

Literary and Scientific Intelligence.

Changes in the Oxford University Examinations.—Publicity has been given to an account of the changes in the University examinations which are to be submitted to Convocation at Oxford on the 20th of March. The main feature of the alteration is the division of the "great go" into two examinations, to be undergone respectively, "between the eighth and twelfth terms, and between the thirteenth term" of each candidate. The first and second examinations continue to favour classical scholarship. The third is divided into four schools—

"The first is the school of 'Literæ Humaniores,' including the range of subjects which fall under that designation in the present system; the second, of 'Mathematics and Physics studied mathematically;' the third, of 'Natural Science;' and the fourth of 'Modern History and the Cognate Sciences.' Under this latter category are comprehended Modern History down to the year 1789; Jurisprudence in general, and the Laws of England in particular; Moral Philosophy, as treated in English and by English authors, and the Philosophy of Language." "The student must pass in every instance through the school of Literæ Humaniores, and through one at least of the two others, though not necessarily in the same term. Divinity and Logic form integral parts of the examination in the first school, and will 'have due weight in the distribution of honours.' It is moreover provided, that honours shall not be awarded in any school to any candidate whose name has not appeared in some class in either school in the first public examination, nor in the school of Literæ Humaniores or of Mathematics to any candidate whose name has not appeared in the corresponding school in the first public examination."—[London Watchman.

Statistics of Public Libraries in the World.—The number of volumes in the Public Libraries of Germany is five and a-half millions; of France, five millions; Great Britain, two and a-half millions; Russia one and a-half millions; United States, one and one-fourth millions; Spain, one million. France has 241 Public Libraries; the United States 182—of these 43 contain over 10,000 vols. each, 9 over 20,000, and only two over 50,000.—[From a Report to the Smithsonian Institute, January, 1849.

British Museum.—From a Parliamentary return, it appears that at the end of 1848, there were in the British Museum 435,000 printed volumes 10,221 maps, charts, &c., 20,626 volumes of MSS., 2946 rolls of various kinds, 23,772 Charters, 208 MSS. on reed and bark, 55 papyri, and 851 Seals and Impressions. The number of volumes in the Bodleian Library at Oxford is about 220,000, and the number of MSS. 21,000. The present British Library ranks, in number of volumes, with the libraries of Vienna, Berlin, and Dresden, and is inferior only to the two great libraries of Munich and Paris.

The British Museum Letter A in Sixteen Folios.—The principal keeper of the printed books in the British Museum is Mr. PANIZZI; a gentleman of great attainments, versed in foreign languages, and fairly acquainted with the English literature. To him, by right of office, the compilation of a new Alphabetical Catalogue of the books of the British Museum has been intrusted. He has gone, we must say, willingly to work, —thought night and day about his subject,—looked at every catalogue for hints,—laid down rules for his assistants to follow,—divided and subdivided works,—introduced references and cross references beyond human ingenuity to follow up,—and after ten long years of labor has produced letter A in sixteen folio volumes for the convenience of readers attending the Reading Room of the British Museum!—[Athenæum.

Joseph Hume's Library.—The Parliamentary Library in Bryanston-square is a perfect phenomenon in extent, methodical arrangement, and accessibility as to what is inside, as well as to the outside. Every blue book, every stray leaf of every vote-paper, and every scrap of a return, classified, indexed, and annotated in the veteran's own hand for forty years back; so that there is not a single circumstance which has occupied the Legislature in any shape during the whole of that period upon the record of which Mr. Hume cannot place his finger on the instant.—[London Correspondent of the Liverpool Albion.

Stowe Library.—The auction sale of the princely Library of the Duke of Buckingham, at Stowe, realized £10,355 7s. 6d.

Important Discovery in Voltaic Electricity.—Mr. ALFRED SMEE, the surgeon to the Bank of England, and inventor of the battery which bears his name, has announced important discoveries in animal electricity. By a test which he terms electro voltaic, he has discovered that the terminations of the sensor nerves are positive poles of a voltaic circuit, whilst the muscular substance is the negative pole. The sensor nerves are the telegraphs which carry the sensation to the brain, and the motor nerves carry back the

volition to the muscles. The brain to consist of five distinct voltaic circles, which, upon theoretical grounds, he believes to be sufficient to account for all mental phenomena. Mr. SMEE has succeeded in making artificial electric fish, and artificial muscular substance. Should these researches be fully confirmed by other investigators, they must be regarded as the most important physiological discovery of modern times.—[Jerrold's Weekly News.

Personal Appearance of Dumas and Lamartine.—The Paris correspondent of the *N. Y. Tribune* says:—"I saw Dumas a few evenings since, sitting in a box at the Italian Opera. He is a liquid-eyed, voluptuous West Indian—with all the languid orientalism of a Creole in his mien. The luxurious appointment of the dress circle at the Italian, was a fitting frame for him. Opposite sat Lamartine, grave, sweet, and graceful. He looks older than his portraits generally make him. He is really 59 years old. His hair is grey—his head large, his brow grandly arched, and his eyes and nose of a generous greatness, finer than I find in the portraits. The mouth is large—the lips somewhat fallen, and it is here, about the mouth, that a faint feeling of vanity is visible. His manner is that of a man accustomed to homage—which was offered him this time, by a lady and two gentlemen who were in constant conversation with him. The party rose and left before the conclusion of the Opera"

Improvement in Locomotives.—JAMES S. FRENCH, Esq., of Virginia, has invented a plan by which locomotives, with cars attached, may be made to traverse a rail laid over the undulations of an ordinary road, without danger or difficulty. As the plan has not yet been made known to the public, we cannot judge of its practicability, but merely remark that the end desired is produced by an apparatus which gives the engineer power to control the adhesion of the wheels upon the rail, at pleasure; which was the difficulty to be overcome, and hitherto thought to be insurmountable. This has been a subject of study and experiment since the days of Sir Richard Phillips, and if the above invention proves successful, it will be another important triumph of science, and an evidence of the rapid progress of the age.—[N. Y. Teachers' Advocate.

A New Application of Air.—A patent has lately been taken out in England, for an apparatus, by which the brakes of carriages are pressed against the wheels, by the expansive power of Air. The force is obtained by means of a piston, moved in a cylinder, either by air compressed in a reservoir, and allowed to escape suddenly through the valve against it, or from exhausting the cylinder of air behind the piston. In this way, it is said, a force is obtained of fifty pounds to a square inch. It seems to be altogether an ingenious affair, even in this age of novel inventions, and will undoubtedly be very useful for the purpose of suddenly checking the speed of the rail road carriages.—[Ibid.

To Transfer Engravings to White Paper.—Place the engravings for a few seconds over iodine vapor. Dip a slip of white paper in a weak solution of starch, and, when dry, in a weak solution of oil of vitriol. When dry lay the slip upon the engraving, and place them for a few minutes under a press. The engraving will thus be reproduced in all its delicacy and finish. The iodine has the property of fixing on the black parts, or the ink of the engraving, and not the white.—[Ibid.

The Manufacture of India Rubber Goods.—At Harlem, near New-York city, there is an India Rubber manufactory, where about one hundred and fifty women and fifty males are employed, and where military equipments are made in no small quantities. The raw rubber is first cleanly washed, and after being dried is ground between two large cylinders under an immense pressure, heated by steam, heated so hot that the rubber looks as though it were burning. While this is grinding, a preparation of turpentine is mixed with it to dissolve the rubber. The rubber comes from the roller a black mass, which is transferred to rollers of a still heavier pressure, where it is ground again under a strong heat; thence it goes to a third roller to be heated ready to be put upon the cloth; this is done by a powerful set of rollers. The rubber thus prepared is put upon the rollers and distributes itself evenly, at any thickness desired; the cloth is then put upon another roller that passes under the rubber, which, under great pressure, is forced into and through the cloth; no matter whether silk or the stoutest sail duck, it goes through. A coat is put on the other side in the same way, and no power can separate the mass after that. The cloth is then taken to the room where it is made into an infinite variety of goods to which it is adapted. These goods are cut out by patterns, and after the edges are covered with rubber cement, they are folded together and rubbed down closely, and soon become so closely fixed that any part will separate before the seams; there are in fact no seams; all is rubber, without a particle of other fastening. After they are all fastened, the whole article is covered with powdered sulphur and taken to be cured. This is done by placing them upon an iron railroad that passes into a large cylinder, where