

Dr. Nansen's Arctic Work.

The scientific results of Dr. Nansen's Arctic expedition were published in London some months ago. The volume, a large quarto containing five memoirs, is an important contribution to our exact knowledge of the Arctic regions. Prof. Edward L. Prince, the eminent biologist of Canada and Dominion Commissioner of Fisheries, has just written an able review of the volume which appears in the Ottawa Naturalist. The following account of some of the most interesting results of Nansen's researches is condensed from Prof. Prince's article. These results prove the accuracy of Lord Lister's statement in the Royal Geographical Society that nothing is more remarkable than the scientific element in Nansen's expedition.

When Nansen was in this country three years ago he said he had accumulated such a mass of observations, physical, meteorological, geological and biological that some years would be required to work them into treatises. It would take Prof. Sars, his brother-in-law, about three years to study the crustaceans alone.

Prof. Sars's memoir contains some very unexpected information. Thus we learn that floating surface animals of minute size are abundant even in the most northerly polar waters, though almost perpetually covered by a layer of ice. Mr. Tyrrell has told us that there are lakes in the northern barren grounds sheeted over with thick ice at midsummer yet abounding in whitefish, but the plenitude of minute crustaceans in the icy surface waters of the Arctic is even more surprising. Most of them are Copepods, an order of almost microscopic crustaceans, of which the common fresh water mite, Cyclops, is a familiar example. They form the staple food of young fishes. The number of species in such cold seas is extraordinary and they often discolor the sea surface by their multitude. Dr. Sars says the largest catches by Nansen were not made at the surface but at a depth of 250 to 300 yards indicating that the ice makes the uppermost strata too cold for even these hardy members of the crab and shrimp class.

Dr. Nansen's net towing in the long lanes of water between the ridges of hummock ice revealed rich pelagic life at apparently all seasons. British, German, Norse and American investigators have found that typical surface animals constantly descend, many species frequenting the basal waters twenty to fifty fathoms deep but the midwater zone of life described by Dr. Sars between the surface and the bottom is a new fact of interest. Heretofore little life has been found in the middle ocean depths. Naturalists anticipated that there might be a rich fauna on the floor of the arctic seas. The reverse appears to be the case. The deep sea soundings gave every indication of a scanty abyssal fauna. Only one bottle in Dr. Nansen's collection contained true bottom living animals.

The most considerable depths, 1,600 to 1,900 fathoms, were found north of 79 degrees north latitude. Near the Siberian coast and up to the seventy ninth parallel the water rarely exceeds ninety fathoms, but a little south of the latitude named the shallows began to disappear, deeper soundings were recorded and the depth increased with amazing suddenness, thus overthrowing altogether the preconceived conception of a north polar sea. Indeed the great depths appear to be a continuation of the North Atlantic channel which extends between Spitzbergen and Greenland.

One popular shrimp like creature, an amphipod, was found clinging to the sounding line when hauled up from a depth 1,100 fathoms. Its eyes were very rudimentary—indeed it was almost blind—and it afforded every evidence that in its abyssal habitat no light strayed down from the surface of the waters. The deep sea fauna may, however, be more varied than Nansen's fragmentary investigation appears to indicate. Perhaps the most remarkable facts to the minds of naturalists have been the discovery in polar waters of copepods, when are identical with, or closely allied to, species hitherto found in tropical waters and in some cases not nearer than 12,000 miles.

Contrary to all previous hydrographical experience in the extreme north, the temperature was found by Nansen to rise as the thermometer descends in the water to greater depths, thus showing that the warmer currents permeate and influence the conditions which prevail in the very heart of the ice world. Nansen explains this deeper warmer current as the last

remnants of the Gulf Stream spending itself in these frigid zones.

Thus he argues that an abundant floating fauna has been introduced from the west, while the food supplies to support this vast marine population come from the east. 'I think the Siberian current is of great importance,' says Dr. Sars, 'in conveying a constant supply of nourishment to the pelagic animals of the north polar basin. This nourishment consists of microscopic algae, chiefly diatoms which are found to abound in the superficial polar water of the Siberian Sea, though gradually diminishing in quantity westward, apparently owing to their being largely fed upon by various pelagic animals. Indeed, without such a constant conveyance of nourishing matter there could be no such rich animal life in the polar sea.'

The dark bands and discolorations exhibited by ice in northern waters are mainly due to these lowly plants (diatoms). Though mingled at times with mineral dust probably volcanic, the ochre, brownish-red or dull green tints seen on the sides and margins of large bergs, floes and even pan ice are found to be due to these vegetable organisms. Dr. Wakeham when in Hudson Strait reported on July 14, 1897: 'A great deal of the ice we have seen to day is discolored and soiled; in some of it we noticed sand and gravel. The most of it, however, is covered with an alga similar to that we have seen on the ice through the Strait.'

Prof. Cleve on his first examination of Dr. Nansen's material distinguished sixteen species of these plant forms, all of which are identical with Kellman's specimens from Behring Strait and twelve are unknown elsewhere. Cleve was struck by the fact that two areas so far separated should be the habitat of the same organisms. But still more remarkable facts were discovered. Nansen found a minute crustacea, a species of Hemicalanus, in the centre of the polar basin. All previous records of this genus are either from the Mediterranean or the tropical zones of the Atlantic and Pacific. None is recorded in British or Norse seas, or in the Atlantic waters of Europe. A precisely similar find was that of two species of Onca, which Dr. Sars to his astonishment found to be identical with species quite recently captured by Dr. Giesbrecht in the Bay of Naples and described in one of his last papers. Two polar species of amphipods brought back by Nansen are closely allied to forms peculiar to the Caspian Sea. It is hardly possible to conceive of a more erratic occurrence of creatures practically identical, and the most reasonable explanation is that already provided by the geologists' supposition, usually accepted, viz., the former contiguity of the Caspian and the Polar seas. Either the species, practically identical, have originated independently in widely separated localities, or they have been carried from one centre to remote and isolated areas and have left us representatives in the intervening waters.

Dr. Nansen and Dr. Collett write of the birds observed during the expedition. Between 81 and 83 degrees North latitude there is an abundance of bird life. Oddly enough young birds seem to prevail in this inhospitable region. Vast numbers of certain species were noticed, including the little auk, the ringed plover, the ivory gull and one specimen of Sabine's gull. On May 13, 1894, when the Fram was moving toward the most northerly point in her drift through the ice, a gull was noticed, and others were seen occasionally until Aug 23, but after the lanes between the hummocks and the channels around the ship began to freeze, about the end of August, no more birds were seen for over eight months. Readers of 'Farthest North' will remember Nansen's reference to the beautiful and rare Ross's gull, or the roseate gull, and for the first time a fully detailed description of the species is now published with exquisitely tinted illustrative plates. In the waters around Hirtland, four glacier capped islands in 9 degrees 38 minutes, north latitude and 63 degrees east longitude, numbers of that scarce and weird bird appeared. Its beautiful rose colored breast, wedge shaped tail, and airy flight, make it, as Nansen tells us, 'the most beautiful of all the animal forms of the frozen regions.'

Foxes were found by Nansen and Johansen further north than any other air breathing animals. This was in 86 degrees north latitude on April 25, 1895, very little

south of their most northerly point. Their astonishment may be imagined when they observed the footprints of two foxes. These foxes probably subsist on small crustacea, which they must dip out the shallow watery lanes between the rugged ice ridges. They shot a large bearded seal at 82 degrees north latitude and a little further south killed three polar bears. It appears as though animal life (so far as quadrupeds and birds are concerned) wholly ceases in the extreme North, and over the vast ice fields no moving thing is visible. Of the polar waters, on the other hand, it may be affirmed that they everywhere abound in minute examples of animal organisms, some of which have been hitherto pronounced by naturalists to be Mediterranean or even equatorial species.

It is apparent that warm and cold currents so effect and modify submarine life as to complicate very much the problems with which the paleontologist deals. As the late Dr. Carpenter long ago pointed out, Arctic shells have been found as far south as Gibraltar, a clear proof that the glacial temperature exists there beneath the waves without making any difference in the terrestrial climate. Vice versa, we find tropical species in Arctic waters. The late Sir William Dawson once wrote to Dr. Carpenter that the latter's account of the temperature of the deep sea and its effect upon animal life, while they tended to modify geological theory, explained facts otherwise difficult to interpret, especially the evidences of glacial conditions in periods when such conditions were not regarded as existing. 'I am quite prepared,' wrote Sir William, 'to accept the conclusion that glacial beds may have been formed in any latitude and at any geological period.'

HEROISM ON THE HIGH SEAS.

How a Crowd of East Indians Settled a Mutiny.

The Zenobia, while on its way to Bombay, carrying passengers, and packed between decks with cholera stricken Punjabees, had been ten days becalmed. She rolled gently on the oily swell, with all her sails set to catch the slightest stir. None came. The wretched Punjabees crowded to the door of the cuddy where the passengers sat, invoking Allah to grant them a wind which would not only fill the sails, but blow the cholera out of the ship.

On the afternoon of the tenth day the crew mutined. Coming aft they declared through their spokesman Lampsey, that they made up their minds to take to the boats, 'and leave the tub and niggers to themselves.'

'Well, all I have to say,' replied the captain, 'is that I'll put a bullet through the first as touches lift or tackle.'

'More nor one can play at that game!' exclaimed Lampsey. 'Come on mates!' he added to his fellows, and the whole crowd made off to the fore-castle.

The skipper, his officers and the passengers armed themselves with revolvers. O'Kelly, chief mate, went on deck to look out for steamers; the rest remained in the cuddy, while the crew gathered on the fore-castle head.

'Below there!' suddenly called O'Kelly through the skylight.

Hello! responded the skipper.

'Sure, it looks black and threatening to the west; it's a breeze of wind, I'm thinking.'

At the welcome words the passengers followed the captain and rushed on deck. The mate pointed to the west.

'A sand-squall!' exclaimed the captain. 'Twill be down on us in no time! All hands take in sail!' he roared in the direction of the fore-castle. 'Be smart, lads!'

'Stow yer slack as well as yer sails yer selves!' retorted Lampsey. 'We ain't a-goin' to budge!'

No one knows what they have passed through the captain's mind at this terrible juncture, for every sail was set, and a squall fast bearing down on his ship, a full-rigged ship, fitted with the cumbersome, old-fashioned tackle of the day, carry quite five hundred souls.

No one knows what he contemplated, but at that moment an unwonted commotion was observable among the hitherto apathetic Punjabees.

They, too, had noticed the change in the sky's aspect, and had heard the short altercation between the captain and Lampsey. They had seen the threatening gestures of the disputants, and without understanding what was being said, had guessed its purport. Then scores of them, suddenly shaking off their lethargy and ignorant of marine etiquette, swarmed up the poop ladders and asked what was the matter. Was a breeze coming at last? If so, why did not the sailors do what had been ordered?

The only man conversant with Punjabi Hindustani hastily explained the situation; the advancing storm, the consequent danger to the ship, clothed as she was to the mastsheads, and the refusal of the crew to do their duty.

The Mohammedan mull drivers at once realized what was needed.

'We will make them!' they shouted, their blood thoroughly up. 'God has sent the wind to drive away the cholera, and shall we go to another death because your men are untrue to their salt?'

Before they could be stayed, some two hundred Punjabees rushed along the main deck and mounted the fore-castle. The crew was ready to receive them. There ensued a fierce fight; knives were freely used against the now infuriated natives, who were entirely unarmed, their cutlasses being in chests below decks.

Shrieks and groans assailed the ears of the passengers, and they were about charging forward, revolvers in hand, to quell the disturbance, when, numbers having gained the day, they saw the sailors driven along with kicks and cuffs by the victorious Punjabees. They saw them ascend the ratlines, followed by the swarms of mule-drivers, who threatened by gestures to throw them into the sea if they did not immediately furl sail. The seamen, not daring to disobey, worked in fear of their lives, and in a few minutes the Zenobia floated under bare poles.

With a low rumble the squall came on. Sand was in the air; it filled the eyes, nostrils and mouths. The hurricane struck the ship with terrific force, and swept on, leaving them well-nigh on their beam-ends, but safe! The gust proving to be a precursor of a stiff but favorable breeze, sail was speedily made on the ship, and in due course they bowed along toward their destination, thankful for their deliverance from a combination of perils that once seemed to threaten them with annihilation.

The next morning the crew expressed contrition for their behavior; the Punjabees now full of renewed spirits, came aft in a body and interceded for their late antagonists; cuts and bruises were forgotten both parties shook hands in token of amity and the skipper, nothing loath, accorded his forgiveness.

Only two deaths occurred after that terrible day, and without further adventure or misadventure, the Zenobia arrived safely in Bombay harbor.

Had to do It.

Many stories of President Lincoln might be classified as fiction, although few of them are. So it is not unnatural that this little anecdote—which is better than most—should appear in Mr. Irving Bacheller's novel, 'Eben Holden.'

'My son,' he said, taking my hand in his, 'why didn't you run?'

'Didn't dare,' I answered. 'I knew it was more dangerous to run away than to go forward.'

'Reminds me of a story,' said he, smiling. Years ago there was a bully in Sangamon county, Illinois, that had the reputation of running faster and fighting harder than any other man there. Everybody thought he was a terrible fighter. He'd always get a man on the run, then he'd catch up and give him a licking. One day he tackled a lame man. The lame man licked him in a minute.

'Why didn't ye run?' somebody asked the victor.

'Didn't darst,' said he. 'Run once when he tackled me, an' I've been lame ever since.'

'How did ye manage to lick him?' asked the other.

'Wal,' said he, 'I hed to, an' I done it easy.'

'That's the way it goes,' said the immortal President. 'Ye do it easy if ye have to.'

An Offended Crow.

Mr. Bamford, in his book entitled 'Tur-bans and Tails,' records some entertaining observations which he made upon crows in the East Indies. He incurred a crow's displeasure, and does not wish to do so again.

There was a pandanus-tree near my veranda, which was one of my favorite trees. In various parts of the garden there were already four or five crows' nests, with the occupants of which I was on the best of terms, but one pair of birds determined to build in this pandanus.

At first I offered no objection, but when the nest was finished the male-bird found his energies suddenly deprived of direction. He therefore occupied his leisure moments by digging with his strong beak at the heads of the pandanus shoots. It was a piece of the most wanton mischief.

Now as the pandanus is an inside grower, this treatment threatened the tree's life. I expostulated with the bird. He would listen with mock gravity, and the moment I had finished, would dig out a fresh piece of the plant and throw it down to me as I stood beneath him.

When I found that he was not to be reasoned with, I gave the mali orders to remove the nest from the tree. This was done, and as far as I could see, the mali remained in favor, but I was visited with

the most serious displeasure.

Whenever I ventured into the garden that crow would signal to his friends, and in an instant from twenty to fifty crows, according as the exigencies of the hour might allow, would flock around me and make most unpleasant remarks. If I even showed myself on the upper veranda, that off-handed bird would at once fly on the balustrade of it, and stretching out his neck, would accuse me of every conceivable enormity in such deep, sepulchral tones as went far toward making my life miserable.

His View.

Jack Bachelor (engaged)—'Of course, I realize that matrimony is a very important step, and all that!'

Ned Newlywed (hoarsely)—'Step? Great Scott, man! It's a whole flight of steps and something to fall over on every step!'

Deafness of 12 Years' Standing.—Protracted Catarrh produces deafness in many cases. Capt. Ben. Connor, of Toronto, Canada, was deaf for 12 years from Catarrh. All treatments failed to relieve. Dr. Agnew's Catarrhal Powder gave him relief in one day, and in a very short while the deafness left him entirely. It will do as much for you. 50 cents.—33

'The ladies of the sewing society are very busy now,' announced the minister's wife, 'but they will not let me know what they are doing.'

'Yes,' remarked the minister, with a bitter smile, 'they're making bookmarks and carpet slippers, I suppose.'

Sciatica put him on Crutches.—Jas. Smith, dairyman, of Grimsby, Ont., writes: 'My limbs were almost useless from sciatica and rheumatism, and, notwithstanding my esteem for physicians, I must give the credit where it belongs. I am a cured man to-day, and South American Rheumatic Cure must have all the credit. It's a marvel.—34

'Tell me, he said to the grocer's clerk, 'just what is the difference between this Bris and that cake of Camembert? Which do you consider the better kind of cheese and why?'

'I must ask to be excused,' was the reply. 'Comparisons of this kind are always odorous.'

Strong words by a New York Specialist.—'After years of testing and comparison I have no hesitation in saying that Dr. Agnew's Cure for the Heart is the quickest, safest, and surest known to medical science. I use it in my own practice. It relieves the most acute forms of heart ailment inside of thirty minutes and never fails.'—35

'Dis is terrible,' said Meandering Mike, with a deep-drawn sigh.

'What's de matter?' asked Plodding Pete, in alarm.

'Here's a piece in de paper. It says we've got muscles inside of us dat keeps on an involuntary action. Day goes on workin', whether we wants 'em to or not.'

One Foot in the Grave.—If the thousands of people who rush to so worthy a remedy as South American Nervine as a last resort would get it as a first resort, how much misery and suffering would be spared. If you have any nerve disorder you needn't suffer a minute longer. A thousand testimonies to prove it.—36

'Is it possible for an operatic prima donna to be reasonable?' asked the interviewer.

'Are we speaking in confidence?' he demanded the great singer.

'Entirely so,' answered the interviewer. 'Then I will say that it is possible, but it isn't policy.'

Jealous Rivals cannot turn back the tide. The demand for Dr. Agnew's Little Pills is a marvel. Cheap to buy, but diamonds in quality—banish nausea, coated tongue, water brash, pain after eating, sick headache, never gripe, operate pleasantly. 10 cents.—37

Mrs. Talbot—Men have very poor judgment at times.

Mrs. Nabor—I should say so. Why, Mr. Naylor wanted to spank Willie today while the child was wearing his new trousers.

Kidney Cry.—Pain in the back is the cry of the kidneys for help. To neglect the call is to deliver the body over to a disease cruel, ruthless, and finally life destroying. South American Kidney Cure has power akin to miraculous in helping the needy kidneys out of the mire of disease. It relieves in six hours.—38

Teacher—What is the capital of Pennsylvania?

Tommy (the printer's boy)—Why, 'P.' All the other letters are lower case.

Running Sores, the outcome of neglect, or bad blood, have a never-failing balm in Dr. Agnew's Ointment. Will heal the most stubborn cases. Soothes irritation almost instantly after first application. It relieves all itching and burning skin diseases in a day. It cures piles in 3 to 5 nights. 35 cents.—39

He—How often a woman's face is her fortune.

She—Yes, and how often a man's cheek is his.

Stop the Pain but Destroy the Stomach.—This is sadly too often the case. So many nauseous nostrums purporting to cure, in the end do the patient immensely more harm than good. Dr. Von Stan's Pineapple Tablets are a purely vegetable essence preparation, as harmless as milk. One after eating prevents any disorder of the digestive organs. 60 in a box, 35 cents.—40