

world by Mr. George H. Harris, in the 'Semi-centennial history of the city of Rochester.' My own contribution to the subject was purely from the geologic side.

I may add, that the formation described by Mr. Murdoch is unquestionably littoral, and not greatly elevated above the present coast. What we know of recent oscillations of coasts in arctic regions, and of the rate of formation of littoral deposits, tends to the opinion that the Point Barrow goggles have an antiquity far less than that of the other finds.

G. K. GILBERT.

Washington, D.C., Dec. 11.

Polarization of resistance coils.

On p. 208 of *Science* (viii. No. 187) Professor Mendenhall's observation is noted. With my rheostat I fail to obtain any 'reverse' current properly so called. The secondary current obtained by us is in the same sense, whichever sense is given to the primary, charging current; and the secondary current is not in the same sense in all the coils.

This rheostat is constructed with brass mountings and German-silver coils: hence I infer that the main cause, at least of secondary current, is unequal heating of the junctions of coils with mountings.

Since we obtained galvanometer deflections of equal amount, as well as in the same sense, for both senses of primary current through the rheostat, we failed to observe any polarization effect by difference. It may be that thermo-electric effects at junctions of copper conductors with brass terminals happened to mask the polarization in this case, though we could not believe it probable.

If my explanation of secondary current be correct as far it goes, would it not be well to make rheostat coils and mountings of the same material?

F. C. VAN DYCK.

New Brunswick, N.J., Dec. 8.

Height of a meteor.

I have a very accurate map of the track of the large fireball which was seen near Philadelphia about 9.48 o'clock on the evening of Nov. 4. If any one can supply another, even if only approximate, so that the height may be computed, it would greatly oblige

ISAAC SHARPLESS.

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Elliott's Alaska and the Seal Islands.

I beg permission to draw attention through the columns of *Science* to a glaring instance of plagiarism in Mr. Henry W. Elliott's lately published work entitled 'Our arctic province.' In this work the greater part of the third chapter (more particularly pp. 45 to 57) is quoted, or adopted with slight verbal alteration, and without the least acknowledgment, from my report on the Queen Charlotte Islands of British Columbia, published in the 'Annual report of the geological survey of Canada for 1878-79.' This in itself is perhaps a matter of small importance, though not calculated to lead the public to place unquestioning faith in the character of other parts of Mr. Elliott's volume, to which I do not here allude. The specially reprehensible feature to which I must direct attention is that Mr. Elliott has availed himself of

the fact that a division of the Haida Indians inhabit the southern part of Prince of Wales Island (Alaska) to apply my specific observations on the Queen Charlotte Island Haidas and neighboring Ishmians to the Indian population of the Sitkan archipelago generally, including ten tribes, which he enumerates. In some cases the transfer is made simply by substituting 'Prince of Wales Island' for 'Queen Charlotte Islands' of my notes; in other instances a more elaborate procedure is adopted: but in no case that I can find in chapter iii. is any part of my description credited to the Queen Charlotte Islands, nor is the name of that well-known group so much as mentioned in the chapter. Had Mr. Elliott confined himself to generalities, it would not have been so inexcusable; but he descends to details, and, as an instance, actually adopts the measurements given in my report for a house at Virago Sound, Queen Charlotte Islands, leaving it to be understood by the context that it was met with somewhere in the Sitkan archipelago, and measured by himself. I should add, that the measurements were made to the nearest inch, and that Mr. Elliott has followed six of the dimensions correctly, but misquotes two of them (p. 49).

As an example of the jaunty style which Mr. Elliott manages to impart to the original, I quote only the following, in which some evidence of originality certainly appears. Many pages occur in which the style of the original is considered satisfactory, and the incorporation made verbatim, or very nearly so.

Our arctic province (pp. 56-57).

"But the 'loudest' feed of these savages consists of a box, just opened, of semi-rotten salmon-roe. Many of the Siwash have a custom of collecting the ova, putting it into wooden boxes, and then burying it below high-water mark on the earthen flats above. When decomposition has taken place to a great extent, and the mass has a most penetrating and far-reaching 'funk,' then it is ready to be eaten and made merry over. The box is usually uncovered without removing it from its buried position; the eager savages all squat around it, and eat the contents with every indication on their hard faces of keen gastronomic delight — faugh!"

Report on Queen Charlotte Islands (p. 111 B).

"Both the Haidas and Ishmians have the custom of collecting salmon roe, putting it in boxes, and burying these below high-water mark on the beach. When decomposition has taken place to some extent, and the mass has a most noisome odor, it is ready to eat, and is considered a very great luxury. Sometimes a box is uncovered without removing it from the beach, and all sitting round eat the contents."

Mr. Elliott, in his introduction, refers to the great amount of literature which has appeared on Alaska, and adds, "In contemplation of this, viewed from the author's stand-point of extended personal experience, he announces his intention to divest himself of all individuality in the following chapters, to portray in word, or by brush and pencil, the life and country of Alaska as it is, so clearly and so truthfully that the reader may draw his or her own inference, just as though he or she stood upon the ground itself." Possibly wholesale unacknowledged appropriation is Mr. Elliott's idea of 'divesting himself of all individuality.' He has certainly succeeded in divesting most of the facts contained in his third chapter of all individuality, by applying them to a region and to tribes not intended by the writer. Why should Mr. Elliott leave the extensive tours on

Alaska, and the personal experience to which he refers, to avail himself of the observations of another in a different though adjoining region? We are of course aware that a considerable similarity exists as between the manners and customs of the various Indians of the north-west coast; but to transplant observations made in one specific district bodily to another is a proceeding utterly repugnant to any one with a regard for scientific precision — or truth.

GEORGE M. DAWSON.

Geological survey of Canada,
Ottawa, Nov. 27.

The best reply to make to a criticism like Mr. Dawson's is to let a few facts bearing on the case speak for themselves. Let me take the case of complaint cited by him, — the rotten fish and roe feast. In 1865-66, twelve and thirteen years before he knew any thing about the subject, I witnessed and smelled my boat's crew of Haida and Stickeen Indians open and eat rotten salmon and herring roe, and rancid fetid Aalachan fat, at a dozen different camping-places between Stickeen Mouth, Alaska, and Port Essington, B.C. My notes and drawings were made then, which appear in my recently published work. These notes and drawings were re-written and selected, and all in the hands of my publisher Feb. 26, 1886. I never saw Mr. Dawson's work, or even knew of it, until the middle of April, 1886; then my attention was called to it by Professor Mason, who has the only copy known to this establishment. He, at that time being at work on a collection just received from British Columbia, incidentally alluded to it, and, finding I had never seen it, asked me to read it.

'Our arctic province' was not written for the eye or ear of scientific specialists: were it so conceived, its covers could not be expanded wide enough to embrace the subject; and it would, if so written, be an utter failure as a popular and pleasant book to handle on the question. Hence all this detail, controversy, and citation has been justly eliminated from it.

HENRY W. ELLIOTT.

Smithsonian institution, Dec. 10.

Star rays.

In the oldest pictures in which the sun, or stars, or burning candles, are features, these objects are represented as surrounded with rays, or points, or brushes of light; and the conventional figure of a star is to-day a pentagon, with its sides extended to an intersection so as to form five pointed projections. It is evident that this manner of representing luminous bodies is due to the fact that such appendages have their counterparts, to a greater or less degree of correspondence, upon the retina of the eye, when such bodies are viewed. But it has never been supposed by any one that such points or rays were actual emanations of luminous matter from the objects, nor the converging of their light into these forms by the atmospheric medium through which they are viewed. Such impressions have always been considered so simple and constant as not to deserve any notice on the part of scientific inquirers, as far as I have ever heard; and it is because my curiosity has been excited to know their cause, that I appeal to the readers of *Science* for more light upon the subject.

In the case of the electric light, now so common in

our streets, I have been able to account for the principal feature of their apparent radiations. The very long rays, which, if the carbon points were at the same distance as is the sun, would be many millions of miles long, I find are nothing more than the reflection of the light from my eyelashes; as is proved by the fact of their changing their position to correspond with every change I make in the position of my eyelashes, and of their total disappearance when I intercept the light by my fingers or other screen. But I cannot by any practical means thus get rid of the great body of minor rays which seem to interlace with each other, and which sparkle with the prismatic colors. The experiment with the longer ones, however, forces upon me the conclusion that these are due to some other part of my optic apparatus which is out of my reach.

I have also gazed upon the full moon, and, while doing so, have at different times, and with different conditions of the eyes, and with different positions of the eyelids, observed with great distinctness nearly every form that I have seen published, representing the solar corona as observed by the astronomers during an eclipse of the sun, and especially those rifts in the corona which extend to the very surface of the luminous orb, — features which, in the case of the sun, utterly disprove every hypothesis that has been advanced to account for the existence of the corona.

If the corona is an emanation from the general surface of the sun, or the illumination of a circumambient atmosphere of matter, how are we to account for these rifts, which imply immense long and narrow vistas, following great circles of the sphere, which constantly shift their position on its surface so as to coincide with the line of view of the observer on the earth, through all the movements of solar rotations and of the earth in its orbit?

Mr. Proctor suggests that the corona is the more highly illuminated centre of an hypothetical stratum of stellar substance, to which the orbits of the earth and other planets are confined, and which gives out the zodiacal light. If this were so, those immensely long projections should radiate from the equatorial zone of the sun. But the zone from which they project is always perpendicular to the line of view of the observer.

What quality can be assigned to a homogeneous atmosphere, either upon the moon or the earth, which is capable of perverting the light of the sun into such fantastic shapes as have been observed, and what can induce such changes in that quality to correspond to the manifold changes in the forms recorded?

Considering the complete failure of every hypothesis to account for the phenomenon, and during the pause which seems to have overtaken this inquiry, may it not be excusable for those who are ignorant to inquire whether sufficient attention has been given to the possible effects of the structure of the lenses and tubes of the telescopes through which the observations have been made, and whether it may not be possible to abolish the corona in the same way that the 'black drop' has been abolished? If reflections from my eyelashes and eyelids can produce such figures upon the retina, may not reflections from the tubes or other parts of the telescope produce them upon the photographic plate?

RD. RANDOLPH.

Baltimore, Md., Dec. 10.