The Marvel That is the Eye of Man.

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The origin of the faculty of vision is hidden in the depths of geological antiquity. The creature which first developed a sense organ for receiving the rapiid ether-waves of light cannot now be traced. Its last remains have been destroyed in the vast churnings and boiling of the earth's crust which preceded the Cambrian epoch. The Cambrian rocks themselves are full of fossils, mostly of that cross between a king crab and a wood louse which we call a trilobite. And the trilobites were endowed with eyes of great complexity, consisting of thousands of lenses, which must have taken millions of years to develop from more rudimentary organs.

We do know that green plants are sensitive to light, but their "vision" cannot in any case exceed the general impression of luminosity which we have in a thick fog.

The animal world acquired vision in order the better to seek its prey or to escape from its enemies. It was no doubt the latter purpose which was served by that lost "third eye," the pineal eye in the top of the head, the remains of which are conspicuous in the chameleon and are faintly discernible even in man.

A Complicated Organ.

The eye of man is a composite organ of a fourfold complexity. It has some 100,000,000 separate receivers, some of which are adapted to vision in semidarkness, while the rest are specialized to perceive the three primary colors in a good light. The former are the "rods" of the retina, minute cylinders of piles of discs clothed in a purple pigment which becomes yellow and finally white under the action of light and has to be renewed before vision can continue. The color-sensitive elements or "cones" are chiefly concentrated in the "yellow spot" of the retina, which we instinctively use for clearest vision.

Develops Near-Sightedness.

It is only recently that the peculiarities of "red-vision" have been fully elucidated. Astronomers have been practicing "averted vision" for some time and have found that a faint star is more clearly discerned when it is not gazed at directly, for in the latter case its image is received on the cones covering the yellow spot, and these are often insufficiently sensitive. Ghosts, will-o'-the-wisps, fleeting visiions in darkened rooms and the so-called "N-rays" are now all classed as phenomena of rod-vision. Had the sun lost most of its light, or had man become an exclusiively night-hunting animal since his appearonce on earth, his optical equipiment would no doubt by this time show nething but rods on his retina.

Instead, man has evolved into a being with a quick and keen perception of color and a fine distinction of detail at a comparatively short range. His constant occupation with close-range work tends to made him near-sighted, a modification which is an adaptation rather than a defect.

The human eye is not a perfect instrument. As a telescope, a microscope or a camera obscura, it has defects such as a good instrument-maker would not tolerate, but as a combination of all three it is unsurpassed. In the course of its age-long evolution it has adapted itself to sunlight to an extent which we have only in recent years been able to appreciate. It is most sensitive to the greenish-yellow rays of sunlight—which, qualitatively, is the same as daylight—and its rod-vision is well adapted to starlight and moonlight, though the latter is equivalent to the light of only a single candle ten feet away.

Yet this wonderful human sense-organ is in many respects inferior to similar organs possessed by animals. We acknowledge this every time we talk of a man possessing the "vision of a hawk." It is the brain behind the eye, and more particularly the visual area of the cerebral cortex at the back of the head, which confers upon man his superiority. It is when visions

Flash upon that inward eye
Which is the bliss of solitude

that the sense of sight becomes of paramount importance. The human eye, aided by the human brain, sees countless details of beauty and utility where a less endowed organ perceives only a barren waste of meaningless light and shade. It has been said with some truth that "the human brain is the work of the human hand" in the sense that man's freely moving hand maps out space-relations and brings about the co-ordination between sight and touch which builds up a micro-cosmic replica of the external world in which the brain may exercise its functions.

The brain, thus educated, is enabled to widen the scope and range of its sleepless organs of sense. From paleolithic times onward pictoral art has created symbolic representations of fleeting events destined to render the sight of them permanent and unforgettable. The microscope has enabled the observer to convert himself, whenever he chooses, into a homunculus several thousand times smaller than himself and to live for a time in an appalling world of strange and swarming life. The telescope in its most advanced form collects as much of the light of a star into a single eye as falls upon the pupils of the whole population of Manchester. It brings the moon within the distance which separates Ireland from Wales, and enlarges it to an extent more than sufficient to make it fill the whole sky.

New Worlds to Conquer.

These are the commonplaces of human achievement. More recent days have added greater and more wonderful resources. The cinematograph has done for time what the telescope did for space. Its latest development acts, indeed, like a time-microscope, which enables us to draw out rapid movements so as to examine them at leisure. And, quite apart from these visible things, we have begun to attack things invisible and bring them within our range of vision. Roentgen rays, aided by fluorescent screens, reveal the secrets normally hidden behind human flesh and skin. The selenium cell and the optophone render visual effects accessible even to those who are deprived of the sense of sight. The bolometer, the thermopile and the photographiic plate open up entire realms or radiation whose very existence was unsuspected a couple of generations ago.

Where will it all end? Whither are we tending? Are there any worlds left to conquer? The last question will probably raise a smile on the faces of the next generation.

Nature's Lucky-Bag.

As a people we get into the habit of taking things for granted. For instance, we seldom realize that we are indebted to Nature for other things than our daily food. But if we think for a few moments we shall see that, at every turn, we should be very badly off if it were not for Nature's wonderful gifts.

Who would ever dream that the pretty, colored, shivery table-jelly, looking on our tables like fairy fare, was once connected with cows' and calves' feet, and, in some instances, comes from bone and hide clippings.

The size used in paste and glue is a poorer kind of gelatine, which is made from parchment clippings, old leather, and rabbit and fish skin.

Fur coats are made from the skin of thick-furred animals, such as the seal, beaver, mole, and even the humble rabbit and rat.

Squirrels, and not camels, are responsible for the "camel hair" paint brushes which are named after Mr. Camel, who invented them. The hairs used come from the tip of the squirrel's "brush."

The elephant's tusks provide us with ivory of the very best kind. The tusks of the walrus, narwhal, and hippopotamus yield slightly inferiior kinds of ivory, which are used for making knife-handles and ornaments. Many other articles of a like nature are made of highly polished bone.

Artificial flowers are sometimes made from the iridescent scales of fishes; while some fish also give us oil. "Train" oil, which is used as a lubricant for machinery, is procured from the blubber of the whale; and, of course, you are all familiar with cod-liver oil! Then, too, a very reliable burning oil is procured from the cockchafer.

All our clothes are indirectly given us by animals, as wool from sheep, and even dogs' hairs can be made up into clothing material. Silk made by that ugly creature, the silk-worm, is so largely used that in the South of France hundreds of houses are given over entirely to breeding these grubs.

Your bath sponge was once alive at the bottom of the sea; and your coral necklace was made by thousands of marine insects.

Another insect, the cochineal, which lives on the cactus plants of Mexico, yields a wonderful, harmless dye when dried and boiled.

New Methods.

Dorcas—"I suppose, in your campaign for the State Senatorship you'll go around kissing all the babies in your district."

Philippa—"Nope. Old stuff. Babies can't vote. But the men can."

The Perfect Servant.

It seems to us that the perfect servant—from the theoretical point of view—has been identified. As a matter of fact he would have been more satisfactory even to his master if he had been less perfect and a little more human.

Dickens used to tell a story of his biographer, John Forster. Forster had a devoted and skillful servant, Henry, who was always most correct in everything he did. It was therefore astonishing one night when Forster was entertaining several writers at dinner to see the scrupulous Henry make error after error. He upset a plate of soup, and Forster uttered a cry of alarm. He fogot to serve the sauce for the fish, and his master said, "Why, Henry!"

Altogether he made the excellent dinner seem a slovenly and poor repast. When at the end of it he leaned over Forster's chair and said in a tremulous voice: "Please, sir, can you spare me now? My house has been on fire for the last two hours."

Exit Romance.

Now that Lhasa is no more the Forbidden City, Bagdad, is no longer isolated by deserts impassable to anything but camels, Timbuctoo is an air-station, and Kumassi has opened a magnificent college, the Westernising of the world seems to be going on at such a pace that romance will soon have to take a back seat or get into communication with Mars in order to open fresh fields.

Of course, the aeroplane has done much to knock the mystery out of things. When one can fly over a forest which was hitherto impenetrable, that fact alone takes all the romance out of the dark and dismal wood.

Similarly with the desert. There is a fortnightly aeroplane service between Palestine, Egypt and Bagdad, which takes very little account of the terrors of the desert, which have frightened folk for thousands of years. To-day, too, landed proprietors visit their distant estates in Iraq by motor-car, whereas a few years ago they dared not go in any fashion without an armed guard. There are taxi-cabs in the Mesopotamian towns, and gasoline motor-launches on the Tigris.

There is also a university in Baddad, as there is in that other memory-haunted city of Khartoum.

But the most wonderful change has come over Kumassi, or Coomasse, as the newspapers called it when Sir Garnet (afterwards Viscount) Wolseley's expedition went there in the first Ashanti War.

Then it was a veritable city of blood, if a collection of mud and straw huts could be called a city at all. To-day it has electric light and a splendid college.

Needless to say, it is now as safe to live in Kumassi as to live in London, and the fierce and blood-thirsty Ashantis have become law-abiding citizens.

Yet there are still people who say civilization is on its last legs.

Modesty Was a Characteristic of Many of the Great Masters.

Modesty is a trait in character which many people of the twentieth century lack. Indeed this theme provides newspaper writers nowadays with the opportunity of making vitriolic attacks upon present day manners, bobbed hair and kindred subjects.

These writers, if they so desired, could point to many of the world-famed composers as great exponents of modesty. For example, Verdi was never heard to speak of his operas, it is said, as "My Trovatore," or "My Rigoletto."

When asked if he thought his name would become immortal, Gounod once said, "No, I have done nothing to uplift mankind." Once beseiged by admirers for his autograph, he replied, "Why do you want it? It is not of a great man."

Weber avoided persons who he knew would refer to his compositions as great works. He liked to get away from people who knew him, and often requested that his music be not played within his hearing.

Liszt said of music,"It is often but a road to sorrow and despair," meaning that so many composers do not succeed. Rubinstein was of a sad temperament, as was also Chopin; and both were "painfully" modest.

Chopin said, "If my work is of real value it may be heard after I am gone; but I hope they will never prefix to my name any other title than 'monsieur.' I dislike to hear any man addressed as a 'master,' and still more to be spoken of as 'the great.' "

Music soothes as well as fires the soul of man. Of the Marseillaise Hymn, Roger de Lisle wrote, "It is a good hymn, I suppose; but as to its becoming immortal, why should it?" Mascagni said of his Cavalleria, "Oh, it will bring me money, not fame. Fame belongs to an age that is passed." Yet the Intermezzo is to-day among the best-known pieces of music that have come to us since Gounod's Faust made Paris proclaim him "A great of greatest composers."

Schubert wrote of his Serenade, "It really pleases me! why I cannot say."

What greater examples of modesty than these would one want?

Technical schools in Tokio, Japan, are now holding special classes in architecture for girls.

The Prince of Wales, probably the best advertised man in the world, opened the business sessions of the great international advertising convention at Wembley, England, recently, where he was faced by an assembly of more than 5,000 delegates.

Hebridean Colonization

The present tendency in Canada towards the achievement of a more satisfactory settlement and speedier assimilation of new settlers cannot be better illustrated than in the manner of the settlement of the many hundreds of crofters from the islands of the Hebrides who in the past couple of years have located on farms in Western Canada. The movements of these crofter farmers has been an eminently satisfactory one, removing these hard-working and highly desirable people from their native homes, where the outlook was most unpromising, and adding them to Canada's population with the greatest assurance of their permanent success.

Taking advantage of the untoward circumstances in the northern lands, the Canadian Pacific Railway undertook to move numbers of the inhabitants of the Hebrides to Western Canada, and through the co-operation of the Federal Government and the sympathetic assistance of various private bodies, their settlement was accomplished. The desires expressed for community settlement were met, as far as circumstances would permit, and the crofters established on farms in two districts near Calgary and Edmonton. Here, in the brief time which has elapsed, they have won uniform success in their farming efforts, are satisfied with their conditions and prospects and have given encouragement to a further movement. In the past twelve months something like 700 crofters and their families have been moved and settled in Western Canada.

Scottish Immigrant Aid Society.

The Rev. Father R. A. MacDonnell, who has throughout been the prime agent in accomplishing the movement, accompanying parties from Scotland, travelling through with them to Western Canada, and personally supervising their settlement, was largely responsibe for the formation of the Scottish Immigrant Aid Society to carry on the work of moving these people, and is its managing director. After being responsible for the movement of several small parties of Hebridean crofters already this year, he has returned to Scotland and will return in August with a party expected to number about 600, which he will settle on farms in Alberta.

The manner of their settlement will be a novel one in Canadian colonization, and the Scottish Immigrant Aid Society is setting out to effect a real and gratifying settlement work. Their aim is the establishment of an Hebridean farming colony which, having regard to the settlement of former settlers from the islands, they will have no great difficulty in accomplishing. The basis of their work is the assumption that the greatest drawback to satisfactory colonization is the lack of housing accommodation for new settlers, and assistance to them, for the first few years, after they take up farming operation.

The Fire Lit—Larder Full.

Four directors of the Society have contributed $16,000, and this sum is expected to be swelled by contributions from others interested in Canadian colonization and the settlement of Hebridean crofters. With this preliminary amount fourteen cottages are to be built, and funds secured by the Society, through participating in the British Empire Settlement Act, will enable them to erect an additional hundred cottages. These are to be built on land in Alberta west of Red Deer. The Society secures a twenty-year lease on the land and erects thereon a cottage for the prospective settler who has been a farmer, crofter, or farm laborer in the old land. The settler gets a lease of the cottage and plot for one year, renewable for a second year, and, under exceptional circumstances, a third. These cottages are to be homes for the settlers whilst they are learning the ways of the country and the farming methods of Western Canada.

Hebridean crofters arriving from their northern island homes, after travelling the thousands of miles by land and sea, instead of having to undergo the customary hardships of pioneering, will find a home awaiting each of them, with a fire burning and the house stocked with provisions. In Canada's experience with the first Hebrideans lies the best of assurances of the success of Father MacDonnell's Alberta colony.

Latch-Key Lore.

Most of us, when we use a latch-key in entering a house, have no thought of the historical significance of the action. Yet the latch-key has a symbolism entirely its own.

Examine the images of the Egyptian deities in the British Museum, and you will notice in the hands of some of them a cross with a circular handle. It represents the Ankh, or key of life, one of the oldest of all religious symbols, denoting the power to open and close the doors of heaven.

The key has a magical meaning for the Greeks and Romans. Their gods were often given the title of Keybearer as, for example, James, the god of gates, who was supposed to unlock the doors of war and peace. In early Christiain history the symbol of the key was associated with St. Peter, with his two keys of gold and iron.

In the Middle Ages the key was used to assist in the identificatioin of guilty persons. If, for instance, a theft had been committed, a key was laid on the open page of a Bible, when it was supposed to move towards the culprit. Wedding rings had their origin in the key presented to the Roman bride by her husband, as a sign of her authority in his household.

A general view is shown of the field and stands of the giant Colombes Stadium, France, where the world war of sports took place. Representatives of all the great nations took part in the opening parade.

An Artist in a Diving Suit.

When Mr. Zarh H. Pritchard, the painter of underwater seascapes, went to Tahiti he tried to borrow the diving equipment belonging to the native prince of chieftain, Narii Salmon. But Narii let him have it only on his laying a wager that he could paint underwater a scene that Narii, himself an admirable swimmer and diver, should recognize as true. Narii, who was entirely skeptical, went along in the barge and helped fasten Mr. Pritchard into the diving dress, which was not a full suit, but a helmet, a breast-plate and a tight waterproof upper garment. The artist was already experiencing qualms concerning the adequacy of the equipment when Narii, with the circular, copper-framed glass window of the helmet in his hand, said:

"Now listen. You tug this life line once—more air; twice—less air; three times—we go ahead; four times—I will paint here; five times—sharks."

"He spoke without the least emotion," says Mr. Pritchard in his narrative of the incident in a recent number of Asia. " 'What!' I cried, 'Sharks! Have I got to count one, two, three, four, five when a shark, the swiftest of swimmers, iis coming for me? Can't it be once for sharks?' Clash came the glass almost on my nose, and then an emphatic, 'Shut up!' "

Mr. Pritchard won the wager—which at once converted Narri and his crew into ardent friends and champions—and he encoutered no sharks. On a later occasion, however, another creature of the tropic seas gave him an extremely bad minute.

"Taa, my diver, took me one day to a sort of underwater cul-de-sac with coral walls. Narrow, vertical fissures in the rock stood out blue against the dead yellow structure at the back. I saw to my astonishment what I thought was a sea anemone hanging vertically against one of the blue fissures. I had always seen such a creature attached horizontally and wide open in daylight. This was closed. It was round and bulging and was growing larger every moment. And then I saw below the round mass gazing straight at me two hideous eyes! I looked again. The loathsome creature was pushing itself out from the deep blue cavern through the narrow fissure. Soon one or more of its eight arms ten or fifteen feet long would reach out, and there would be an end of me!

I confess I madly unhooked my anchor stone and rose to the canoe, striking my head on the bottom of it in my panic. Taa drew me in as fast as he could while I shouted breathlessly, 'Octopus!' I seemed to have an interminable length of leg to pull in! Taa snatched up his long octopus spear, a slim three-sided French bayonet on the end of a twenty-foot hardwood pole. He hurled it with the sure, swift aim of the Tahitian. It struck. The beast struggled and writhed against the wall, but presently worked free of the spear, which Taa recovered. The bayonet had struck between its body and one of the arms, and in the struggle to loosen itself the creature had jammed the bayonet against the fissure and while trying to draw back into the cavern had bent the steel so that it was curved when withdrawn. For days afterward the water in the lagoon was smoky brown from the liquid the octopus had emitted while fighting for its life."

Then He Got Red.

He (as they strolled along)—"What was the first thing you saw turn green this spring, dearest?"

She—"Why—er—the ring you gave me last winter, dear."

Open-Air Parliament.

The Manx-Parliament, or Tynwald, which met recently, claims to be the oldest legislative assembly in the world, having been founded in the year 938 by a certain King Orry.

It is held on Tynwald Hill, an artificial mound constructed of soil brought from each of the seventeen parishes in the Island. The measures passed there obtain the force of law in Manxland, after receiving the Royal Assent.

The ceremony, which includes the enthronement on his chair of state of the Lieutenant-Governor, is stately and impressive. Unfortunately, however its solemnity has been somewhat marred of late years by crowds of "trippers," who flock to it as to a fair.

New Rubber Lands.

Vast tracts of potential rubber-growing lands have been found in the Philippine Islands. Ninety per cent. of the world's supply of rubber is produced by British colonial and other foreign producers.

During the last four years British aeroplanes have flown more than two million miles and have carried upwards of 30,000 passengers, apart from the transport of mails and other freight.