

## ABOUT LIFE IN THE LAKE.

I have read with much interest the report of Prof. J. E. Talmage's researches in Salt Lake, one reason being that I myself predicted that life would be found there.

In the winter of 1889, my first season in this city, and before I had visited the Lake, I had several interesting conversations in regard to it with an intelligent girl of this city, who had often immersed herself in the brine pond. She insisted that no life could be found there. I insisted that "shrimps" might and probably would be found there. My deduction was based upon experiments made in Russia and reported by J. Y. Bergen in a volume on "The Development Theory." It may be interesting in this connection to reproduce what was said. It is as follows:

"In the summer of 1871, Schmanklewitsch, a Russian naturalist, noticed that *Artemia arctica* (a sort of brine shrimp) found in salt water pools, changed its form according to the greater or less saltiness of the water. In summer, when the water was most salt, there was a retardation of growth, which was the more marked the higher the temperature, and the saltier the water became. When, near the end of summer, the heavy rains set in and the temperature decreased, the *Artemia* became larger and lost its red and gray color; so that the November and the July broods differed essentially in size and color. Schmanklewitsch then bred the brine-shrimps artificially. In one vessel he gradually increased the saltiness of the water to between four and five times that of ordinary sea-water; in another vessel he reduced the saltiness considerably below that of sea-water; and in both of the series of solutions so prepared he reared several generations. Each new generation lived in a solution of a strength or of a dilution such as the preceding generation could hardly have endured. The new broods of brine-shrimps reared in solutions of varying strength differed greatly from each other, as well as from those in the original pool. Schmanklewitsch also noticed that in warm weather the females both in the stronger and in the weaker solutions reproduced without being fertilized. The females hatched from such unfertilized eggs themselves in turn produced a brood of females only. Males, only, occurred in water of medium strength. Then, in the spring, after the brine had become suddenly freshened by heavy rains, abnormal males were produced. But the two leading forms that Schmanklewitsch obtained have heretofore been known as two different genera—*Artemia* and *Branchipus*; so that here is a clear case of modifications sufficient to carry an animal from what naturalists rank as one genus into what they call another genus; all taking place by the increase or diminution of salt in the water, more or less aided by variations of temperature."

I regard this as a very interesting experiment in biology, and I want to add by way of verification of my prediction that life would be found in the Salt Lake that the lady referred to wrote to me in the summer of 1889, while I was in the East, that she had found in the

water "a curious little thing that was alive;" and wanted to know if I did not want a bottle of them sent East for examination.

As to raising fish in the Lake, I think Prof. Talmage's conservatism well founded. Such a thing could be done only by gradual adaptation to the environment, and as all ocean fish shrink under salt in death, so all live ocean fish would diminish in size as they became adapted to the water of our Salt Lake. It would require such a change as the Russian, with the horrible name quoted above, saw taking place in the shrimps upon which he experimented.

A question that comes in as to the possibility of raising fish in the Lake is their food. If my memory is straight, Prof. Talmage says there is abundance of animal food in the Lake for fish that like that diet. But the shad and some of our best food fish are vegetarians, and I presume they would fare badly in the Lake until they could be degraded to such a level that they could live on Jordan river swill from the Salt Lake sewers! The carp, however, is a dirty bird, so to speak, and if he has a salt water prototype he ought to get fat in the Lake, especially near the mouth of the Jordan, which he would be sure to find very soon.

But the fellow who reported Prof. Talmage in one of your contemporaries was a chump. He thought fish that was raised in salt water would be so thoroughly salted that it "wouldn't spoil in any climate," like boiled Milwaukee beer, while the fact is a fish from the ocean will "spoil" as quickly as one from Lake Superior. In fact a trout from the Neepigon river or a white-fish from "the Soo" rapids will "keep" longer in summer than a mackerel, a shad, or a blue fish caught in the same latitude on the coast.

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## AMID ETERNAL ICE.

It seems impossible for a Polar expedition to remain any length of time amid the icy barriers without having some sort of mystery connected with its exploits, such mystery in almost every case involving human life. It is scarcely to be wondered at that men, plunged into a climate with which they can never assimilate and surrounded by conditions so greatly at variance with anything in their previous experience or even dreamed of, should now and then "lose their heads" and say and do strange, unusual things; yet this does not fully if at all account for some of the mysterious disappearances which have contributed to the terrors of the frozen zone, themselves surely ample enough for all purposes without such contribution.

The case of John M. Verhoeff is one of the strangest in the annals of Arctic exploration. He went out without the Peary party last year and when the recent relief expedition reached the point where the party disembarked and were rescued, Verhoeff was not with them. Inquiry resulted in nothing satisfactory, the only information given being that, relying on his ability to become homogeneous with the Esquimaux, he had wandered off with that object in view. Another account is that the

traditional "woman in the case" figures, that he and Mrs. Peary could not get along together, and because of this he left the camp and started off on foot in quest of other quarters. But when the lost man's sister met Captain Peary on his return to Philadelphia, with tears in her eyes begging him to tell her where her brother had gone, how and why, the only reply was that he was a deserter and therefore neither the government nor the Academy of Sciences was under any obligations regarding him. There would seem in this an indifference bordering on heartlessness, and it only serves to render the situation more cloudy and complicated.

The last that was seen of Verhoeff was on the 13th of last August at the head of McCormick's bay. At this point the ornithologist of the expedition, Langdon Gibson, was shooting birds for his collection, and the two met. Verhoeff said he was going to an Esquimaux settlement some twenty miles distant. This Gibson tried to dissuade him from doing, telling him the settlement was deserted. But all to no purpose. The young man set out on his journey afoot and alone, having but three days' rations and being thinly clothed. Here it would seem was a trail which if the relief party had felt so disposed might have been successfully followed; but it was not, and the man was been left to whatever fate he may have encountered in that awfully sterile and forbidding land.

There is surely enough that is terrible in a trip to the frigid zone without adding the wilful sacrifice of life; yet terrible as it all is, there is little doubt that exploring parties followed in regular order by relief parties will continue with at least as much frequency and persistency as heretofore. Whenever a few hardy and venturesome men with a scientific turn of mind take a notion to essay an attack in force upon the forbidden circumpolar regions, the necessary money is always forthcoming, sometimes from governments, sometimes from individuals and not infrequently from both. The desire among the intellectual portion of mankind to break open the barred gates of the north and become familiar with the *terra incognita* behind them is so irresistible that when one class will undertake the task, another class is always ready with the means for carrying on the work, notwithstanding the fact that since the first expedition down to that of Lieut. Peary the same dreary tale of sorrow, suffering, death and failure has been borne back to the homes from whence they departed.

## READ THE SCRIPTURES.

IT is not a new thing to use as a telegraph code quotations from the Bible and other works that are universally distributed and widely known. The Good Book is so full of felicitous expressions suitable to any emergency or condition, that its pages are frequently resorted to by correspondents as supplying more briefly and in plainer language than they themselves are master of, clothing for the thoughts they wish to convey. An instance in point is cited by the *Electrical Review*.