

Transactions of the Cambridge Philosophical Society

RECENT PAPERS

Vol. XXII.

- No. XXVI. **The Escape of Molecules from an Atmosphere, with special reference to the Boundary of a Gaseous Star.** By E. A. MILNE, M.A., Trinity College, Cambridge. Pp. 35. Price 5/-.
- „ XXVII. **Some Problems of Diophantine Approximation: The Analytical Properties of Certain Dirichlet's Series Associated with the Distribution of Numbers to Modulus Unity.** By G. H. HARDY, M.A., Savilian Professor, University of Oxford, and J. E. LITTLEWOOD, M.A., Trinity College, Cambridge. Pp. 16. Price 3/6.
- „ XXVIII. **Free Paths in a Non-uniform Rarefied Gas with an Application to the Escape of Molecules from Isothermal Atmospheres.** By J. E. JONES, 1851 Exhibition Senior Research Student, Trinity College, Cambridge. Pp. 22. With Title-page and Index to Vol. XXII. Price 5/6.

Vol. XXIII.

- No. I. **On Approximate Continuity.** By M. H. A. NEWMAN, B.A., St John's College, Cambridge. Pp. 18. Price 3/6.
- „ II. **A Mathematical Theory of Natural and Artificial Selection.** By J. B. S. HALDANE, M.A., Trinity College, Cambridge. Pp. 23. Price 4/-.
- „ III. **On the Form of the Solution of the Equations of Dynamics.** By T. M. CHERRY, B.A., Trinity College, Isaac Newton Student. Pp. 28. Price 4/-.
- „ IV. **On the Motion of Spheres, Circular and Elliptic Cylinders through Viscous Liquid.** By W. J. HARRISON, M.A., Clare College, Cambridge. Pp. 18. Price 3/-.
- „ V. **Researches in the Theory of Determinants.** By Major P. A. MACMAHON, R.A., F.R.S., Pp. 47. 7/-.
- „ VI. **The Optical Constants of Matter.** By C. G. DARWIN, M.A., F.R.S., Christ's College, Tait Professor of Natural Philosophy in the University of Edinburgh. Pp. 31. Price 5/-.
- „ VII. **Some Examples of Trajectories Defined by Differential Equations of a Generalised Dynamical Type.** By T. M. CHERRY, PH.D., Fellow of Trinity College, Cambridge. Pp. 32. Price 5/-.
- „ VIII. **Some Formulae for Scrolls and Line Systems in Ordinary Space.** By C. G. F. JAMES, Trinity College, Cambridge. Pp. 34. Price 6/-.
- „ IX. **The Aberrations of a Symmetrical Optical System.** By G. C. STEWARD, M.A., Fellow of Emmanuel College, Cambridge. Pp. 29. Price 5/-.
- „ X. **The Linear Invariants of Ten Quaternary Quadrics.** By H. W. TURNBULL, M.A., Trinity College, Professor of Mathematics in the University of St Andrews, and ALFRED YOUNG, Sc.D., sometime Fellow of Clare College. Pp. 39. Price 6/-.
- „ XI. **Mathieu Functions.** By S. GOLDSTEIN, B.A., St John's College. Pp. 34. Price 6/-.
- „ XII. **The Mathematical Theory of the Statistical Methods employed in the Study of Correlation in the case of Three Variables.** By A. A. TSCHUPROW. Translated by L. ISSERLIS, M.A., Christ's College. Pp. 46. Price 7/-.

(Title-page and Table of Contents to Volume XXIII.)

CONTENTS

	PAGE
<i>On the regularity of surfaces, II.</i> By Mr L. ROTH, Clare College	271
<i>A theorem on Newton's polygon.</i> By R. FRITH, B.A., Trinity College. (With Four Text-figures)	287
<i>Multiple canonical surfaces.</i> By D. W. BABBAGE, Ph.D., Magdalene College	297
<i>On the ambiguity in the specification of a two-sheeted surface by its branch curve.</i> By P. DU VAL, Ph.D., Trinity College	309
<i>Potential functions with periodicity in one coordinate.</i> By Mr R. C. J. HOWLAND, Emmanuel College. (With Three Text-figures)	315
<i>The vector representation of a sample.</i> By M. S. BARTLETT, B.A., Queens' College. (Communicated by Mr F. P. WHITE)	327
<i>Foucault currents in cylindrical shells and ribbons.</i> By F. W. CARTER, Sc.D., St John's College. (With One Text-figure)	341
<i>On the annihilation radiation of the positron.</i> By OTTO KLEMPERER. (Communicated by Dr J. CHADWICK.) (With Two Text-figures)	347
<i>A hydrogen discharge tube for spectrographic work.</i> By H. J. J. BRADDICK, Ph.D., Trinity College. (From the Physical Laboratory, Trinity College, Dublin.) (With One Text-figure)	355
<i>Evidence for a new type of disintegration produced by neutrons.</i> By J. CHADWICK, Ph.D., F.R.S., Gonville and Caius College, N. FEATHER, Ph.D., Trinity College, and W. T. DAVIES, B.A., Selwyn College. (With Plate II and One Text-figure)	357
<i>The flow due to a rotating disc.</i> By W. G. COCHRAN, B.A., St John's College. (Communicated by Dr S. GOLDSTEIN.) (With Two Text- figures)	365
<i>The heat of adsorption of hydrogen on tungsten.</i> By J. K. ROBERTS, Ph.D., Trinity College, and B. WHIPP, Ph.D., St John's College. (With One Text-figure)	376