

# THE MYSTERIES OF THE OCEAN BED

**T**HE disaster which happened to the French vessel "Sully" not so very long ago, when it went to the bottom not far from Saigon, has afforded the divers interested with examination of the submerged opportunities for making exhaustive and important explorations of the bottom of the sea. In the case of the sub-aquatic exploration special distinction has been won by a young naval engineer named De Plury, who, by the aid of an apparatus of his own invention, succeeded in reaching a depth of even more than 230 feet—a depth which had never before been attained.

De Plury has invented a kind of metal armor which affords him every protection, while by means of a special chemical combination, respiration is automatically provided for. Thanks to this, he has already made over 115 most daring descents with perfect safety. He has thus been able to discover a most marvelous world, hitherto seen by no other eye but his; the sea bed is a scene of marvels combined with no small amount of tragic horrors.

"The first sensation experienced," said this intrepid diver at a recent interview with an Italian journalist, "is something like that which is felt on descending into a mine, but you soon get accustomed to it. At a depth of about nine feet medusae began to be found in large quantities. Seen through the water, everything appears magnified, and they are apparently of enormous proportions. All recollection of the protection afforded by the glass front of the helmet is forgotten, and the first impression is that these masses of horrid flaccid and slimy medusae will adhere to your face.

"Just a little lower down, and a scintillating multitudinous shoal of small fishes is encountered, shimmering like so many strips of shining copper, or other metal, in a state of continuous vibration.

"At a depth of about 162 feet thick masses of seaweed are traversed; some of these are hair-like vegetable growths, with arms from 20 to 30 yards in length, which, with a kind of horrid vitality, wrap themselves round every part of the body. These algae constitute a grave danger, as they can easily paralyze the diver's movements and, by rising above and around him, can weigh him down with a weight amounting to several hundredweight—sufficient to break a rope or life-line when hauled on. Below 162 feet there are small snake-like fishes of about three feet in length, and also other denizens of the deep resembling dolphins. These latter hurl themselves violently against the diver. If, as already remarked, he is somewhat young at the game, and has forgotten the protection afforded by his helmet, he is still filled with a mortal dread lest they should succeed in smashing the glass front of the helmet despite its four inches of thickness. Of course, should that occur, death would be almost instantaneous.

"Still other and worse monsters are the polyp or devil fish, who wrap their slimy tentacles round the body explorer; but although repugnant, these monsters are cowardly, and immediately renounce their attack on coming in contact with the unfamiliar feel of the metal armor plating of my diving dress. There are other equally horrible, and much more intrepid, giant crabs. Some of those I have seen have measured as much as three feet in diameter. Due to their strong shells and formidable claws, they constitute a continual menace to the safety of the diver, which is by no means to be despised. This is about all that can be said on the score of the deep-sea fauna. The deformation of fish is not very noticeable at such a small depth; by deformation I mean not only change of form, but also of character. This takes place at a depth of about 1694 yards; here their nature changes entirely, and they assume the forms and constitutional modifications necessary to enable them to bear the enormous pressure to which they are subjected at the depth where they move and have their being.

"Hitherto it has been quite impossible to obtain living specimens of these submarine creatures, as they reached the surface with their volume quadrupled, due to the reduction of pressure. All these creatures are carnivorous, and their capacious mouths not infrequently serve as the tombs of unfortunate sailors whose ship has gone to the bottom, and their bodies gradually sink deeper and deeper, while the formidable pressure to which they are subjected in an increasing intensity soon smashes all but their bones, and finally crushes the corpses quite flat. But enough; suffice it to say that this awful spectacle is scarcely visible after a depth of 30 feet.

One curious fact attending these submarine explorations is afforded by the light, which forms a strange blend of green and violet light, the color being a little similar to that of the caverns which are to be seen in icebergs.

"As we rowed swiftly in the still, cold night," said a nature student, "we saw a number of faint blurs of light along the shore. They were like fairy lamps that had been swathed in some pale sort of gauze.

"What on earth can they be?" I asked.

"There's kingfishers," said my guide, "then's kingfishers o-fishin'!"

"But the lights?"

"The lights is the phosphorescence on the birds' breasts," said the old hunter. "In the soft down on a kingfisher's breast there is a phosphorescence that glows in the dark. The bird is aware of this here natural light o' him, and he uses it. He stands on the edge o' the stream, the same as them fellows there, puttin' his breast to the water, an' the faint light draws the fish to him, consumed with curiosity, an' he has no difficulty in pickin' up a square meal for himself an' family."

—New York Press.

**Giant Work of a Glacier.**

How the ice fields of Mount Tacoma are made to light streets and run cars nearly a hundred miles away is interestingly told by Day Allen Willey, in Technical World Magazine. Says Mr. Willey:

"From the glacial streams of Tacoma is already generated a very large quantity of electric power, which is being utilized not only for power but for heating and lighting as well. To give an idea of the diversity of uses for the current, it may be stated that it operates the electric railway systems in the cities of Seattle and Tacoma, aggregating 168 miles of trolley line. In addition to cable railways situated in the hilly portions of these cities. Besides this service, however, current is furnished for one of the most notable interurban electric railways in the United States, that extending between Seattle and Tacoma. Where power is secured from the third rail in connection with the multiple-unit system. This line is employed not only for passenger service, but for transporting freight and express material and ranks among the most completely equipped electric systems in the world. The horsepower required for a number of the largest industries in the city of Tacoma, including the shops of the Northern Pacific Railway and the water works pumping plant, is also obtained from this source, while illumination for streets and buildings, in both Seattle and Tacoma, depends upon it to a considerable extent. The demand for power is increasing so rapidly that within a few years Mount Tacoma will be supplying fully 50,000 horsepower to the cities mentioned."

**Birds With Lamps.**

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—New York Press.

Aluminium paper is now manufactured in Germany.



PECULIAR, WASN'T IT? VERY.

The Automobile—'Funny they don't keep these roads in better shape. They're horribly bumpy.'—Tatler.

## PIE-MAKING BY MACHINERY.

Another severe blow for the arts and crafts has resulted from the arrival in Philadelphia of the pie-making machine. It has always been supposed that making pies was a work for human fingers. Despite the inroads of machinery on the crafts, the pie artisan has stood alone, untouched by modern inventiveness. It was thought that a pie was too complicated and individual a creation ever to be produced by brainless mixers and trimmers and stampers.

Now comes this pie-making machine, to standardize the pie and destroy its individuality and then to multiply and cheapen it. One man, three boys and the machine turn out from sixteen to eighteen pies a minute in the Philadelphia bakery where the pioneer machine has been installed. The inventor describes his contrivance as a boon to the human race, about ten feet long and twenty inches wide. An electric motor furnishes power and a gas jet keeps the forming dies warm. Over the machine is suspended a tank with "filling" for 400 pies and in it an agitator revolves to keep the material from blocking the outlet.

After the paste for crusts has been properly mixed it is weighed and cut into proper sized pieces by a dough divider. A tray full of lumps of dough for bottom crusts is placed at one end of the machine and another tray, containing lumps for top crusts, at the other end. At the rear is a stack of plates automatically fed by a ratchet. A magnetized arm swings around, picks up a plate and places it on a die made to receive it. A piece of dough

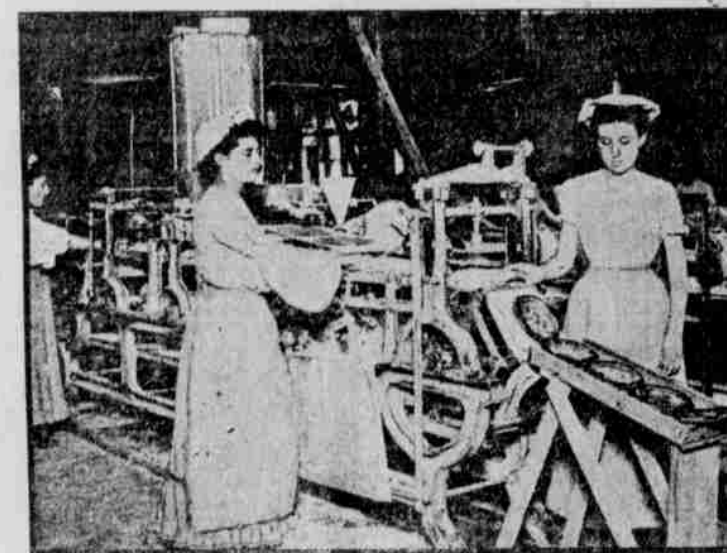
## INDICATES EXCESSIVE HEAT.

Prompt indication of fire generally means its early extinction, and an audible signal of some sort is the only



INDICATES EXCESSIVE HEAT.

one that can be relied upon invariably to attract attention. A novel alarm of this class that has been worked out in detail by an inventor provides for detonating a fulminate charge whenever excessive heat becomes apparent in any part of a mill or storehouse. This explosion attracts the attention of the watchman and leads him to look for the source of trouble, and in this way may avert disastrous



MAKING PIE BY MACHINERY.

is placed on the plate and the next movement brings it under a die which forms the lower crust. Then the fruit is deposited from the tank and the plate moves forward. By this time another lump of dough has been flattened out and stamped with an initial—such as "L" for lemon—while an automatic bellows blows a puff of flour over the dough to keep it from sticking. The next movement brings the filled pie and this upper crust together, one operator being stationed here to adjust the top cover if necessary. Then the covered pie comes under the edging die, which cuts off all scraps and the pie passes forward on an apron which leads to the oven.

So the process goes on with all regularity until 400 pies are lined. They are all perfect—too perfect, perhaps. They are machine-made, and no contaminating hand has touched them from their initial stage of doughness until they are ready to be taken from the oven—and therein lies their chief virtue.—Scientific American.

**Echo of the Horse Show.**

An enterprising uptown dealer in "hand-me-down" garments from the world of society availed himself of the Horse Show week to advertise as follows:

"You 'phone me, ladies, if you are saddled with more clothing, furs, lace, diamonds, jewelry, etc., than you require, or if your income has a bridle on it, and I will call, prepared to pay you full value for same, a good bit, in gold, without publicity. Through established association and old acquaintance, my patrons and patronesses are familiar with the fact that I only cater to the best clientele. All merchandise handled by me is dependable in every respect. I offer special values at popular prices. Many of my goods are frequently aired on upper Fifth avenue."—New York Press.

**Glass Umbrellas.**

The latest adjunct to glass novelties is the glass umbrella, which is covered with "silic" spun from glass. These umbrellas, of course, will afford no protection from the rays of the sun; but they possess an obvious advantage—namely, that they can be held in front of the face when meeting the wind and rain, and at the same time the user will be able to see that he does not run into unoffending individuals or lamp-posts.—Chicago Journal.

**His Progress.**

"Wise," "I started in life," said the Iniquitable Insurance director, "I didn't have a dollar I could call my own."

"And now?"

"I have managed to call a lot of money my own, although there is a great deal of dispute about it."—Washington Star.

## A DREAM CITY.

**DAWN.**

The hush of the after-midnight,  
As the footsteps wax and wane,  
Is the startled awe of a homeless man  
"Neath the dripping of the rain,  
The swell of the dawn's first traffic  
Is the moan of a waking sleeper  
And the sigh of the waking sleeper is  
As the first breath in the sea!

**DAY.**

The clamor of noonday stirring  
Is the echo of Nature's voice  
Beating gray shores with her mighty fall,  
While the battling waves rejoice.  
And ever the million voices—  
And none of them known to me—  
Can conjure the thought of a castaway  
On that relentless sea!

—Stephen Chalmers.

**DUSK.**

I pass by the perfumed women  
And the hovers all breathe of dusk;  
The rolling robes air memories  
Of the land breeze through the monk,  
The things that dance by the lamp glass  
Bring moths to my candle light,  
And the cries of the jibbering city shrill  
Like forest sounds by night!

**THE NIGHT.**

But the moon on the sleeping city—  
(Hush, word that would thought con-  
fine)—  
The glory of silver'd castles rising  
Up in an enchanting line!  
The paths of light at the cross streets  
Are the road where the hosts leave trod,  
And the gleams of fire on the windows,  
Alone,  
Sendeth God!

—Stephen Chalmers.

## ..METEK, THE PROVIDER..

By Fisher Ames, Jr.

### O

OTIMIAH chanted, "Metek, ihly peak name!"

It was no alleviation to Metek's anguish that there were no human ears to hear the tormenting words, except those in the four forlorn igloos that broke the white level of the fore shore like snow blisters.

Shame travels on the wind, and goes one cannot tell where. The things that live in the cold blue ravines of the great bergs always hear of it when a man is naive; the evil spirits of the cliffs and those that dwell in the caves under the ice-belt hear of it.

And when a man is thus marked, sooner or later he goes forth from the village never to return. For the mighty help only the strong. The Arctic has small use for a man who is naive. She bids him out.

Ever since his father had been caught in his usuk line and dragged under the floe, Metek had tried manfully to provide for his mother and baby sister. But fortune had been against him. For two months the family had lived on charity, and this during a winter of unprecedented want.

The three men of the tiny village never asked him to go hunting with them now. They paid less attention to him than to little Tooky, still cradled in her mother's hood.

They spoke to Otimiah, on the contrary, as one man to another, and Otimiah was barely a year older than Metek. But Otimiah, the lucky, had brought two seals home to the famished mouths.

Thus Metek pursued his despairing thoughts in a circle, and although they sometimes swirled up so thick and black and angry that he yearned to strike at Otimiah with his keenest lance, he kept doggedly at his work. Every day he went forth on his vain excursions over the floe, or climbed to the ice-rap of the cliffs to inspect his fox traps.

The day came, however, when Metek turned on his tormentor.

"Silence, lump of fat!" he shouted. His eyes glittered dangerously. "Put the dogs to thy sledge and we will see who is naive. We will come back with meat or not at all!"

Otimiah stared at him like an apprehensive dumpling. Underneath his furs his mean little heart bounded at this surprising outbreak. He had thought that Metek was cowed by adversity.

"Ho!" he said, when he had recovered himself somewhat. "If you are so hungry I will make you eat your words. Then you will have plenty of wind in the belly, which is filling!"

He laughed unctuously at his joke, but at the same time he fastened the three best dogs of his father's pack to the light sledge of plied bone, and forced his rotund person into more furs, until his coat lay upon him like the shards of an onion. Also he put under the sledge apron two strips of blubber and a frozen sea flipper, which is excellent to gnaw on. Otimiah believed that Metek was "blinding," but he wished to make sure of catching him.

Metek's mother merely grunted, and took a fresh grip with her bare toes on the stiff reindeer skin she was sewing when Metek bade her good-by. He crawled out through the tooksoo and jumped on his sledge as cheerfully as if he expected to see her again.

The sunless winter sky hung over them, and it was piercing cold; but the air was still. The granulated surface of the floe afforded the dogs a firm foothold.

Otimiah tried to entice Metek into a race, but when the latter refused to force his team, he lashed back against the upstander and crooned faintly to himself, thinking how he would jibe at Metek when the excursion was over.

At noon they halted for a rest. Otimiah gluttonously bolted his blubber, but Metek gave the larger part of his scanty stock of provisions to his dogs.

"Hub!" granted Otimiah, looking with scornful eyes at this proceeding. "You have only a woman's heart. Tomorrow you will be whining for food."

"Is not I who drags the sledge," said Metek. "A good hunter cares for his dogs first."

As the afternoon wore on, the ice became rougher. Here and there the floe had squenced and forced up great blocks of crystal; but lanes of level ice ran between, and the dogs went briskly forward.

As he roared, Otimiah's glance swept the gray expanse. There was not a crack or a hole to be seen. The dead sound of the dogs' feet told his experienced ear that the ice had thickened. Pale spots in the dusk ahead betrayed the presence of bergs. Bleak and drab as it was about the igloo village, this was a region still more inhospitable.

Toward night the wind rose. Otimiah, who was bored, began to feel cold and uneasy. He blew out his cheeks to warm them, and now and then he glanced curiously at Metek. He had not expected to find his companion so obstinate.

When they camped for the night in the lee of a hummock, Otimiah thought it was the last half of the

game. Surely Metek would cry off in the morning. Then he, Otimiah, would have his laugh again, and resume his insulting chant with new zest.

He did not feel like laughing now. There was a sense of something in the air that cowed him. It seemed to him, although he could not see them, that black storm-clouds were stealing in from the sea and musing overhead; that the sky was setting its scenery for one of its sudden dramas.

That night the great skin that holds back the north winds burst, and it blew as if it meant to strip the world of its atmosphere. The bitter eddies and back-drafts caught at the sledges till they jerked frantically at the usuk anchors, and the reindeer robes broke loose many times from under the boys' bodies.

While the wild air tore above them, underneath the sea surged in its deep bed, thrusting upward against the floe with mighty shoulders. Swift shivers ran through the ice. It groaned and bowed with the tumult of a battle-field. Now, with a noise of thunder, wide chasms opened and the white water gushed out, seething. Now, with a slow, grinding roar, a pressure ridge would lift its long rampart across the ice. But dominating all other storm sounds was the commotion of the bergs as they hurled their thousand-ton blocks crashing upon the floe.

Poor Otimiah prayed to the things that haunt their ravines that they would spare him. His belief in the efficiency of his prayers was not great, but they were straws, at least, at which to clutch.

The black morning found the wind still blowing a gale, and sweeping with it a veil of cutting snow. It was madness to go on in the teeth of such a storm, with no food for themselves or for the dogs.

"What shall we do?" asked the frightened Otimiah. "Even the brown anuk himself could not face such weather."

"We will go on," said Metek, tranquilly, and he threw out the long whip-lash. His report was lost in the roar of the wind.

Dinly Otimiah began to perceive the presence of a master spirit. This Metek, younger than himself, whom he had called naive, had set his teeth in a purpose, and neither cold nor hunger nor the dark wings of death itself would cause him to relax his hold.

The mere linking of such tenacity alarmed shabby little Otimiah almost as much as the riot of the elements. The blue and white fox-skin jumper—even the waving fox-tail which Metek held between his teeth to protect his face from the wind—assumed an uncannily unfamiliar aspect. This was not the Metek he had known, this was a silent thing that made him feel more alone than he had ever felt when hunting by himself far out on the floe.

Four swelled in his heart, and he urged his dogs forward till they ran as one team with Metek's. "Come back!" he shouted through the roar of wind and ice.

Metek turned his head. The rim of his hood was feathered thick with frost, and his eyes shone like crumbs of new ice. Silently he stretched a mittened hand toward the north.

From the lofty cliffs inland a sudden great sound greeted them. It rolled, majestic, over their heads, and died gradually away far to the eastward.

"'Tis the anuk thing!" shouted Metek. "He is calling to his children. Onward!"

Otimiah had heard of the colossal genius of the walrus tribe that lives on the tops of bare and beetling cliffs. He had no desire to make his acquaintance. "Die if you wish!" he called, shrilly, to Metek. "I am going back. There is nothing here but ice-devils and that best thing that bewitches men."

He swung his dogs about, and they came willingly. As they straightened out on the homeward road, he cast a last look at the squat, purposeful back in the foxskin jumper. Then the darkness blotted it out.

The anuk thing did not speak again, but Metek knew that he was there, watching him with friendly eyes. He was sure the creature was beneficent when presently the confusing snow ceased to fall. In the darkness he could feel now the clear arch of the frozen sky, a vast bubble of black steel under which the laboring ice ran, changing.

The hunters never left the igloos when the floe was quaking, but Metek was not afraid. He had only one thought—to redeem himself and bring back meat to his starving people.

On he drove, his gaze fixed on the pale outlines of a vast berg, which seemed to stretch an impassable barrier across his path. As he drew nearer he heard the sinister chant of the wind moaning through its sharp notches. And all at once his ear caught a gruff, explosive, puffing sound.

Rising to his knees, he looked forward. A long, dark discoloration lay at the foot of the berg. It was fresh black ice making over a recent break in the floe. With a shout he leapt out his long whip-lash.

Metek drove as near as he dared, and tethered the dogs to a projection of the floe. Then he gathered up his weapons and went on, crouching, toward the discoloration.

It was never that he had thought, and bent like stiff leather under his feet; but he knew its toughness, and glided rapidly forward toward the jagged hole which the game had just left.

Presently the spot of open water was agitated. It darkened, and then the broad, bristled muzzle and white tusks of a great bull anuk appeared. The big, circular eyes fixed themselves upon Metek in a wide stare of surprise. Metek slowly raised his left arm and pointed at the walrus, who, full of curiosity, reared his huge bulk above the water. When the pale spot beneath his left flipper was visible, Metek's right arm shot forward, and the harpoon flew true to its mark.

The bull dived with a spluttering roar. Metek darted back with the end of the line, and swiftly drove into the ice the iron-pointed stake to which it was fastened. Then, with both feet, he stood upon the line, close to the little stake.

The tough strip of sealskin straightened with a jerk, and lay taut as a bowstring; but the Ingouan anchor held. Metek watched it with a keen and anxious eye. The moment he saw the strain relax, he plucked up the stake and carried it to a new spot some yards away.

He was none too quick. Two furious cows rose first beneath the stand he had set, shattering the ice to bits. To their bellows of wrath Metek responded with a mocking shout; but for the bull he reserved a sharper welcome.

Lance in hand, he met the anuk as it rose in a smother of effervescent water, and as it strove to charge at him through the ice, breaking off great tables with its tusks, he darted swiftly about in front of the beast. With every forward leap he thrust the keen, beam-shaped blade deep into the unwieldy body, until the water turned red.

Spent and badly wounded, the walrus sank at last, and Metek sprang again to his stake.

Five times he shifted his ground, and five times the belligerent cows broke through the ice almost under his feet. But luck was with him. Wet with salt spray and blood, he rejoiced in the fight.

"Am-na-yah! Am-na-yah!" he shouted. "Meat for the mother and the babe within the hood! Meat for the strong hunter! Meat from the hand of Metek name!"

The ice split upward and almost let him fall on the flat, wrinkled flaps of one of the cows. By a miracle of agility he leaped her deep behind the shoulder and got away. Almost simultaneously the bull rose, and he found himself between the two, the water gushing up about his ankles.

Metek struck the bull across the face, blinding him for the moment, and ran over the strip of bending ice toward a lighter, firmer patch. On this he stopped with an agile turn.

The cow seemed hit in some vital part, for she spun in an aimless circle on her broad belly; but the bull was still full of fight.

As the vicious creature charged through the ice Metek struck twice with a true aim. The anuk gave a last bellow, slipped back, and floated, a bloated brown island, among the rooking ice cakes.

Metek could hardly restrain himself from leaping upon it and cutting off a long-needed strip of blubber; but it was not his own mouth he had come to fill. While there was a chance to secure more meat he must think neither of hunger nor of weariness.

Almost exhausted, he staggered back to the cow, and delivered a final lance-thrust that despatched her. Then with his knife he made incisions in the two-inch-thick skin of his prizes and tethered them to stakes by means of a pair of usuk lines.

After that three dogs and a tired but happy Eskimo had a glorious feast. So royally did they stuff themselves that for two hours not one of the four could move a foot. Like noble Romans, they reclined roundly upon their table and sent up sighs of repletion and thanksgiving, while the anuk thing brooded benignly over them from his stronghold.

Paced at last between the hot chunks of walrus fat, Metek swung his whip over the dogs, and his homeward run began.

Well paid he felt for his pains. He saw the hungry mouths of his people once more luxuriously besmeared with grease. And the boasting Otimiah! Where was he? Twenty-five hundred pounds of rich walrus flesh against two stringy little seals! Who could cry naive now?

"Ho!" sang Metek. "The hunter returns. Hunger flies before him. The anuk lies behind his sled. Red meat and white fat. Ho! Who will eat? Metek, the provider, returns!"—Youth's Companion.

**America and Rome.**

With idleness and luxury went the usual tendency to brutality and demoralization. The historical novel was not invented; so that Roman ladies and gentlemen could not sit by the fire of an evening and read highly-spiced narratives of murder and torture. But, after all, the incidents of the arena, though less varied, were perhaps even more pungent than Mr. Kipling or Mr. Jack London. Social morals, too, were of a quality which seems only too apt to accompany the highest civilization. Divorce was almost as easily obtained as in some of our Western States, and nearly as common. Cicero, for instance, was separated from two wives; yet he was universally regarded as of stainless character, and that he was wise is shown by his remarking, when urged to marry a third time, that "it is difficult for a man to devote himself at once to a wife and to philosophy."—Gambrell Bradford, Jr., in the Atlantic.

**Cat Had the Toothache.**

N. C. Yost, cashier of the Markle Bank, Hazleton, is the owner of a handsome pet cat, which in the past few days gave indications of suffering intense pain.

Mr. Yost, who received the cat from a friend in the West, objected to having it killed, and summoned a veterinary surgeon. The veterinarian found that the cat was suffering from toothache. He extracted three bad teeth, and pussy is now purring in contentment.—Philadelphia Public Ledger.