"The whale tribe (Balaenidae) is divided into the genus whale and the genus cachalot (sperm whale). The genus whale produces the baleen," etc.

This travesty of truth was evidently compiled from text-books of fifty years ago, and, although somewhat amusing from its complete erroneousness, cannot be too severely criticised. Cetology is certainly not in so advanced a condition as could be wished; but there are numerous recent works in which the outlines of the subject are correctly laid down, and from which our author might have gathered facts, and not fictions, with which to preface his chapter upon whalebone.

FREDERICK W. TRUE.

U. S. national museum.

Man in the stone age.

In *Science*, iv. 469, Prof. Henry W. Haynes takes me up sharply in reference to an opinion I expressed about the epoch of the appearance of man, properly so called, in prehistoric time in Europe, and calls this opinion 'a most amazing travesty of the views of Mortillet.'

Professor Haynes tells us that he gave a critical notice of Mortillet's work, 'Le préhistorique; antiquité de l'homme,' in *Science:* it is probable, therefore, that he read that book. But it is evident, that, if he did, he has forgotten it: otherwise he would not repeat that Mortillet takes the station St. Acheul as typical of the oldest stone age, inasmuch as he definitely rejects it as being of mixed later types, and substitutes the station of Chelles (*op. cit.*, 133). He would also have remembered that Mortillet denies, in so many words, that the anthropoid then living was man as we understand the term. These words are, "Nous nous retrouvons, donc, en présence de l'anthropopithèque, dont j'ai démontré l'existence," etc. (p. 248). Passing to the next age or epoch, the Moustérien, he asserts that it, too, was characterized by this race of anthropopitheci (p. 339); while in the third epoch, that of Iolutré, he leaves the question open, denying that any traces of man or anthropoid have been discovered (p. 392).

This brings us late, very late, in paleolithic time, without an osteologic trace of any being who should properly be called *man;* for it would indeed be a travesty to apply that name to a creature without language, without religion, and without social compacts. If the question is to be any thing beyond one of word-splitting, these psychological characteristics must be connoted by the word 'man;' for in all ethnological study they almost alone occupy us, as Peschel has well shown in his chapter, 'Die stellung des menschen in der schöpfung' (Völkerkunde, einleitung). Yet Mortillet himself denies them to his anthropopithecus. DANIEL G. BRINTON, M.D.

Media, Penn., Dec. 13.

Dr. Haacke's discovery of the eggs of Echidna.

In the *Zoologischer anzeiger* of Dec. 1 appears an extremely interesting letter from Dr. Wilhelm Haacke, director of the South-Australian museum at Adelaide. It is dated Sept. 8, and contains an account of the writer's independent discovery of the oviparous character of the monotremes four days before Professor Liversedge transmitted Mr. Caldwell's famous cable from Queensland.

On Aug. 3 last, Dr. Haacke received from Kangaroo Island, a point about one day's journey from Adelaide, a living female Echidna hystrix. With the deliberateness characteristic of his race, he did not examine the animal until Aug. 25. He then ascertained that there were two lateral folds of the mammary pouch, in one of which he felt a small object. In the expectation of finding a young Echidna, he brought it to light; and, to his astonishment, it proved to be an egg, with a membranous shell like that of some of the reptiles, and measuring about two centimetres in diameter. Owing, probably, to the long confinement of the animal, the egg was decomposed, and broke apart under a slight pressure.

On Sept. 2 this important discovery was quietly communicated to a meeting of the Royal society of South Australia; and the Adelaide *Advertiser* of Sept. 4, also the *Register* of Sept. 5, published the fact in their reports of the meeting. In the same number of the *Register* appeared a cable-message from London, announcing Mr. Caldwell's discovery of the eggs of Ornithorhynchus; in which message, probably through a telegraph-operator's error, the word 'viviparous' had been substituted for 'oviparous.' Dr. Haacke immediately wrote to the *Register* in a letter printed on the 6th, pointing out the probable error, and the singular coincidence of the independent discoveries of Mr. Caldwell and himself.

On Sept. 7 the *Register* published an extended account of Mr. Caldwell's researches in Australia, and added in a shorter note, —

"It may also be observed that the announcement which has caused such a sensation among European scientists was made from Queensland on Aug. 29, or a few days after the discovery by Dr. Haacke."

Dr. Haacke closes his paper in the *Anzeiger* with an expression of pleasure that his discovery had met with such an unexpectedly rapid confirmation at the hands of another observer.

This adds another to the numerous coincidences in the history of scientific discoveries. When it is remembered that Mr. Caldwell, at the time of his discovery, was in the interior, and may have been some distance from any telegraphic station, it seems probable that his observation and Dr. Haacke's were only a day or so apart. At all events, each investigator is entitled to the full credit of independent discovery, or perhaps, in view of Professor Gill's recent letter to *Science* on this subject, we may better say confirmation of an old truth that has been disregarded for half a century. After so long a period of ignorance regarding this most important question concerning the monotremes, it is certainly very extraordinary that at points so distant from each other there should have been made, simultaneously, observations upon different genera, either of which practically solved the question for all time.

HENRY F. OSBORN.

Princeton, N.J., Dec. 19.

Artificial wampum.

During a discussion upon wampum, at the Montreal meeting of the British association, I alluded to the fact that there is a wampum manufactory at Paskack, N.J. In the same discussion Major Powell remarked, that, according to his belief, none of the cylindrical beads of which the belts then on exhibition were composed had been made by Indians.

Since my return I have visited the manufactory mentioned above, and I will give a hasty sketch of the same. It is situated at Paskack, on the Hackensack River, and is conducted by four 'Campbell brothers,' the youngest of whom is about seventy years of age.

According to their account, the business has been in their family about four generations. During the life of their grandfather it was situated at Tenack, now Edgewater; and my informant remembers when his grandfather used to go in a boat to Rockaway, and

return with his boat loaded with clams, the meat of which was given to the country-people in return for opening the shells, as they were ruined by boiling. The blue 'heart' of the clam, as it was called, was cut out, and made up into the beads used for the ground-work of belts. My informant said, further, that he had often paid out thousands of dollars per week, buying the beads of the white country-people, who manufactured them in their several homes. The hole of the bead was made with an 'arm drill,' and the beads were polished or rounded on grindstones. He says the white beads cannot be made from clam, but from conch shells, which they have always imported from the West Indies. The young clams cannot be used, and the old have so decreased in number that this branch of the industry has been greatly reduced.

I had with me an Iroquois wampum belt, bearing the marks of age, which they immediately pronounced to have been made after their manner. Although they had been familiar with Indians, they had never known of their making the beads. They had always depended upon the trappers for their market, and related incidents connected with their dealings with 'fur companies,' etc. The conch-shell is used also in the manufacture of the pipe beads, rosettes, etc. The holes in the pieces composing the rosettes are drilled, some of them, by the country-women in the vicinity. Specimens of the latter I shall take to New Orleans to represent a minute branch of the industry.

If desired, I will resume this subject at a future time, and will present other proofs which go far towards supporting the statement made by the director of the Bureau of ethnology.

Erminnie A. Smith.

Was it imagination?

The note on artificial auroras, in *Science* for Nov. 14, reminds me of an experience which occurred to myself and party on a mountain summit two or three years ago. There was an unusually brilliant aurora, and it was remarked by several that the streamers seemed to be very near us; and presently, as we stood in the open air with heads uncovered, we began to feel the sensations produced by proximity to a body charged with electricity. The fact that such a sensation had actually been produced by the aurora, was doubted by some scientific men to whom I mentioned it; and it was attributed to *imagination*, which, I fear, is guilty of much, and often accused of more. My object now is chiefly to inquire whether others have had a similar experience. If, during the exhibition of an aurora, such an artificial pillar of light can be formed, I see no reason for doubting the evidence of my own senses; which, by the way, was so definite, and so distinctly perceived, that I could not doubt it if I desired to do so. E. T. Quimby.

THE MANAGERS TO THE READERS.

It is not often that the managers of this journal feel disposed to address their readers with editorial directness. Our principal duty is to record with fidelity and promptness the progress of science, and to make such comments upon its achievements as will enable intelligent people to follow with ease the course of inquiry in departments which are remote from their daily avocations. But the opening of a fifth volume furnishes us an opportunity for a few retrospective and prospective observations.

We have successfully passed what is sometimes called 'the dangerous second year.' A more intimate acquaintance with our staff of contributors, and a more accurate knowledge of the requirements of our readers, have enabled us from time to time to modify our original plans, and to adapt them more closely to the actual scientific condition of the country.

We are constantly exposed to contrary tendencies. The cry often reaches us for 'more popular' articles. The public appetite, which has been whetted for half a century by museums, lectures, magazines, books, and tracts, revealing the 'wonders of science,' 'the curiosities' of nature, the mysteries of the microscope, the magnitudes of the telescope, and other like marvels, calls upon us to give more entertaining and sometimes more sensational papers. When this desire is somewhat moderated, it still looks for novelties, surprising discoveries, extraordinary announcements, and is liable to disappointment if our weekly issue appears with 'nothing striking in it.' On the other hand, the teachers and leaders of science would generally be glad to have this journal become more scientific, and less popular, by printing longer papers than we commonly offer, more abstracts of important memoirs, more elaborate discussions of controverted points. Between these two opposing tendencies, it is no easy task to keep a steady course. A brief recapitulation of our principles may enable our readers to understand our position.

In the first place, *Science* aims to gather from original American sources early and trustworthy information in respect to the scientific work which is in progress in every part of this land and under all the various agencies, governmental, institutional, social, and individual. We do all in our power to elicit from the universities, the learned societies, the laboratories, the surveys, the observatories, and the national scientific departments, accurate