

enormous trunks of fossil trees were observed on the shores of the lake. From Lake Colhue the Rio Singuer which flows into it was ascended, until a point was reached where this stream takes an abrupt bend to the north-west. Thence the route lay for many days through the unknown uplands of the interior, until the upper waters of the Rio Chico de Santa Cruz were struck in lat.  $48^{\circ} 55' 15''$  S., on the last day of February. Descending the Rio Chico de Santa Cruz, the Expedition reached Beagle Bluff at the mouth of the great Santa Cruz, on March 9. Beagle Bluff, we may remind our readers, was so named from H.M.S. *Beagle*, which visited the spot in 1834, and first explored the River Santa Cruz. Darwin, who accompanied the boats of the *Beagle* in their survey of this stream, came to the conclusion that the river-valley of the Santa Cruz was formerly a strait dividing South America right across at this point, like the Straits of Magellan do now further south (see Darwin's "Naturalist's Voyage," chap. ix.).

The interior of Patagonia traversed by Sr. Burmeister's Expedition appears to be almost deserted at the present time. No natives seem to have been met with between the Chubut and the Rio Chico de Santa Cruz until the lower part of that river was reached.

From Port Santa Cruz the Expedition returned northwards along the Atlantic coast to Port Deseado in lat.  $47^{\circ} 56'$ , and thence, ascending the river of the same name, rejoined their former route on the Rio Singuer.

Besides the accurate survey made during the expedition, a large number of photographic views were taken, a selection of which will be published subsequently. These will be of interest in connection with the question of the origin of the singular "basaltic terraces" of this country, of which Darwin gave us the first indication, and which are frequently referred to by Señor Burmeister. Large collections were also made in natural history, most of which await further examination. But articles on the mammals and birds obtained during the expedition are appended to the present Report. Most of these are referred to species already fairly well known, although an exception must be made in favour of *Canis griseus*—the smaller of the two native foxes of Patagonia, of which little, if anything, has been recorded since its accurate description by Dr. H. Burmeister was published some years ago. The remaining collections still to be worked out will probably be found to contain objects of greater rarity; but there can be no doubt that the Patagonian fauna, though of great interest, is rather meagre.

#### OUR BOOK SHELF.

*The Triumph of Philosophy.* By James Gillespie (Ealing: West Middlesex Printing and Publishing Co. 1890.)

THE author has endeavoured to correct the Copernican theory of astronomy, and propounds instead the Gillespian or true system of the universe, which asserts that the earth, as well as the sun, is fixed in space and all the stars revolve round it in a year.

One of the objections to the present arrangement reads as follows:—

"Can any man in his sober senses believe that the earth could fly through space at the rate of 1000 miles a minute. Would it not drive all the atmosphere either

away from the earth or like the tail of a comet? Could the moon keep her constant path round the earth at 273,000 miles distant, if she (the earth) was flying at this terrific speed?"

To understand this argument, it is necessary to believe with Mr. Gillespie that gravitation has nothing to do with the motions of any of the heavenly bodies. In his words:

"I admit gravitation on the earth, but it only extends a certain distance from the earth, and it is quite powerless at the moon's distance, otherwise the moon—if she has weight at all—would fall crash on to the earth."

The greater portion of the work is taken up with observations of Mr. J. B. Dimbleby, of the British Astronomical Society (*sic*). This gentleman, whose genius seems shrouded in obscurity, is styled "Transit Medallist, Professor of Chronology, first calculator of all eclipses and transits from Adam, and the discoverer of five lines of astronomical time." We give a short extract, in which some of his researches are referred to:—

"He has proved, by a long and by a true calculation, that the earth, the sun, the moon, Mercury, and Venus were all in one direct line at creation, and it is almost likely that the other planets were in the same position, and there they would stand like a team of racehorses till the Divine signal was given, and off they went each on his own course; and it has been proved by eclipses and transits, ancient and modern, that they have not varied a single minute since that great day."

It will be readily understood that to try to convince Mr. Gillespie of the unsoundness of his arguments would be the height of absurdity, since he has not even an elementary knowledge of physical laws. As in all similar productions, strong words and hearty abuse are indulged in to patch up weakness of argument; no one is disturbed by the tirade, however, and the Gillespian doctrine of the universe will doubtless pass away with Mr. Dimbleby and its originator.

*Watch and Clock Making in 1889.* By J. Tripping, F.R.A.S., &c. (London: Crosby Lockwood and Son, 1890.)

THIS little book consists of an account and comparison of the exhibits in the horological section of the French International Exhibition.

In England there is very little literature on this subject, but on the Continent, and in France especially, a great many works on it have been published. The chief textbook is that by M. Saunier, who has done much towards the elevation of the social position of watchmakers, and whose books are the standard works of reference on the Continent.

Twelve technical schools competed against one another at the Exhibition; great importance being attached to the technical teaching of this class of subject abroad. An excellent programme of the work which is done during the student's course is given by the author, and shows the method of teaching that is adopted.

Chronograph makers are next dealt with; of these there were twenty representatives, four being English. For performance, finish, and the number of instruments produced, England was awarded the palm. The tests which instruments of this kind have to undergo are more severe in England than in Switzerland, owing to the greater variation in temperature. For instance, one English chronometer went for twenty-eight weeks with a variation never exceeding 1.4 seconds; while a Swiss chronometer, cited as being an exceptionally good one, varied as much as 2.2 seconds in two weeks.

The next section treats of the manufacture of watches, and in this one hundred and fifty firms exhibited. This number was divided into two classes—"factory system" and "garret system"; the former consisting of those who manufactured them by using steam and hydraulic power