

Equatorial Ocean must be affected through this strait, as the narrow and shallow Bering Strait cannot have any influence on this system of currents. No warm current forms there a 'thermometrical gateway' to the pole. The surplus of water annually added to the arctic sea must take its way through the strait between America and Europe. In its eastern portion, between Iceland and Norway, the warm current reaches to the comparatively shallow bottom of the sea (see Mohn's researches in *Petermann's Mittheilungen*). North of the submarine elevation connecting Iceland and Norway, which nowhere exceeds four hundred fathoms in depth, the cold water of the arctic sea is dammed up: so the northern current has to pass the narrow Denmark Strait between Iceland and Greenland. Here we observe the immense ice-laden current following the coast of East Greenland. Through this strait the deep-sea motion towards the equator must take its way, as not a drop of cold water passes east of Iceland. The cold water rising at the equator can pass only this way. But, from the present state of our knowledge, we do not yet know whether the greater part is carried along by the deep-sea motion, or by the superficial current. The fact is, that the polar ocean is an immense Mediterranean Sea, with one outlet, through which the surplus of water has to find its exit: therefore the whole area near the outlet must be moved by strong currents; while the remote parts, the sea between the Parry archipelago and North Siberia, will only be affected by the prevailing winds. If there were no other reason, this would be sufficient to prove the impossibility of symmetrical currents around the poles.

As for Mr. Melville's meteorology, I confess that I cannot undertake to refute his theory at this place, as I should have to fall back on the elements of this science and those of physics. "And as they [the air-currents] do follow the earth's surface, they take their direction toward the pole, following the spherical surface of the earth until they reach the shoulders of the ellipsoid, where the flattening of the earth commences (!); then, having received their course and direction for a distance of nearly five thousand miles, they follow their *projected direction*, and continue on above the earth's surface just as much as the flattening of the earth at the poles amounts to." (!) I should be glad to learn the place where the earth begins to flatten! Mr. Melville's assertion that a low atmospheric pressure exists in high latitudes is not correct. The centres of low pressure are the Bering Sea and the North Atlantic Ocean around Iceland. Besides, regions of a low barometer are not those of calms, but of winds.

In short, Mr. Melville's theory cannot uphold itself, and a plan founded upon it cannot prove successful. We wish Mr. Melville might confine himself to the principle that every plan of advance towards the pole should be made according to former experiences, not vague theories. We hope he will succeed in reaching Franz Josef Land, and there, no doubt, he will find most interesting results; but we oppose the hazardous undertaking of leaving the land in order to reach the pole. From the experience he will gain in the far north, he may propound a new plan founded upon his own observations there.

We think the enthusiasm of Mr. Melville for arctic researches is highly to be praised. If any thing can encourage the public, it is the struggle of the arctic heroes for their noble task, the perseverance with which they brave the dangers of climate and ice, as well as the narrow-minded opponents who scorn their ideals. We hope Mr. Melville does not class us among these. We have the most hearty interest in polar

exploration, and only wish Mr. Melville might save his life and his experience for an expedition not so hazardous and not so adventurous as the proposed one.

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### Did Cortez visit Palenque?

This interesting question, propounded by Professor Cyrus Thomas in *Science*, v. p. 172, should attract the attention of archeologists.

As there are some inaccuracies in his statements, and as, from a study of the documents in the case, I reach different conclusions, I beg to submit them to your readers.

The locality 'Titacat' was not reached *after* the execution of Cuauhtemotzin (as Professor Thomas says), but was the station next previous to the one at which that event occurred; to wit, at Izancanac, the capital city of the province of Acalan.

As to this name 'Izancanac,' it is evidently in the Maya language, and means 'the residence of the chief of the Itzas,' who were a well-known Maya tribe. The province of Acalan is placed, on old maps, on the southern and eastern shores of the Bahía de Terminos; and, according to Cortez, its chief city was on or near the shores of this bay.

When at Zagoatespan, between which and Izancanac the only stations were Teutiaca and Tizatepelt, Cortez sent a messenger by sea to Acalan: hence both these places were on the seacoast, or near it. At Zagoatespan he was informed that there were two roads to Acalan,—one up the country; the other, shorter, near the seashore. He followed the latter, having to pass through extensive marshes, and to cross an arm of the sea (Estero, ó Ancon) over five hundred yards wide, and from four to six fathoms in depth. A day and a half's journey from this was Tizatepelt, the first town in the province of Acalan; and five leagues from it was Teutiaca, from which Izancanac was less than a day's journey.

This plain statement shows, beyond all question, that Cortez' route lay nowhere near Palenque, and that those who place it there cannot have traced it out according to his own notes in his celebrated 'fifth letter.' It was close to the seacoast, and quite far from those celebrated ruins.

As for his description of the temples of Teutiaca, he represents Izancanac as a much larger city, with more temples, and altogether a greater place (*muy grande y de muchas mezquitas*).

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### Mammalia in interglacial deposits.

May I be permitted to ask aid from some American contributor to *Science* who follows the lore of glacial geology? I learn that some American glacialists are satisfied that there have been two periods of glaciation, and I would inquire whether the interglacial deposits contain, like those of Switzerland, remains of mammalia, and, if so, what they are. Any reference to American evidence on these points would oblige

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The Camp, Sunningdale, Eng., Feb. 27.

### Colored stars.

The planet Jupiter and the star Regulus ( $\alpha$  Leonis) just now are so situated as to give us a fine example of a naked-eye colored double star, and strikingly illustrate the optical effect produced by two neighboring stars of very different magnitudes. The component colors, as they appear to the writer this even-