

MISCELLANEOUS.

THE NEWTON WINDOW IN THE LIBRARY OF TRINITY COLLEGE, CAMBRIDGE.

BY PHILIP E. B. JOURDAIN.

At the south end of the library of Trinity College, Cambridge (England), is a stained glass window which, though its effect is not unpleasing, is a curious mass of anachronism. "To bring in," says the late Dr. Sinker,¹ "the two most famous sons of Trinity, we have here Newton presented to George III by a female figure apparently representing Fame, while Bacon sits by as though recording the fact. This window, which is from a design by Cipriani, was set up in 1774-5." It seems that the window was made by Peckett of York from a design by Cipriani which is preserved in the library. It cost £500 and was paid for out of a legacy from Dr. Robert Smith, Master of the College, who died in 1768.

Newton died in 1727; George III was born in 1738 and ascended the throne in 1760. Francis Bacon died in 1626, while Newton was born in 1646. So the meeting could not refer to this earthly life, whilst the appearance of George III in an exalted position in any other life is hard to explain. It must be due to the strange anachronisms of which this window is either an effect or a cause that Rosenberger² has described Bacon as a "friend" of Newton's. Of course in a vaguely rhetorical sense the spirits of great men may, like ordinary friends, have a great deal in common. But not so very long ago woe betide him who should suggest that Newton's soul was not whiter and his character sweeter than either George's or Bacon's. Indeed Newton is one of those few men of science who are held up as an example to children, and he is so orthodox that inns are named after him. But there were some points—notably those concerned with his treatment of Leibniz—that needed to be thoroughly investigated. It was not idle curiosity nor any merely base wish to expose the weak points in the character of a great man which prompted this investigation. It was the burning need to get at the truth about great scientific discoveries and also the more human but no less praiseworthy need to prevent others being unjustly known to future generations as having lived on a stolen reputation. Every man is entitled to be as mean, in money or in other ways, as envious, as selfish or as treacherous as he likes, providing only that these qualities do not interfere with the spread of knowledge or the happiness of other people. But this is of course an empty permission. It is probably impossible that there could be any circumstances in which weakness of character would not have harmful effects. And we know only too well that Newton was mean. With money he was, it is true,

¹ Robert Sinker, *The Library of Trinity College, Cambridge*. Cambridge, 1891, p. 10.

² *Isaac Newton und seine physikalischen Principien*. Leipsic, 1895, p. 303.

sometimes carelessly generous. But he was careless at first about keeping his rights to the discovery of the fluxional calculus and then showed real eagerness in asserting those rights, in imputing low motives to Leibniz and in trying to prejudice his own and future generations against him. Leibniz frankly told Newton all about his discovery, and Newton tried by underhand means to take from Leibniz the most precious thing he had. Quite apart from this Newton repeatedly kept knowledge from the world simply because he disliked controversy.

A little volume of three of De Morgan's *Essays on the Life and Work of Newton*, with very many notes by myself, has just been published by the Open Court Publishing Company. Augustus De Morgan's biographical sketch entitled "Newton" appeared in *The Cabinet Portrait Gallery of British Worthies* in 1846 and is the first essay printed in this volume. It was, after Baily's *Life of Flamsteed* of 1835, the first English work in which the weak side of Newton's character was made known. Justice to Leibniz, to Flamsteed, even to Whiston, called for this exposure; and the belief that it was necessary did not lower the biographer's estimate of Newton's scientific greatness and of the simplicity and purity of his moral character. Francis Baily's discovery of the correspondence between the Rev. John Flamsteed, the first Astronomer Royal, and Abraham Sharp, as well as between Newton, Halley and Flamsteed, on the publication of Flamsteed's catalogue of stars, had thrown a new light on the character of Newton. It appeared that the practical astronomer had been treated ungenerously by Newton who failed to observe the conditions of publication agreed to by all parties; and afterwards, when remonstrated with, omitted the name of Flamsteed in places where it has formerly stood in the earlier editions of the *Principia*.

It was not only mathematical discovery and controversy that De Morgan treated in the just, broad-minded, and high-minded way that is characteristic of him. He disclaimed any particular interest in those religious beliefs of Newton which he discussed so thoroughly; still he seems to have felt more interest in the question, from its own nature, than he was himself aware of. He said, "Whatever Newton's opinions were, they were the result of a love of truth and of a cautious and deliberate search after it." That Newton was a firm believer in Christianity as a revelation from God is very certain, but whether he held the opinions of the majority of Christians on the points which distinguish Trinitarians from Arians, Socinians, and Humanitarians, is the question of controversy.

The second of De Morgan's essays printed in this volume concerns the great controversy about the invention of the fluxional or infinitesimal calculus, in which Newton and Leibniz were the principals. The essay printed is from the *Companion to the Almanac* of 1852 and is now extremely rare. It is of great interest and importance both on account of the fairness and vigor which De Morgan always showed in the defence of Leibniz against the imputations of Newton and the Royal Society and because it first introduced the English public to Gerhardt's important discovery of Leibniz's manuscripts showing his gradual discovery of the calculus in 1673-1677. This essay also contains a summary of much of De Morgan's historical work on the controversy. Where it seems advisable, notes have been added to the second essay giving an account of De Morgan's and others' work on the subject.

To this second essay I have added an appendix the chief aim of which is to give the sources at which may be found the original manuscripts written by Newton and Leibniz when they were discovering their respective calculuses. This has not been done hitherto and it is all the more necessary that it should be done as modern authors, such as Moritz Cantor in his monumental *Vorlesungen über Geschichte der Mathematik*, neglect the fact that any early manuscripts of Newton's on fluxions are extant or that some have been published—by Rigaud, for example—and some still remain unpublished.

In 1855 appeared Sir David Brewster's *Memoirs of the Life, Writings and Discoveries of Sir Isaac Newton*, and De Morgan, in a critique of this work in the *North British Review*, showed clearly that Sir David had fallen into hero-worship. Here the faults of Newton are pointed out with an unwavering finger and the merits of Leibniz are recognized and his character defended against Brewster more at length than in De Morgan's biography of Newton. This review is printed as the third of De Morgan's essays on Newton. I have added two appendices to this third essay: the first is part of a biography of Leibniz which De Morgan wrote and which illustrates a laudatory reference to that great man in the third essay; the second is an extract from a later work of De Morgan's and deals with Newton's character and the relation to it of the Royal Society down to De Morgan's own times.

Numerous notes of either a bibliographical, explanatory or critical nature have been added to all the essays but all that is not De Morgan's is put in square brackets. Such notes have become necessary and it is hoped that the present ones will reply to all the calls of necessity and will make the book both useful and complete. Very little has to be criticized in De Morgan's history or conclusions. Like everything he wrote, these essays of his are marked by scrupulous care, sanity of judgment and wide reading; and one hardly knows which to admire most—the breadth or the height of his mind.

The frontispiece of De Morgan's *Essays* is from an engraving by E. Scriven of Vanderbank's portrait of Newton in the possession of the Royal Society of London. An engraving from this picture accompanied the original of De Morgan's biographical sketch; but the present frontispiece is from a much finer engraving prefixed to the biography of Newton in the first volume of *The Gallery of Portraits: with Memoirs*, of 1833.

THE PHILOSOPHY OF TAMERLANE.

We have received from Prof. Michelangelo Billia of Pisa (formerly of Milan) a pamphlet entitled *Le ceneri di Lovaino e la filosofia di Tamerlano* ("The Ashes of Louvain and Tamerlane's Philosophy"). It gives the text of a lecture delivered several times by Professor Billia in Milan and elsewhere. The spirit of the whole is characterized by the concluding pages which read in English translation as follows:

"Some barbarian has dared to compare Goethe to Dante, but what a gulf between them! Marguerite is a caricature of Beatrice, or rather an abortion. "Poor little German university professor" is the term Rosmini applied to Mephistopheles. The redemption of Faust comes finally in the very last part (added as an afterthought) in the Lutheran fashion without either works or faith. Although in the conception of Goethe Faust is supposed to be a German university professor he is nothing but an imbecile old man, a puppet in