

— Captain Gates of the ship *L. Schapp* has reported to the U. S. hydrographic office that on April 19, when off Cape Horn, on a voyage from San Francisco to Liverpool, the temperature of the water suddenly rose from 42° to 44°. Judging from this that the vessel was too close inshore, he hauled off three points, and, after standing on this course for four hours, the temperature fell to 42°. The captain stated that on a previous voyage he had noticed this warm belt, and judges that it does not extend more than ten miles offshore. He believes he would have gone ashore if he had continued on his first course half an hour longer. He had not seen the sun for twelve days.

— The longest completed tunnel in the world is at Schemnitz in Hungary. It is 10.27 miles in length, with a cross-section of 9 feet 10 inches by 5 feet 3 inches, and is used for drainage purposes. The new Croton aqueduct tunnel, now in course of excavation near this city, will be much the longest tunnel in the world. When completed, it will be nearly 30 miles long, with a section much larger than that of the Schemnitz tunnel, being about 16 feet in diameter. Twenty-two miles have already been excavated.

— The International statistical institute will hold a meeting in Rome early in April.

#### LETTERS TO THE EDITOR.

\*Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.

##### The natural method of teaching languages.

Will you permit me to call attention to two misstatements in Mr. Stern's article on 'The natural method of teaching languages,' which appears in *Science* of Jan. 21? On p. 69 he says, "Why is it that the old method . . . could be shaken in its very foundation to such a degree that one of its warmest defenders writes but lately, 'It is evident to me that the old grammatical method cannot survive the assault of the natural method'?" The writer referred to as 'one of the warmest defenders' of the old method has been conspicuous and outspoken in discrediting 'the old method,' both in theory and practice, for many years, and, had his name been quoted, the absurdity of the above would have been at once apparent.

Farther on, Mr. Stern says, "It would seem strange . . . that an educational journal which is not friendly [*sic*] inclined towards the method should have recently been forced to admit that 'the subject is now attracting great attention in the secondary and higher schools.'" The expression 'forced to admit' is misleading. Possibly it was intended to be so. It would be interesting to learn the exact nature of the *forcing*. By the same token it might be claimed that any statement of fact is a forced admission. It was simply given as an excuse for introducing the matter as the subject of *Interchange*. Perhaps Mr. Stern would claim that our statement that

"there are twenty thousand secondary teachers in the United States" was a forced admission, but we have never so regarded it.

THE EDITOR OF THE ACADEMY.  
Syracuse, N.Y., Jan. 22.

##### The submerged trees of the Columbia River.

The phenomena which Capt. C. E. Dutton has so well described under the above heading in No. 208 of *Science* were observed by me in the autumn of 1870, when, in the course of preparations for a topographical and geological survey of Mount Rainier, I made a trip from Portland to the Dalles and back, and later, on my return from Mount Rainier via the Dalles to Portland, during the month of November of the same year. The submerged trees excited my vivid interest during these trips up and down the river; and during an enforced stay at the Cascades on one of these occasions, I made some investigations in the vicinity, which, with information I obtained from old Hudson Bay trappers and Indians, suggested to me an explanation of the backing-up of the river different from that offered by Captain Dutton. This explanation, which was embodied in a somewhat popular address delivered by me before the American geographical society in New York on March 13, 1887 (Bulletin No. 4, session 1876-77, p. 11), I venture to repeat here, for the reason that Captain Dutton assures me that he had not known of my publication on the subject, and that the explanation had not been suggested to him at the time of his investigations. It is briefly this:—

1. The valley of the Columbia River at the Cascades is a cut, considerably broader than the actual stream-bed, through over 3,000 feet of beds of basalt and basaltic breccia, which here form the axis of the Cascade range, and which rest on a loosely aggregated bed of conglomerate carrying leaf-remains and trunks of trees, sometimes petrified, sometimes merely carbonized, apparently of miocene age. This bed of conglomerate is seen to outcrop about at the river-level at the foot of the Cascades: therefore in its cutting-down or corrosion the Columbia River had already reached this conglomerate bed below the falls, and above was within thirty feet of it.

2. The river at the Cascades is a narrow boiling stream, rushing down over immense broken masses of basalt, and between steeply cut banks of basalt; which banks are, if I recollect rightly, somewhat higher than the broad forest-covered stretches of the valley which extend on either side of the stream to the base of the steep bounding cliffs. In this stretch on the north bank I observed an old stream-bed filled with rounded pebbles, through which at least a part of the stream once ran.

3. The Indian tradition above referred to says that there once existed a natural bridge at the Cascades, and that the ancestors of the present tribes (probably at no very distant period) used to cross the river here dry-shod. The form of the banks at the head of the stream lends probability to the truth of this tradition, for they appear like the rude abutments of such a bridge, which had been left after its destruction.

4. The submerged stumps of trees which line irregularly the banks of the river above the Cascades are of the same species, and generally about the same size, as the older of those which clothe the steep