MODERN PEARL INDUSTRY

New Methods Have Changed the Work of Gathering.

PEARLER WELL EQUIPPED

With a Suit of India Rubber, Copper Breastplates, and Leaden Weights He Descends to the Bottom of the Sea—Spends From Six to Eight Hours There.

The Servilia pearl given by Julius Caesar to Brutus' mother was said to have been worth $175,000, says London Tit-Bits. For a pearl an inch in diameter a Persian shah of the seventeenth century is said to have paid $320,000. The pearl market is somewhat lower nowadays, but prices are still high enough to make diving profitable.

The era of naked divers exposed to peril from sharks has passed away. Modern progress equips the pearler with a suit of India rubber, copper breastplate, with leaden weights back and front; helmet, glass panelled and with telephonic attachments; air pipes, life lines and a submarine searchlight. Thus equipped the pearl diver may spend six or eight hours at the bottom of the sea, whereas in olden times three minutes made a record.

Although pearls are found in nearly all mollusks and even in univalves like the Australian haliotis, a kind of barnacle, true pearls are produced only by the pearl oyster or mother of pearl shell. The latter is really the diver's bread and butter. The shells are as big as dinner plates and weigh two pounds when cleaned. They fetch from $600 to $750 a ton.

The ancient fisheries were chiefly in the Indian Ocean and Persian Gulf but nowadays the best pearls come from Ceylon and from Australian waters, especially Torres Straits. Pearl fishing in Ceylon is a government monopoly. In March the fleet starts for the pearling grounds, each vessel with twenty or thirty divers and their assistants. But the headquarters of pearling are to be found in the desolate country extending from Exmouth Gulf to King Sound, in Western Australia.

A glistening white coast line is this, whose monotony is broken only by mango fringed salt water creeks and scorching deserts of spinifex and sand. Long before inland gold was dreamed of roving natives fished these seas for pearls, and they paid many visits to Roebuck Bay and what is now the pearl town of Broome.

Chinese and Malays as well as tribes of native black fellows are there to-day, but the old nude divers, the reign of terror and piracy when a large haul was made—these and similar conditions have passed away, giving place to fleets and luggers carrying modern diving outfits and representatives of the inevitable capitalist in the person of the master pearlers. Here are six hundred miles of coast line, with perhaps five thousand hardy adventurers engaged in the pearl trade.

There are some thousands of Japanese, Manilamen, Malays and men of other races acting chiefly as crews for the vessels. The vessels are schooner rigged and from seven to fourteen tons burden. Each carries a master diver and a crew of four, one of whom is the diver's assistant and works the air pumps. Another holds the life line and pays attention to signals; another is catching fish or peeling potatoes for dinner, and it may be a third has gone off in the dingey for fresh water and fire-wood.

The shells are found on ledges about ninety feet down in the sea, but they are far more plentiful at greater depth. Fortune awaits the inventor of a diving apparatus which will enable the pearler to work in comfort one hundred fathoms down.

The lugger has a low freeboard to allow the diver with his heavy dress and gear to be easily hauled on board. He carries a net holding the shells with him, and when this is full he has it hauled up so that he himself may run no risk of entangling life line or air pipe.

When the pearler works at, say twenty fathoms he moves easily, notwithstanding his forty-pound boots, amid groves of coral trees, interlaced with fluttering, fern-like plants, among whose branches swim gorgeous tropical fish and sinister water snakes, which seem to resent the intrusion of so strange a monster.

A good day's work is anything more than two hundred pairs of shells. The business is absolutely speculative. One diver may gather ton after ton of shells without securing anything of greater value than a few seed pearls, while another may take a fortune out in a day's gathering.

The most famous pearl discovered in Australia of late years is known as the Southern Cross. It consists of a cluster of nine pearls in the shape of a cross. This freak of nature was picked up at low water on the Lacipede Island by a beachcomber named Clark, who, after burying it for some time for superstitious reasons, sold it for $50; later, it brought $50,000.

The pearl diver of to-day, protected as he is by every device known to modern submarine engineering, is [illegible] to many perils. He may lose [illegible] by the [illegible] of his dress [illegible].

THE SOLDIER BUSINESS.

A Modern Army Should be Organized So As To Attract Good Men.

In the old days of chivalry the soldier did not receive direct pay in the exact sense that he does to-day, but for his services rewards were due, and necessarily so, to preserve in him proper subordination. His keep and his weapons were furnished him by his "over-lord," and with them food and raiment, and certain privileges pertaining to his art, now known and included in the modern term "loot."

The rule has passed down the ages that a fighting man must needs fight for something more substantial than principle, and more satisfying than patriotism, so that even in the Revolution, the obscure pages of history, is found this momentous question of pay, and right troubling as it was at that time.

In the War of 1812, a better regulation had come into effect and the allowances for rations and clothing and pay were saner and more satisfying, as indeed was true in the later war with Mexico, and in the great Rebellion of 1860. The side won which had the money behind it, the armies which were fed and clothed and paid, were maintained at effective strength during the terrible later days' struggles, while the less fortunate opponents found their fighting strength dwindling away, true perhaps, owing to physical exhaustion, but nevertheless equally true, indeed, owing to an uncertain supply of the essential elements for soldiers; and not the least of these was pay.

Parallel with this question arises the fact that a soldier's profession is a trade in exactly the same sense that carpentry, masonry or mechanics are a source of livelihood, and to maintain an effective, disciplined army, the renumeration must be competitive with the price paid in civilian life. So in the War of the Rebellion, after the supply of volunteer enlistments had been practically exhausted, the authorities did not appeal to the patriotism of the nation, but to the pockets, in the shape of a bounty, and this certainly did meet the situation for the time being.

The days of going to church with a rifle over the shoulder have been forgotten, the menace of the Indian of the West has passed, there is universal security practically from one end of the country to the other, and the soldier's weapon, once so necessary for self-preservation, is used only as a diversion in the few remaining game centers, and in the target galleries.

With this has passed the fellow feeling for the man who must face physical annihilation at the call of a principle and the order of his superior. So that the first question asked by a prospective recruit is the momentous question of pay, and his first mental action is a comparison between the soldier pay and that of his former occupation. The attractive recruiting posters do not state much about the actual advantages of a soldier's life from a patriotic point of view; they dwell upon the pay and the allowances, and somewhat of course upon the change of life involved.

So the great fallacy that each and every American is a soldier by instinct and race if a rifle is but placed in his hand, is pathetically apparent to-day. This was indeed true to a certain extent when the edge of the forest might harbor the savage Indian, but that has long passed, and the performances of our citizen soldiery, such as at Bladensburg and at Queenstown, and later in the earlier days of the Civil War, does not reflect any great amount of credit on America.

A modern army to-day must be organized upon a business basis if it must compete for men with the industrial world; the soldier must receive adequate pay and allowance to be contented, disciplined and efficient, so that the present scale of pay, existing since 1870, both for officers and enlisted men, is totally inadequate to warrant making the army a career for the best men of the nation, and the American Army should be of the best the country can furnish.—From Army and Navy Life.

Almost Human Intelligence.

Something new and interesting about ants was recently learned by a florist. For a week or so he had been bothered by ants that got into boxes of seeds, which rested on a shelf.

To get rid of the ants he put into execution an old plan, which was to place a meaty bone close by, which the ants soon covered, deserting the boxes of seeds.

As soon as the bone became thickly inhabited by the little creepers the florist tossed it into a tub of water. The ants having been washed off, the bone was again put in use as a trap.

The florist bethought himself that he would save trouble by placing the bone in the center of a sheet of fly-paper, believing that the ants would get caught on the sticky fly-paper while trying to reach the food. But the florist was surprised to find that the ants, upon discovering the nature of the paper trap, formed a working force and built a path on the paper clear to the bone.

The material for the work was sand, secured from a little pile nearby. For hours the ants worked, and when the path was completed they made their way over its dry surface in couples, as in a march, to the bone.—Nature.

EYES DON'T SEE ALIKE

Not All Living Beings See Precisely As Humans Do.

SOME ARE ALMOST BLIND

Others Can Tell the Direction of a Source of Light But Nothing Else—Still Others Capable of Forming Large Number of Separate Images.

Those who have given no particular attention to the subject are apt to assume that all living beings that have organs called "eyes" see precisely as we do, and are able, as we are, to form images of objects in their field of vision. This is not the case. The eyes of some creatures resemble the eyes of a person in almost total blindness, in that they form no images, but merely distinguish between light and darkness. Others can tell the direction of a source of light but nothing else, and others still, the so-called compound or "mosaic" eyes, appear to be capable of forming a large number of separate small images whose uses are still doubtful. The functions of organs for the perception of light in various creatures have generally been studied by observation of the optical properties of these organs. A new and interesting method has been devised and used by Leon J. Cole, of the Museum of Comparative Zoology at Harvard, who has tried to make the insects and reptiles answer questions about their own visual abilities, by means of their behavior in the face of certain conditions.

"Mr. Cole devised an arrangement by which two sources of illumination were so placed as to cause one or other to illuminate the eyes. Suppose an animal positive in its reactions to directive light is so placed as to be midway between two luminous areas of the same shape, size, and intensity, the one acting on the right eye and the other on the left. Thus simultaneously stimulated on each side, the animal might go straight ahead without turning, or it might turn at random toward one light more than the other, and as the animal is positively phototropic it would continue to crawl toward this light. But as the chance of random movements in one direction is as great as in the other, in a large number of trials we should find the number of times that the animal would go toward each light would be practically equal."

If the total amount of light should remain the same on each side, but one luminous area should be enlarged to one hundred times its original size, the animal would still be indifferent if it had cells sensory to light distributed all over its skin. There being no apparatus for concentrating the light, the amount received at any point of the skin on either side would be equal to that received by any other. In an animal having eyes that form a good image the case is different. Says the writer:

"The small light would form on the retina an image having a very small area, but the light would have considerable intensity. On the retina of the other eye there would be an image covering a larger area, but each area would receive a (very small) light intensity. In all probability we should expect an animal to react more strongly to that stimulus which fell upon the larger number of visual elements, that an animal normally positive attracted."

With the earthworm the intensity of the light is the controlling factor in its movements, since it has no eyes, but only a skin sensitive to light. The largest of the land planarians has small direction eyes. It turned away from the larger luminous area more often than from the smaller. The larva of the mealworm has two or three ocelli on each side of the head, but no lenses. It treats alike lights of different areas, the responses showing that ability to form distinctive images is lacking. The sow-bug has a group of about thirty ocelli on the side of the head, but its responses were even less definite than those of the mealworm, tho its eyes form images better. The cockroach has a well-developed compound eyes, and is keenly sensitive to differences of light and shade, but Mr. Cole does not think that the eyes form better images than those already mentioned. The mourning-cloak butterfly creeps and flies toward a source of light, and can discriminate between lights of different area but equal intensity. The cricket frog distinguishes between luminous areas of different sizes but equal intensity. When the optic nerve is cut, it still moves toward the light, tho without making this distinction, so that light must be perceived by the skin as well as by the eyes. To quote further:

"Mr. Cole concludes: 'A query which Romanes found among Darwin's manuscript notes shows careful observation and puts the question (of light-attraction of insects) very clearly. It is as follows: "Query. Why do moths and certain gnats fly into candles, and why are they not all on their way to the moon—at least when the moon is on the horizon? I formerly observed that they fly very much less at candles on a moonlight night. Let a cloud pass over, and they are again attracted to the candle."'

MAN-EATERS OF THE DEEP.

Ocean Tigers That Are Both Feared and Hated by Seamen.

Imagine a whole school of 4,000 pound monsters swimming at railroad speed. And with vast jaws armed with 12 rows of triangular teeth that spring erect like snake fangs when prey is struck in a lightning dart! Such, says the New York Press, are the voracious and dreaded ocean tigers, the largest of the man-eating sharks, feared and hated by every seaman afloat.

Last year the British cruiser Eurydice was at anchor off Santa Lucia in the West Indies, and a party of marines were disporting themselves in the sea around the great armored walls. The water was most inviting for a swim, and Petty Officer Henry Pell was giving an exhibition of fancy diving to his mates. His record was a full minute under water. They watched him swim downward into translucent depth, and glance along the mighty steel hull nearly six fathoms below, feeling the velvety moss and weed as he went.

"Sharks!" the word struck terror; the mere sight of racing, knifelike dorsals threw the helpless men into a panic. But they were soon out of harm's way, swarming up the sides of the vessel. This took but a few seconds. Henry Pell was still below. He had left the weedy hull, however, and was swimming away from her under water.

Suddenly he paused, about to rise. Something vague and big took shape—a shadow or blur at first against the lovely blue. Then a mighty dun-colored form, tiger-swift in movement, maneuvered so rapidly with the peculiar side or lateral swing to its great tail that the man seemed to meet the awful creature face to face. He could almost have touched the sharp, upstanding dorsal fin.

Pell knew he was in frightful peril. With sudden resolution he shot up, and as he did the terrified monster—sharks are notoriously timid—swung its huge tail and swept away in a perfect cyclone of mud and sand.

Once on the surface the man noticed as he knew he would a little flotilla of the fateful triangular fins. He was perhaps 300 yards from the cruiser and saw a boat being lowered. Slowly and with much deliberate splashing he began his return. Now and then he would pause to look behind, and saw always the looming shadow of the giant that had located him first. A most ferocious creature. Now and then it would spring level with him, but at a respectful distance on one side—an apparently effortless bound—rolling its hideous white belly and to bring the little gray eyes to bear upon its living prey. Pell was fast losing his self-control, he was tiring and crying out to the men in the approaching boat. The immense shark, now bolder, more determined, was lashing right around him with incredible speed, churning the blue sea at the surface and narrowing the circles at each revolution. A terrible situation for a helpless man.

Once—twice—thrice it flashed its vast jaws, only to dart back as Pell splashed with the fury of desperation. But the boat was alongside. A dozen eager hands seized the swimmer, while others attacked the monster with boathooks and bayonets.

But it was not to be denied. Even as Pell was in the very act of being hauled over the side the creature made one last plunge through the water, dyed with its own blood, and snapped off the man's left leg above the knee. Not all the efforts of the surgeons of the Eurydice could save him. Pell died next day.

These horrible creatures attain an enormous size—up to 40 feet, or as large as some whales. I have seen a specimen taken off the Great Barrier Reef 36 feet long. It had eaten a horse thrown overboard from the Port Moresby steamship; and its serried rows of fangs were the most dreadful sight I have ever beheld. Some of them were nearly 2 inches long and 2½ wide.

The New Country Schoolhouse.

"The old country schoolhouse of not so long ago will soon be a relic of the past," said James Tighe of Altoona, Pa. "Although one traveling through the country sees many of these old-fashioned structures, he does not realize that they are rapidly being deserted, and that a consolidated schoolhouse will be met with farther up the road. These new buildings are graded, and many have several high school courses, so that one teacher now teaches only one class, whereas in the old days the pedagogue taught everything from the alphabet to Latin. Of course, the consolidated schoolhouse is not so convenient to all the children, as they have to go a greater distance, but all of them ride to school nowadays. The consolidated school is much cheaper to the community, and what the farmer saves in taxes he puts in sleighs and wagons, so that his children may ride. Pupils can also remain at their home schools much longer than they formerly could and this is also a great saving. We may expect great results from this change, for the farmers with their poor schools have turned out some wonderful men, and they should do even better under the new conditions."—Washington Post.

Of all the boy workers in London newsboys are the healthiest, barbers' boys the most unhealthy—a tribute to the open-air life.

STATE PAWN SHOPS

Lending Money Upon Property, As Old As Society.

PIUS II. OPENED THE FIRST

The Mont de Piete a Great Success in Paris—It's Run in the Interest of the Poor Under Direct Government Control, and is a Boon to Humble Folk.

Lending money upon property great and small is probably as old as human society itself. But it was not until Middle Ages that authority stepped in to prevent abuses in this connection and protect the masses of the people from usurers.

In the middle of the fifteenth century there was between the church and the monarchs a third power, which, although it worked in secret, nevertheless dictated terms to the proudest nobles. This power was the purse of the Jew.

In 1464 Pius II. opened the first State Pawnshop in beautiful old Perugia—that ancient cradle of art on the quiet Umbrian Hills. The idea was to relieve the peasants and humble laborers who unquestionably often passed their lives in utter servitude to the money-lenders.

The necessary capital was obtained by pious appeals to the rich and noble, and in a few years branches were founded in every city in Italy. For generations thereafter these establishments were under church control, but gradually they became a part of the public service.

The system took three centuries to cross the Alps into France. It was in 1778 that M. Necker, the famous minister of Louis XVI. caused the first lantern of the Mont de Piete to be hung out in Paris. Twelve years later, however, the revolution broke out and the constituent assembly decided to close up the short-lived institution.

Naturally enough the old pawnbrokers and usurers at once resumed business and were more extortionate than ever, the game being now entirely in their hands under peculiarly advantageous conditions. Their oppression indeed became so great an evil that the provisional government had sense enough to restore the now famous Mont de Piete, as the State Pawnbroking Department of France is called.

This vast national concern is run in the interests of the poor under direct control of the government. It is a kind of state bank, receiving deposits from the people on which it now pays about four per cent. interest, and it lends money at nine per cent.

No private person is allowed to lend money on goods in Paris or in any other part of France. This is a state monopoly conducted as we shall see with machine-like precision, with no unseemly haggling, no hurry, no discourtesy and no unkindness. The Mont de Piete indeed with its auxiliary offices in every quarter of the great city of Paris and "succursales" or branches throughout the provincial cities is beyond doubt a very real boon to millions of humble folk. It will take into safe-keeping and storage the stove of the street chestnut-seller at the approach of spring; and takes charge of the "fountain" of the iced drink peddler when chilly October warns him his trade is at an end. It will lend the out-of-work laborer sixty cents on his tools that he may go here and there in search of employment.

The headquarters of the institution are in the Rue des Blanc-Manteaux, and there are two great branches or succursales, one in the Rue Roquette, and the other in the Rue de Bonaparte. The latter is the more important and is somewhat incongruously placed near that noble institution the Ecole des Beaux Arts. One enters through a passage leading into an open court surrounded on all sides by the various buildings of the Mont de Piete. On the left, as you enter, is the department of "Degagements," where the prosperous redeem their pledges. Next comes the hall of "Engagements," where articles are received and beyond that the immense auction room where unredeemed pledges are sold.

It is curious to observe that although crowds are present in the various departments, pledging, redeeming or buying at auction, there is no noise or excitement and certainly no confusion. It is an anxious crowd but a silent one which passes about the counters of the receiving department. Here is an artisan out of work, a dry goods clerk, an elegantly dressed lady "pawning" her sables instead of putting them into cold storage for the summer. The whole transaction is looked upon as most matter-of-fact. Parcels handed across the counter are taken to an inner room to be valued by the appraiser who never so much as sees the applicant. The first parcel is perhaps a christening set of silver cup, fork and spoon. The valuer turns to his little weighing machine, weighs the silver, tests it and dispassionately calls out "Twenty-five."

A malacca cane follows with a top alleged to be gold. It is rubbed on a test stone, flicked with acid and promptly denounced as an imposter. Diamond rings and brooches go through most searching examinations. There is no sentiment.

FOLKLORE REGARDING MOON.

No Object in the Heavens Has Inspired the Fancy of Mankind So.

No object in the heavens has inspired the fancies and imagination of mankind so much as the moon.

The sunlight shows things as they are, but the moon spreads a halo over the most unsightly objects, makes a fairyland out of fence corners and covers the whole landscape with glittering silver. The moon plays an important part in the folklore of almost every nation.

The blithe outlines on its surface have represented both men and animals. The moon has had its worshippers, and always there have been popular notions about its importance in husbandry and its influence on human destinies.

An interesting relic of the primeval superstitions of the Aryan race is the fanciful idea that the lunar spots are not meaningless outlines but representations of human beings and different kinds of animals. The imagination of moon gazers has led them to see a man in the moon, a woman, and such animals as the hare, toad, cat, dog, fox and lion.

No one knew for certain what the outlines on the surface of the moon really meant until the invention of the telescope in 1608 when it was learned that they are mountains.

Almost every nation in the world has its stories about the man in the moon, who he is and how he happened to be there.

Many of the different legends agree that the man in the moon was exiled for some crime, but they differ as to the nature of the offence. Cain, Judas, Iscariot and other criminals mentioned in the Bible have been consigned to the moon by popular fancy.

A story of the man in the moon that originated among the Germans is the one that has become the most popular. According to this the man was found gathering faggots on the Sabbath, and for this crime was transferred to the moon to bear his burden until the end of time.

Ages ago an old man went into the woods one Sunday to hew sticks. He cut a large bundle of faggots, threw them across his shoulder and began to trudge homeward with his burden.

On his way he met a handsome man in Sunday suit, walking toward a church. The stranger stopped and asked the faggot-bearer:

"Do you know that this is Sunday on earth when all must rest from their labors?"

"Sunday on earth or Monday in Heaven, it's all one to me," laughed the wood-cutter.

"Then bear your bundle forever!" answered the stranger. "Since you value not Sunday on earth, yours shall be a perpetual moon-day in heaven; you shall stand through eternity in the moon, a warning to all Sabbath-breakers."

Thereupon the mysterious person vanished and the poor old man was caught up with his load of faggots into the moon, where he stands to this day.

On the theory that it is not good that man should be alone, a creative imagination has supplied the man in the moon with a companion. The myths about the woman in the moon are confined mostly to North America. The Eskimo Indians have a tradition about the formation of the sun and moon.

Squirrels in Central Park.

Never before have there been so many squirrels in Central Park as at present. At a conservative estimate there are over 5,000 of the little animals within the confines of the Park, and how many more have broken bounds and made temporary homes in the gardens of the Fifth Avenue mansions is a matter of conjecture. But certainly their number is legion. Squirrels multiply rapidly, two litters of little ones being added every year, according to Head Keeper Snyder. The question is how to provide for their hungry little mouths.

No one would suggest for one moment that New York's little pets should be killed off, but something will have to be done before long to thin them out, and the only thing to do, so say their lovers in the Park, is to catch a number of them and introduce them into the other parks of the city.

They never go hungry. In the Summer visitors to the Park keep them so fat that they find a difficulty in climbing trees, and being very provident, the peanuts which they can't eat they bury for the Winter. Of course, when an exceptional fall of snow makes the ground too hard for them to dig, then the keepers in the Park go about and distribute bushels of peanuts among them.

Recently the spectacle of squirrels running about on Third Avenue has been seen, and all the gardens of the numerous well-to-do families in the streets leading off Fifth Ave. between Sixtieth Street and Eighty fifth Street, wherein there are trees, have their little Summer visitors. With the approach of Winter the squirrels return to the Park.

Has any one ever seen a squirrel in the Park that died a natural death? Keeper Snyder confessed yesterday that he had not, and so did the other keepers. Of course once in a while one is found that has been run over by an automobile or carriage, and sometimes a boy succeeds in killing one with a slingshot, but a dead squirrel seems almost as much of a rarity as a dead monkey.