through Sir Isaac Newton, to the Royal Society a paper entitled “ Methodus Differentialis Newtoniana illustrata ” *(Phil. Trans.,* 1718, p. 1050 ; Abridg., vi. p. 428). Fear­ing assassination on account of having discovered a trade secret of the glass-makers of Venice, he returned with Newton’s help to London about the year 1725. In London he remained for ten years, being most part of the time connected with an academy in Tower Street, and devoting his leisure to mathematics and correspondence with eminent mathematicians. In 1730 his most im­portant work was published, the *Methodus Differentialis, sive Tractatus de Summatione et Interpolatione Serierum Infinitarum* (4to, London), which, it must be noted, is something more than an expansion of the paper of 1718. In 1735 he communicated to the Royal Society a paper “ On the Figure of the Earth, and on the Variation of the Force of Gravity at its Surface” *(Phil. Trans.,* Abridg., viii. pp. 26-30). In the same year his worldly fortunes changed permanently for the better, through his appoint­ment to be manager for the Scots Mining Company at Leadhills, an appointment which gave scope both to his scientific talents and to his great, though hitherto latent, administrative ability, and which was eminently fortunate for his employers. We are thus prepared to find that his next paper to the Royal Society was concerned, not with pure, but with applied science—“ Description of a Machine to blow Fire by the Fall of Water” *(Phil. Trans.,* 1745, p. 315 ; Abridg., ix. pp. 109, 110). His name is also con­nected with another practical undertaking since grown to vast dimensions. The accounts of the city of Glasgow show that the very first instalment of ten millions sterling spent in making Glasgow a seaport, viz., a sum of £28, 4s. 4d., was for a silver tea-kettle to be presented to “James Stirling, mathematician, for his service, pains, and trouble in surveying the river towards deepening it by locks.” This was in 1752. Stirling died in Edinburgh on 5th December 1770.

See W. Fraser, *The Stirlings of Keir, and their Family Papers,* Edinburgh, 1858; “Modem History of Leadhills,” in *Gentleman’s Magazine,* June 1853 ; Brewster, *Memoirs of Sir Isaac Newton,* ii. pp. 300, 307, 411, 516 ; J. Nicol, *Vital Statistics of Glasgow,* 1881-5, p. 70 ; *Glasgow Herald,* 5th August 1886.

Another edition of the *Lineæ Tertii Ordinis* was published in Paris in 1797 ; another edition of the *Methodus Differentialis* in London in 1764 ; and a translation of the latter into English by Halliday in London in 1749. A considerable collection of literary remains, consisting of papers, letters, and two manuscript volumes of a treatise on weights and measures, are still preserved at Garden by Stirling’s great-grandson and namesake.

STOAT. See Ermine.

STOBÆUS, Joannes, a native of Stobi in Macedonia,— whence the surname Stobæus or Stobensis,—is known to us as the compiler of a very valuable series of extracts from Greek authors. Of his life nothing is known, but he probably belongs to the latter half of the 5th century. From his silence in regard to Christian authors, it is in­ferred with some probability that he was not a Christian; that he was a man of wide culture and general reading is clear from the anthology which bears his name.

The extracts were intended by Stobæus for his son Septimius, and were preceded by a letter briefly explaining the purpose of the work and giving a summary of the contents. From this summary (which is preserved in Photius’s *Bibliotheca)* we learn that Stobæus divided his work into four books ; the first contained sixty chapters, the second forty-six, the third forty-two, and the fourth fifty-eight. In most of our MSS. the work is divided into three books, of which the first and second are generally called 'Ε*κλoγαὶ ϕυσικαὶ καὶ ἠ****θικaὶ,*** and the third ’A*vθoλόγιον (Florilegium* or *Sermones).* As each of the four books is sometimes called Α*vθoλόγιον*, it is probable that this name originally belonged to the entire work;

the full title, as we know from Photius, was ’Ε*κλογων ἀ****ποφθεγμάτων υποθηκων βιβλί****α* ***τέτταρα.*** Between the account which Photius gives of Stobæus’s work and the form in which we have it there are several marked discre­pancies. The second book in particular is little more than a fragment. From this and other indications Wachsmuth has made it probable that our Stobæus is only an epitome of the original work, made about the end of the 11th century at Byzantium, “ ab homine Platonis Aristotelisque amantissimo.”

The didactic aim of Stobæus’s work is apparent throughout. The first book teaches physics—in the wide sense which the Greeks assigned to this term—by means of extracts. It is often untrustworthy : Stobæus betrays a tendency to confound the dogmas of the early Ionic philosophers, and he occasionally mixes up Platonism with Pythagoreanism. For part of this book and much of book ii. he depended on the works of Aetius, a Peripatetic philosopher, and Didymus. The third and fourth books, like the larger part of the second, treat of ethics ; the third, of virtues and vices, in pairs ; the fourth, of more general ethical and political subjects, frequently citing extracts to illustrate the pros and cons of a question in two successive chapters. In all, Stobæus quotes more than five hundred writers, generally beginning with the poets, and then proceeding to the historians, orators, philosophers, and physicians. It is to him that we owe many of our most important fragments of the dramatists, particularly of Euripides.

The first complete edition of Stobæus was published at Geneva in 1609 ; the last is Meineke’s (Leipsic, 1855-1864). The best critical edition of books i. and ii. is by Wachsmuth (Berlin, 1884) ; a companion edition of books iii. and iv. (the *Florilegium)* is pro­mised by Otto Hense.

STOCK EXCHANGE, a market for the purchase or sale of all descriptions of public securities. Previous to 1773 the London stockbrokers conducted their business in and about the Royal Exchange, but in that year, having formed themselves into an association under the designation of the Stock Exchange, they, after temporarily locating their headquarters in Sweeting Ally, Threadneedle Street, removed to Capel Court, Bartholomew Lane. The growth of business necessitating improved accommodation, a capital of £20,000 in four hundred shares of £50 each was raised in 1801 for the purpose of erecting a new building in Capel Court, which was finished and occupied in the following year, the members at that date number­ing about five hundred. With the occupation of the new building new rules came into force ; all future members were admitted by ballot, while both members and their authorized clerks were required to pay a subscription of ten guineas each. As only the wealthier members of the association had provided the capital for the new building, the Stock Exchange henceforth consisted of two distinct bodies—proprietors and subscribers. In 1854, the member­ship having increased to about one thousand persons, an extension of the premises in Capel Court was effected at a cost of £16,000. A further and very extensive increase in the accommodation was made in 1885, the number of members and authorized clerks having risen at that date to above two thousand five hundred. The extended build­ings now occupy the whole of a triangle to the east of the Bank of England, having as its base Bartholomew Lane, its north side Throgmorton Street, and its south side por­tions of Threadneedle Street and Old Broad Street. The completed buildings comprise two large halls, where the various markets are held, settlement rooms, reading room, committee rooms, managers’ rooms, and various other offices. It is intended ultimately to remove the partition between the two halls, when a vast business apartment,