours.

UNIVERSITY OF PAVIA.—By Professor L. BERZOLARI: Abelian integrals with geometrical applications mainly to correspondences between algebraic curves, three hours.—By Professor C. BOMPIANI: Geometry of numbers. Diophantine approximation, three hours.—By Professor U. CISOTTI: Electricity and magnetism, three hours.—By Professor F. GERBALDI: Elliptic functions, three hours.—By Professor G. VIVANTI: General theory of analytic functions, three hours.

UNIVERSITY OF PISA.—By Professor C. BERTINI: Geometry on a curve with algebraic and transcendental method, three hours.—By Professor L. BIANCHI: General theory of surfaces. Applicability. Rolling, four and one half hours.—By Professor U. DINI: Analytic representation of functions both in the real and in the complex field, four and one half hours.—By Professor G. A. MAGGI: Principles of analytic mechanics. Harmonic functions. Topics in hydrodynamics, four and one half hours.—By Professor P. PIZZETTI: Theory of the shape and of the motion of rotation of the planets, four and one half hours.

UNIVERSITY OF ROME.—By Professor G. BISCONCINI: Geometrical applications of calculus, three hours.—By Professor G. CASTELNUOVO: Geometry of algebraic varieties, three hours.—By Professor U. CRUDELI: Introduction to the

advanced study of electricity, three hours.—By Professor V. VOLTERRA: Electricity and magnetism, three hours. Differential, integro-differential and derivative-functional equations of mechanics, three hours.—By ————: Theory of functions of a complex variable. Elliptic functions, three hours.

UNIVERSITY OF TURIN.—By Professor T. BOGGIO: Equilibrium-figures of rotating fluid masses, three hours.—By Professor G. FUBINI: The modern advances of calculus. Application to expansions in series, to calculus of variations, to integral equations, three hours.—By Professor C. SEGRE: Topics in differential geometry, three hours.—By Professor C. SOMIGLIANA: Mechanical and electromagnetic optics, three hours.

PROFESSOR M. DE FRANCHIS, of the University of Catania, has accepted the professorship of higher geometry at the University of Palermo, as successor to the late Professor Guccia.

PROFESSOR E. BERTINI, of the University of Pisa, has been elected national member of the royal academy of Turin.

PROFESSORS F. ENRIQUES, of the University of Bologna, T. LEVI-CIVITA, and F. SEVERI, of the University of Padua, have been elected corresponding members of the royal institute of Lombardy.

THE Italian society of sciences (the forty) has awarded its gold medal for 1914, to Professor E. PASCAL, of the University of Naples for his work concerning integrating factors of differential and of integro-differential equations.

PROFESSOR G. B. MATHEWS, of Bangor College, Wales, has received the honorary degree of doctor of laws from Cambridge University.

DR. E. HECKE, of the University of Göttingen, has been appointed associate professor of mathematics at the University of Basel.

DR. K. KNOPP, of the University of Berlin, has been promoted to an associate professorship of mathematics.

PROFESSOR C. MOSER has been appointed professor of the theory of insurance at the University of Bern.

PROFESSOR F. SCHILLING, of the technical school at Dantzig, has received the title of Geheimer Regierungsrat.

PROFESSOR H. S. WHITE, of Vassar College, has received the degree of doctor of laws from Northwestern University.

PROFESSOR R. M. BARTON, of Lombard College, has been appointed dean and acting president.

DR. H. C. GOSSARD, of the University of Oklahoma, has been promoted to an assistant professorship of mathematics.

DR. W. L. MISER, of the University of Minnesota, has been appointed assistant professor of mathematics in the University of Arkansas.

DR. DANIEL BUCHANAN, of Queen's University, Kingston, Ontario, has been promoted to an associate professorship of mathematics and appointed director of the college observatory.

MR. J. L. RILEY has been appointed professor of mathematics in the Oklahoma state normal school at Tahlequah.

AT the State University of Iowa, Miss S. E. CRONIN has been promoted to an assistant professorship of mathematics.

PROFESSOR G. H. CRESSE, of Middlebury College, has been appointed assistant professor of mathematics in the University of Arizona.

DR. G. H. GRAVES, of Columbia University, has been appointed instructor in mathematics in Purdue University.

AT Princeton University Mr. L. S. HILL, of the University of Montana, has been appointed instructor in mathematics. Dr. H. GALAJIKIAN, has resigned his instructorship.

DR. H. B. PHILLIPS, of the Massachusetts Institute of Technology, has been promoted to an assistant professorship of mathematics.

Mr. T. Dantzig has been appointed instructor in mathematics at the University of Indiana.

Mr. C. E. Norwood has been appointed assistant in mathematics at Dartmouth College.

J. C. Wilson, professor of logic at Oxford University since 1889, died August 12, 1915. He was the author of "On Traversing Geometrical Figures," published by the Clarendon Press in 1905.

John Howard Van Amringe, emeritus professor of mathematics in Columbia University, died September 10, 1915, at the age of 80 years. He was an active member of the Columbia faculty for fifty years preceding his retirement in 1910. In 1894 he became dean of the college. He was a founder and the first president of the New York Mathematical Society, since reorganized as the American Mathematical Society.

John K. Sinclair, emeritus professor of mathematics in the Worcester polytechnic institute, died September 12, 1915.

Professor C. A. von Drach, of the University of Marburg, died recently at Cassel in his seventy-sixth year.

Professor O. Simony, of the agricultural institute at Vienna, died April 6, 1915.

Professor N. v. Sonin, minister of education and member of the Petrograd academy of sciences, died February 27, at the age of 66 years.

Professor A. Wernicke, of the technical school at Braunschweig, died March 30, at the age of 58 years.