drawback to infallibility (supposing that the dogma of Infallibility will make room for the hypothesis at all) to be subject to unaccountable casualties of this kind.

Another simple truth one is apt to forget, or at most times to entertain with a lazy and blunted assent, is that such a proceeding as the condemnation of Galileo, carried through by an authority that still wielded a real and formidable power among men, was not a solitary mischance, but part of a rigidly combined system. By its birth it was the fruit of secular error and incalculable wrong in days past; in its manifestation it was a portent heavy with discouragement and evil consequence to knowledge and the better life of man for many days to come. In the suppression of Roger Bacon's researches "the nineteenth century was robbed at the same time with the thirteenth"; and we may guess, but we shall never wholly know, what was lost to the world in the broken spirit and arrested enterprise of Descartes.

It is also to be noted that the subjection of science to theological preconceptions and interpretations had taken deep root in men's minds, partly, no doubt, by natural tendencies of thought, but certainly not without active aid from the Church; and Dr. White shows us, by the example of Roger Bacon's later great namesake, how slowly and reluctantly tradition relaxes its hold. While the Novum Organum protests in the most clear and express terms against the "corruption of philosophy from superstition and admixture of theology," the Advancement of Learning seeks the proofs of astronomy in the Book of Job.

But Ultramontane apologists are entitled to such comfort as they can find in the fact, which is only too certain, that neither the middle ages nor the Roman Curia have had any monopoly of short-sighted opposition to science. Free and Protestant England has borne her fair share. The last century had its literature of tracts and sermons against inoculation, to whose authors were raised up successors in due time to beat the dram ecclesiastic against vaccination and anæsthetics; and as we now look back with curious wonder upon these, so will our descendants upon the still later struggles of orthodox cosmogony against Lyell and Darwin, and the denunciation from high places of the 'Origin of Species' which are still fresh in our ears. At one point, indeed, we think Dr. White is hard on the old country. When he invites us to note "how, down to the present time, the two great universities of Protestant England . . . have excluded the natural and physical sciences [surely this is a tautology] as far as possible," we must ask him in turn to note that astronomy is by some counted a physical science, and Cambridge has an observatory which has done some work in its time; that there is a building at Cambridge, called the Cavendish Laboratory, where one of the first physicists of Europe, himself a Cambridge man, commands all the resources which modern invention and workmanship have furnished to experimental research; and that we verily believe there are those at Oxford also who could tell Dr. White a somewhat different story.

It may be said, perhaps, that all these histories are now merely curious, that we have all learnt the commonplaces of toleration, and that such a book as this can only stir up the embers of extinct strife. But the signs of the times speak otherwise. Even here, in the heart of free English speculation, there is a school of sentimental theology whose utterances leave little room to doubt that it would be ready to persecute science if it could. There are evangelists of a brand-new religion which openly announces that science is to know her place as the handmaid of—Auguste Comte. Happily, neither of these enemies is likely to become very formidable while English common sense remains what it is. But the ancient enemy is there still. The popular Protestant instinct may be vulgar in the eyes of culture and refinement, but it is right. The pretensions are not yet abated which, in Prof. Tyndall's words, "if conceded, would place the sciences that have given us all our knowledge of this universe at the mercy of their hereditary foe." The time is yet far distant when it will be superfluous for free men to repeat again and again in the ears of their children the tales of this book, and the lesson which its closing pages thus sum up:—"All history shows that the only scepticism which does permanent harm is scepticism as to the value and safety of truth as truth."

'GEOGRAPHICAL DISTRIBUTION OF ANIMALS.'

Rosehill, Dorking, August 29, 1876.

In your review of my book on the 'Geographical Distribution of Animals' (*Athenæum*, August 26), the figure supposed to be given of the Cape ant-eater is mentioned as a case of "inaccurate portraiture." Allow me to point out that the species figured is not the Cape ant-eater, but the much less-known Ethiopian ant-eater, as stated on the page facing the illustration. The original figure, taken from a living animal, is to be found in 'List of Vertebrated Animals now or lately Living in the Gardens of the Zoological Society of London' (1872), where its differences from the Cape ant-eater, figured on the opposite page, may be seen. ALFRED R. WALLACE.

GEOGRAPHICAL NOTES.

The latest intelligence from the Ogowe, under date of July 17th, holds out better hope of the success of the German and French expeditions, under Dr. Lenz and Count di Brazza respectively. It appears that the two leaders had succeeded in making peace with the Ogyeba, and had explored a portion of the country occupied by that tribe in safety; they had also obtained the assistance of some of the Ogyeba to conduct them further on their journey, and when the last mail left Gaboon the explorers were believed to have penetrated the interior a considerable distance beyond the furthest point attained by their predecessors.

Science Gossip.

Telegraphic announcement was received last week of the discovery of another small planet, No. 166, by Prof. Peters, of Hamilton College, Clinton, U.S. This raises the number of that astronomer's planetary discoveries to *twenty-five*.

Since the above paragraph was written, the Atlantic cable has conveyed intelligence, on August the 30th, of the discovery of still another small planet by Prof. Peters, which will reckon as No. 167, and is the tenth found since the commencement of this year.

From the programme before us, we gather that the exploration of the Cresswell Caves, carried on last year by the Rev. J. M. Mello, assisted by Mr. Heath, is now being conducted by a committee, of which Sir John Lubbock, Bart., M.P., is President, and Prof. Boyd Dawkins, F.R.S., is Secretary. The superintendence of the work is in the hands of the Rev. J. M. Mello, the Secretary, and Mr. Heath. The results are now being classified in Owens College, and when the Report by Mr. Mello and the Secretary is presented to the Geological Society of London, it will probably add as much to our present knowledge of palæolithic man as the discoveries in Brixham did to the knowledge of 1857.

The German journals announce the death of the eminent microscopist, Dr. Christian Gottfried Ehrenberg, of Berlin, who died on the 27th of June, at the age of eighty years.

A recent number of the *Proceedings* of the Royal Society contains a paper embodying the results of the monthly observations of magnetic dip, horizontal force, and declination, made at the Kew Observatory from April, 1869, to March, 1875, inclusive. It is the third six-year series of magnetic observations made there, the first being communicated to the Society by Sir E. Sabine, and published in the *Philosophical Transactions* for 1863. The progressive diminution in the value of the dip continues to be shown, as well as a semi-annual inequality, which appears to be of variable amount. The total magnetic force, as in both the previous series, is greater in the winter (October to March) than in the summer (April to September) period. In the series now under discussion, the measure of that greater intensity is 0·00550; whilst in the first series investigated by Sir E. Sabine, it was 0·00317; and that in the second six-year series, 1863 to 1869, was 0·00363. The observations of the absolute declination show a continuous diminution of about 8′ per year; comparing which with that determined by Sir E. Sabine, it appears to be on the increase, as was surmised before. The semi-annual inequality is also considerably larger.

FINE ARTS

DORÉ'S TWO GREAT WORKS, 'CHRIST LEAVING the PRETORIUM,' and 'CHRIST ENTERING the TEMPLE' (the latter just completed), each 31 by 26 feet, with 'Dream of Pilate's Wife,' 'Christian Martyrs,' 'Night of the Crucifixion,' 'House of Caiaphas,' &c., at the DORÉ GALLERY, 35, New Bond Street. Daily, Ten to Six.—Is.

The Habitations of Man in all Ages. By E. Viollet-le-Duc. Translated by B. Bucknall. Illustrated. (Low & Co.)

M. Viollet-le-Duc continues to reduce his vast stores of knowledge to a popular form, and, in a plain mode, aims at putting before a mass of readers those general conclusions which few but he, and none better than he, could describe and systematize. As with regard to the 'History of a Fortress' and 'How to Build a House,' he employs dialogue and associated soliloquies and excursions to supply information to the reader. This is the mode preferred by M. Viollet-le-Duc; but we are bound to say that, in the volume before us, even more than in its popular forerunners, the preference is erroneous, and the practice tedious, cumbrous, and wasteful of time and opportunities. The famous architect, antiquary, and engineer was sure of an audience at any time or place, or for any subject on which he might think fit to discourse. Consider what a privilege this—neither more nor less than that of possessing the ear of mankind; a privilege not to be won by any man who had done less for studies and learning, who had showed himself less capable of doing what he professes than M. Viollet-le-Duc. The chief author of the admirable 'Dictionnaire' and its associated essays, the distinguished architect, can, it appears, now devise no better literary form for a popular essay than that which professes to record the doings and discussions of two imaginary wit-