the manufacturers to colour the stone artificially by chemical treatment. Thus a fine blue colour can be developed by soaking the stone first in a solution of potassium ferrocyanide and then in a solution of a ferric salt. Now as exposure to the action of alkalies, or in some cases to direct sunlight, suffices to destroy the blue colouring matter, it would seem probable that it is in this direction that an explanation of the change observed by Mr. Whitton is to be sought.

In conclusion, I may add that a very instructive series of specimens illustrative of the artificial colouring of agate is on exhibition in the mineral gallery of the British Museum (Natural History). A. HUTCHINSON.

The Mineralogical Laboratory, Cambridge, November 21.

Eocene Whales.

IN NATURE for September 29 (p. 543) "R. L." reviews Dr. Fraas's paper on the Egyptian zeuglodonts, dissenting from the conclusions that the zeuglodonts are not whales, and that the ancestors of the whales are at present unknown. I trust "R. L." will pardon me for in turn dissenting from these assertions, and for agreeing entirely with Dr. Fraas. So long ago as 1900, in discussing the pelvic girdle of Basilosaurus, I pointed out that the vestigial femur suggested that of a creodont, while later, in *Science* for March 11, I recorded my utter disbelief in any relationship between Basilosaurus and existing whales. Consequently, while greatly pleased at the results of Dr. Fraas's study of the small zeuglodonts, I was not at all surprised. It seems to me that our knowledge of Eocene mammals is really very small, and that it will be many years before we will be able to trace the line of descent of many existing forms with any degree of certainty. This is most emphatically true of the whales, the ancestry of which is still obscure. At the same time I have pointed out (*Science*, March 11) that the Eocene deposits of the southern United States contain remains of a large cetacean that is at present known to us by a few caudals alone. This form is undescribed, because it seemed to me best to await the discovery of better material than caudals. So while the ancestors of whales are still unknown, we have a hint that they may be discovered any day. F. A. LUCAS.

Brooklyn Institute Museum, November 4.

The Discovery of Argon.

IN reference to the slip indicated in the last issue of NATURE by Prof. G. H. Darwin, permit me to mention that the slip was mine—not Mendeléeff's. In Mendeléeff's text it stands: "As to argon and its congeners—helium, neon, krypton and xenon—these simple gases discovered *mainly* (*preimuschestvenno*) by Ramsay. . . ." I am sorry to see that I had omitted the word "mainly."

In reality, my manuscript (which I enclose) contained, as you see, the words "discovered chiefly by Ramsay," but as "chiefly" was not the proper word it was struck out, probably by myself, in the proof. THE TRANSLATOR.

The Leonids, 1904.

WATCHING was begun on November 14, when between 18h. 10m. and 18h. 40m., in a sky rapidly brightening with approaching sunrise, one certain Leonid, of magnitude excelling that of Sirius, shot from Cancer into Gemini.

November 15.—Watch from 12h. 5m. to 12h. 40m., and 14h. 5m. to 15h. 45m. The heavens were very clear at the start. I had just commenced looking out when a beautiful tailed Leonid, of mag. 3, shot from $85\frac{1}{2}°+2\frac{1}{2}°$ to $74°-2°$. At 12h. 17m. thin, broken clouds began to pass over, the sky becoming completely covered at 12h. 40m. At 12h. 38m. a huge-headed Leonid, outrivalling Venus in brilliancy, was seen travelling behind small, broken clouds from $129°+35\frac{1}{2}°$ to $107°+43°$ in three-quarters of a second. The path here given is probably a little too long. About 13h. 30m. the sky began to clear again, and was pretty good by the time of the commencement of the second watch. There were many thin clouds, but the interspaces were large and very clear. At 15h. 25m. the heavens became quite unclouded. In this last look-out Leonids were more numerous, six being between 14h. 45m. and 15h. 38m. The increase in frequency of meteors of the dominant shower at this period was not due to improvement of seeing conditions.

In the latter watch three shooting stars coming from $160°+48\frac{1}{2}°$ were mapped. The radiant point of the Leonids of November 15, as determined from eight tracks, was at $151°+20°$. The meteors were swift, and mostly left streaks. There was a decided tendency towards green in their colouring.

Below are particulars of some of the most interesting Leonids, other than those mentioned above:—

November 15.

G.M.T.	From	To	Mag.	Duration	Length	Remarks
h. m.	° °	° °		secs.	°	
14 46	$181\frac{1}{2}+28$	$186+28\frac{1}{2}$	>1	$\frac{1}{4}$	4	Swift. Greenish-yellow. Directed from 1° N. γ Leonis.
15 6	$71-9\frac{1}{2}$	$64-11$	>1		$7\frac{1}{2}$	Very swift. White, tinged blue.
15 26	$101+16\frac{1}{2}$	$88+12\frac{3}{4}$	<S	1	14	Green-yellow.
15 38	$172+34\frac{1}{2}$	$179\frac{1}{2}+37\frac{3}{4}$	S−1		7	White, tinged green. Streak.

Sheffield, November 24. ALPHONSO KING.

Intelligence in Animals.

HAVING recently seen in NATURE some accounts of the sagacity of cats, I trust that the following facts, for which I can personally vouch, may also be interesting to your readers.

We have a cat, an ordinary tabby, which, when out and anxious to gain admittance into the house, not only lifts the weather-board of either our front or back hall-doors three or four times in succession, thereby causing a loud knock each time, but has also instructed her young kitten to perform the same feat.

Both mother and daughter now regularly knock in this manner in order to be let in. J. E. A. T.

MY room opens by a door to a hall; when our fox-terrier wants to come into my room from the hall he *scratches* at my door. When he finds himself in the hall and wants to go out by another door to the garden or back-hall, he *whines* for me, and, going out, I find him by the door he wants opened. This—my leisure regrets—is of daily occurrence.

F. C. CONSTABLE.

Wick Court, near Bristol, November 27.

PATAGONIA.[1]

THE dispute between the Argentine Republic and Chile with regard to the boundary line of their Patagonian possessions threatened at one time to result in a prolonged and sanguinary struggle. Happily this misfortune was averted by the decision, honourable to both nations, to refer the differences that had arisen to the arbitration of our Sovereign. A British Commission was accordingly appointed to examine the geographical features of the country and judge how far they could be reconciled with the terms of the treaties the interpretation of which was in question. As the head of this commission was chosen Sir Thomas Holdich, who had served his country as boundary commissioner in the wild inaccessible lands that lie to the north and west of our Indian possessions, and this selection was abundantly justified by the tact and skill with which a frontier more than 800 miles in length was traced in such a manner as to accomplish the almost unprecedented feat of satisfying both parties.

In the present volume Sir Thomas Holdich has given us his impressions of the progressive republics of Chile and the Argentine, and of the scene of his

[1] "The Countries of the King's Award." By Sir Thomas Holdich K.C.M.G. Pp. xv+420. (London: Hurst and Blackett, Ltd., 1904. Price 16s. net.