

Literary and Scientific Intelligence.

Enormous Application of the Electrotype Process.—We take the following interesting account from the *Baileer*—

"An enormous application of the electrotype, a galvanic plastic process, has been made in the sculpture of the cathedral of St. Isaac, at St. Petersburg, by the Architect. After having made very important experiments, he was authorized to adopt this mode in the execution of the metallic sculptures and carvings for the following reasons:—1. The identical reproduction of the sculpture without chiseling. 2. The lightness of the pieces, which enabled the Architect to introduce sculptures of higher relief than any hitherto known, and to fix the pieces suspended from the vaultings, without fear of accident, or of their being detached. 3. The great saving of expense between these and castings in bronze. The gilding also was effected by the same process, and presented equal advantages. The seven doors of the cathedral will be of bronze and electrotype, the frame work being of the former, and the sculptural parts of the latter. Three of these doors are 30 feet high and 14 feet wide, the four others 17 feet 8 inches wide. They contain 51 bas-reliefs, 63 statues, and 34 alto-relievo busts, of religious subjects and characters. The quantity of metal employed in the dome is as follows:—Ducat gold, 247lbs.; copper, 52½ tons; brass, 321½ tons; wrought iron, 524½ tons; cast iron, 1068 tons. Total, 1966½ tons.

The Medusa.—The reproduction of these creatures has recently afforded an interesting subject for discussion among naturalists. In some instances they are produced like buds on a tree, which eventually drop off:—

"What strange and wondrous changes! Fancy an elephant with a number of little elephants sprouting from his shoulders and thighs, bunches of tusked monsters hanging epaulette-fashion from his flanks in every stage of advancement! Here a young pachyderm almost amorphous, there one more advanced, but all ears and eyes; on the right shoulder a youthful chun, with head, trunk, toes, no legs, and a shapeless body; on the left an infant, better grown, and struggling to get away, but his tail not sufficiently organized as yet to permit of liberty and free action! The comparison seems grotesque and absurd, but it really expresses what we have been describing as actually occurring among our naked-eyed medusæ. It is true that the latter are minute, but wonders are not the less wonderful for being packed into a small compass. The multitude, being muddleheaded, love magnitude, but the philosopher does not estimate a whale above a minnow for his mere bigness: 'Nosci digna hæc animalcula, non quia Deus maximus in minimis est, æque enim magnus in omnibus, at ob extimam membrorum exhibitatem, miram organorum diversitatem, varia Creatoris eundem finem obtinenda media et pulchritudinem et proportionem quam nihil excellit.' So wrote Otho Frederic Muller—filled, by his studies of minute life, with a deep spirit of reverence and admiration of his monocoli, so might we write of our medusæ. But when to all the wonders of their structure are added such surprising physiological facts as those which we have thus been narrating concerning their reproduction, the spirit of reverent astonishment fills us fuller and fuller. 'La force qui developpe, l'intelligence qui specific et co-ordonne, l'amour qui unit vivifie'—the triune powers manifested in each and every being, in each single and all-combined, are revealed as clearly in our little sarsia, as in the mightiest monster of the ocean, beneath whose shadow it may swim invisible to the unarmed eye. Aiid when we behold how its perpetuity in that ocean is secured, we are tempted to exclaim with Spenser—

Wonder it is to see
How diversity Love doth his pageants play,
And shows his powre in variable kinds.—[Professor Forbes.

Silkworms.—The silkworm, previous to its change from the caterpillar to the chrysalis, forms for itself a casement of silky filaments, termed by naturalists a *cocoon*. Ten thousand of these cocoons produce on an average about five pounds of silk; and a thread unwound from one of them, which weighed three grains, has measured four hundred yards. When we consider the immense quantity of silk used at present, the number of caterpillars, which produce it, will exceed calculation. Think but of the cocoon of a silkworm! How many hands, how many machines, does not this little ball put in motion! Of what riches should we not have been deprived if the moth of the silkworm had been born a moth without having been previously a caterpillar!—

Wherefore did nature pour her bounties forth,
And set to work millions of spinning worms,
That in their green shops weave the smooth-haired silk
To deck her sons!—*Comus*.

Doomsday Book.—This invaluable record, so often quoted, and referred to for facts of ancient times, is still a perfect preservation, every word being as legible at this time as when written, seven hundred and forty years ago. It is comprised in two volumes, one a large folio, the other a quarto. The first begins with the county of Kent, and concludes with Lincolnshire, and is written in one and the same hand, in a small but clear character, on

three hundred and eighty double pages of vellum, each page having a double column, and contains thirty-one counties. The quarto volume is on four hundred and fifty double pages of vellum, but in single columns in a large distinct hand-writing, and contains the counties of Essex, Norfolk and Suffolk.

Alexander Von Humboldt.—It cannot fail, says a letter from Berlin, to be interesting to the literary world to know that the Nestor of Philosophers, the venerable Alexander Von Humboldt, will accomplish his 80th year next Friday, he being born upon the 11th of September, 1769. It will be further gratifying to his admirers and friends in England and in many other parts of the globe, even to the mighty Andes and far-distant Himalayas, to hear that the illustrious author continues in the full enjoyment, not only of sturdy health, but of all those mental faculties which have crowned his name with immortal glory, shed lustre upon his native land, and conquered for him a permanent place among the princes of the intellectual world.

Antiquities for the British Museum.—A vessel which has arrived at Chatham from Bombay has brought twenty tons weight of antiquities from Nineveh, which are intended to be forwarded to the British Museum for deposit in that national establishment. The authorities of the Treasury have given the necessary directions for the unshipped and free delivery of the antiquities to the museum, and arrangements have been made for the packages containing these valuable relics to be forwarded direct to the museum without being previously disturbed, and there opened and examined by the proper authorities, in order that every one may be taken that no damage should be sustained by them.

Ivory.—At the last quarterly meeting of the Geological and Polytechnic Society of the West Riding of Yorkshire, Earl Fitzwilliam in the chair, Mr. Dalton, of Sheffield, read a paper on "ivory as an article of manufacture," in which he disclosed the following interesting facts:—The value of the annual consumption in Sheffield was about £30,000, and about 500 persons were employed in working it up for the trade. The number of tusks to make up the weight consumed in Sheffield, about 180 tons, was 45,000. According to this the number of elephants killed every year was 22,500; but supposing some tusks were cast and some animals died, it might be fairly estimated that 18,000 were killed for the purpose.

The Magnetic Clock.—Our readers will feel interested in knowing that Professor Locke's Magnetic Clock is now finished. The different parts have been put together, and it completely fulfils all the expectations of the inventor. It is a beautiful piece of mechanism, which reflects much credit on the ingenuity and skill of the manufacturers, Messrs. Howard and Davis, and in its operations reminds us of the wonders we read of in tales of necromancy, or which were brought about by the astrologers of the olden times, after making a compact with the evil one. This clock will be packed immediately, with all due care, and conveyed to Washington, to be placed in the National Observatory.—[Boston Journal.

Commerce in the Days of Abraham.—The various particulars of the transaction between Abraham and the children of Heth evince very considerable progress at that early period in economics, in commerce, in law. There is money, and of a given denomination or coin—balances for weighing it—a standard thereof, such as was current with the merchant—a superiority thereof in the methods of trade above the day of barter—forms in the conveyance and change of property before witnesses, as here in the audience of the people of Heth—the terms and specifications of a bargain, by which its several particulars were made sure to Abraham in the presence of and before many witnesses—all serving to confirm the doctrine that the progress in these days was from an original civilization down to barbarism—the civilization being coeval with the first and earliest revelations, or with Adam himself. A thorough attention to these early chapters of Genesis confirms our belief in this tenet—supported as it is by this strong negative argument, that a nation was never known to emerge simultaneously and unaided from the savage state—the civilization thereof having always, as far as it is known, originated in, or been aided by, a movement or influence from without.—[Dr. Chalmers.

Boundaries of the British Empire in the East.—Among the greatest phenomena in the history of the world may, undoubtedly, be reckoned the British Empire in the East Indies.

This empire has, within a single century, risen from the humble rank of a trading factory to an *imperium* of more than 100,000,000 of inhabitants, with an equal number (100,000,000) who though under their own prince still obey the British power, extends over 1,250,000 English square miles of the most fertile part of the surface of the earth (from 8 deg. latitude to 35 deg., and from 68 deg. longitude to 92 deg.,) and consequently contains a polar altitude the same as from Messina to Tarnea, and a breadth as from Lisbon to Smolensk, which shows that it cannot be compared by anything in Europe, either as to size or population.—[Edinburgh Review.