the highest rank, who for some time had lived apart in the secluded regions of sublime analysis, descended again into the region of elementary science, both pure and applied, where they speedily remodelled the entire mode of teaching. England possessed very early a writer of great eminence who represented this tendency, and whose merits were only partially recognised in his day— Augustus de Morgan.

1S. Extension of conception of number.

It will now be necessary to explain more definitely what is meant by the extension of our conception of number and quantity through the introduction of com-This extension plex numbers or complex quantities. first forced itself on analysts in the theory of equations, then in the algebraical treatment of trigonometrical quantities — i.e., in the measurement of angles, or, as it is now called, of direction in geometry. The first extension of the conception of number lay in the introduction of negative numbers. These admitted of comparatively easy representation arithmetically by counting backward as well as forward from a given datum; practically in the conception of negative possessions, such as debts, geometrically by the two opposite directions of any line in space. In algebra, where the simple operations on quantities are usually preserved in the result and not lost in the simple numerical value of the result as in arithmetic, compound quantities were looked upon as generated by the processes of addition, resulting in the binomial (of which the polynomial was an easy extension), and further by the multiplication with each other of different binomials or polynomials, through which process expressions of higher order or

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