

nack are, on the whole, reassuring to conservative students of the New Testament. As he says himself, "the time in which our ancient Christian literature, the New Testament included, was considered as a web of delusions and falsifications is past." "The oldest literature of the Church is in its main points and in most of its details true and trustworthy."

Kyoto, Japan.

## Some Devices of Nature

By C. F. Holder

Even the most casual observer must be impressed with the many artifices of delicate and inoffensive animals to escape the common enemy. This is illustrated in a marked degree in the squids, from one of which comes the cuttlefish-bone of commerce. All this singular family have a chameleon-like power of changing color and adapting it to that of their surroundings; but in one, the *Cranchia*, this faculty is developed to a remarkable degree. The animal is not usually over two inches in length; the body is balloon-shaped, the head very small, and the tentacles extremely short. The body is dotted over its entire surface with little points or dots of color, and when the animal is alive it is constantly changing—now being suffused with red, fading suddenly to yellow, then purple, and an array of tints following one another in quick succession, making it a most interesting object.

That this power is used as a defense there can be but little doubt, as when the squid is swimming or poising over sandy bottom its color is white. Let the same animal now dart forward by the action of the jet of water from its siphon, and hover over a patch of weed, and the spectral form grows darker, soon merging into the prevailing tint of its environment, and disappearing from the view of a possible enemy.

In this instance and many others the disguise is not premeditated or especially designed, the result being the effect of certain colors upon the nerves which reach the color-cells, causing them to retract or expand at will.

Many of the simplest animals have remarkable devices to aid in their protection.

Thus, one of the marine worms burrows in the ground, forming a long smooth tunnel several inches into the mud. The entrance of the home is in the form of a chimney, built up of delicate pieces of coral and glued together so that a perfect piece of masonry is the result. The entrance at the top of the chimney would easily attract attention, but over this the worm arranges a door, by selecting a bit of marine weed about an inch and a half in length. This it glues to the entrance so that the tip falls over and covers it, having the appearance of being the continuation of a plant. At night this very clever builder and dissembler comes out of its den, lifts the trap-door, and glides to the surface, where it swims about, making a marvelous display, as it possesses, with others, the power of emitting a vivid light, and gleams in the water like a gem or mimic electric light. Returning, it lifts the cunningly devised door and glides in. So cleverly arranged are these doors, and so marked is the resemblance of the whole nest to a leaf, that the sharpest-eyed collector often passes them by.

The sea-anemones which line many a pool—the animal flowers of the sea—frequently cover themselves with stones and shells until they look as though a mosaic had been built upon their sides, the presence of the gorgeous, flower-like animal being unsuspected.

The instinct to disguise their homes is pronounced among certain spiders. Some form burrows, covering the hole with a trap-door which opens and shuts with a perfect adjustment. To render concealment perfect, the spider collects small plants and mosses, which he deposits upon the newly formed door until it resembles the immediate surroundings and is lost to view. When the spider ascends and pushes the trap up, the miniature forest upon it is seen to rise into the air in a manner surprising to the observer who does not suspect the cause.

Nature comes to the rescue of a multitude of animals which are practically defenseless, enabling them to assume disguises that are remarkably effective in concealing them from their enemies. This is true of the so-called pelagic animals which drift about in the gulfweed that forms the Sargasso Sea. The sargassum is supported by innumerable

bubbles, and constitutes the home of many singular creatures—all protected by some device of nature. Following a suggestion of evolution, we may imagine this weed peopled ages ago by crabs, fishes, and shells of all colors, affording sharp contrasts. Birds in flying over the weed naturally saw those which were the most conspicuous, and devoured them; the others not so noticeable escaping. This process of weeding out the animals which were especially noticeable must in ages have produced a colony of inconspicuous creatures as the result of the escape of those which resembled the weed. Be this as it may, the animals of to-day in the sargassum resemble it so closely that it requires the closest search to discover them.

The most remarkable protection is afforded some of the shell-less mollusks which crawl over the weed. They are of the exact tint of the sargassum—a delicate olive green; besides which they are covered with tentacles or barbels of flesh which make them perfect mimics of the weed. These interesting creatures cling to the fronds of the sargassum, and are, apparently, a portion of it, defying the most active enemies.

Several kinds of fish find equal protection in the weed mass; one in particular, the antennarias, a very flat fish, about three or four inches in length, which is found lying prone upon the weed so near the surface that when it raises its tail it is elevated above the water. Nature has painted this curious little creature the exact tint of the weed, often giving it a marbled color in several shades of green, so that it offers little or no contrast. To supplement this protection, the outline of the fish is apparently distorted in a remarkable way, cut up into branches and barbels, so that the impression is conveyed that plants or bits of weed are growing upon it. So perfect is this device of nature that the writer, in looking for this fish, has failed to see it at a distance of but a foot, only discovering the dissembler when it moved or raised its tail.

Myriads of crabs and their allies roam through this floating forest, all *en masque*, following closely the tint or hue of the prevailing weed. Some are dotted with white, thus imitating the white incrusting

bryozoons which cover the weed in delicate patches.

So the entire range of pelagic animals might be followed. The purple ianthina finds protection in its color on the open sea. The delicate fishes found beneath jellyfishes imitate the tentacular parts of their host in pink and white, while the fishes beneath the physalia are of the same tint of purple as the deadly tentacles.

Equally interesting, suggesting the boundless resources of nature, are the animals which decorate themselves; as the crabs, one of which, commonly called the stone-crab, is always found bearing a miniature forest upon its back, becoming in this way, to all intents and purposes, one of the stones among which it lives. That this is not an accident the writer has ascertained by cleaning the back of one of these crabs and placing it in an aquarium, where it at once manifested its uneasiness and began to redecorate its back. This was accomplished by snipping off bits of weed with the large biting claw, pressing the severed portion to the mouth, where it obtained some glutinous secretion, then raising it over the back and placing it upon the shell, where it remained, and ultimately grew. In two or three hours one of these crabs fairly covered itself with a mimic forest, and seemed gradually to disappear from view among the rocks. The hermit-crabs, especially those in deep water, often secure a disguise by permitting a sponge to cover the shell. In one instance observed by the writer the shell had disappeared entirely beneath a mass of sponge, at one side of which the claws of the crab were seen when it moved along carrying its strange burden.



If you really have a sounder religious experience than your neighbor, the way to show it is by leading a better life.—*American Friend*.

The shortness of life is bound up with its fullness. It is to him who is most active, always thinking, feeling, working, caring for people and for things, that life seems short. Strip a life empty, and it will seem long enough.—*Phillips Brooks*.

Mother of marvels, mysterious and tender Nature, why do we not live more in thee? We are too busy, too encumbered, too much occupied, too active! The one thing needful is to throw off all one's load of cares, of preoccupation, of pedantry, and to become again young, simple, childlike, living happily and gratefully in the present hour.—*Amiel*.

## Books and Authors

### Two Powerful Novels<sup>1</sup>

The present year has not been prolific in fiction of the first order. With the exception of Mrs. Steel's "On the Face of the Waters," Mr. Allen's "The Choir Invisible," and (perhaps) Mr. Du Maurier's "The Martian," it would be hard to name novels which any large body of critical readers would so class. Now, however, come forth in a single week two stories—one of English, the other of American authorship—which must be universally recognized as of prime interest. Mr. Hall Caine's "Christian" and Miss Wilkins's "Jerome" are quite unlike in subject and style, but they have this in common, that each will be read by practically the whole English-reading world of novel-lovers, for Miss Wilkins's vogue in England is as great as is Mr. Caine's popularity in America.

Mr. Caine has, it is understood, put his main work for the last three years upon this book. He tells us that he has striven to make it a thorough study of social conditions in London, and of the efforts to do good among the distressed and oppressed. He has succeeded in giving many vivid impressions of scenes of vice, poverty, and suffering, each conveyed by means of a few quick, sharp touches of realistic art. He has studied the gilded vice of the clubs, and the sordid and repellent vice of the East End. But all this Mr. Gissing and Mr. Moore and others have done as faithfully; what Mr. Caine has added is a feeling of the burning sense of shame that such things should be, of the personal responsibility of each individual for the sin, of the absolute need of real Christian brotherhood. When the author comes to describe the existing attempts to carry out this brotherhood—the settlements, clubs, sisterhoods, schools, and the like—his account is slight and incidental, and the reader does not quite feel that the aim defined in the author's note at the end has been altogether fulfilled.

It would, indeed, be strange if every side of this great subject were equally developed and the novel still remain a novel. Mr. Caine is here, as in his former works, first and foremost a student of human passion and a creator of individual characters. The play of temperament and tendency upon life always exercises his highest powers. His best creations here are not types, but persons. Even though he tells us that he means to present "types of mind and character, of creed and culture, of social effort and religious purpose," he succeeds best when he clings least closely to the text. His John Storm is not a

typical Christian, nor a typical worker among the London slums, nor a typical priest—he is just John Storm, a man of immense earnestness, eager love for mankind, strong in faith but often weak in judgment, rendered the more human because his love for Glory Quayle is ineradicable and at bottom the ruling passion of his heart. In the end the conflict within him, and the weight of others' sins constantly oppressing him, make John Storm mystically fanatical and at a supreme moment really insane. For Gloria Quayle, too, we care all the more because she is not a type, but a live, witty, brilliant Manx girl, who frankly loves the world and the vanities thereof, and does not leap with joy at the opportunity to become a missionary to lepers or a slum-worker. At heart she is pure and unselfish, and while we wonder that Mr. Caine can make her so facile in accepting the companionship of persons like Sir Robert Ure, whom she knows to be in every way base, we still feel that Glory is as true to life as if George Eliot had drawn her. So, too, with the delightful Mrs. Callender and other minor characters. In short, Mr. Caine is essentially a novelist, and it is just because his art is paramount that such a book as this has the power to set people thinking, and, we hope, to stir their blood so as to make them attack in earnest the problems which here serve as background for living actors. Of Mr. Caine's power as a writer, of his skill in handling dramatic situations, of his art in holding and raising the reader's interest, we have often spoken. As always, he is intense to the point of feverishness; and his humor is, here again as in his other novels, skillfully used as a relief to the strain of that intensity upon the reader's mind.

Miss Wilkins's "Jerome, a Poor Man" seems to us to make a very distinct and positive advance in her literary work. There has always been a little hardness in the realism of her stories of New England life. "Pembroke" and "Jane Field," as well as the many familiar short stories, are true, absolutely true. They have character, humor, originality; they have deserved all their great popularity to the full; and yet they have lacked an indefinable something. "Madelon" was an experiment, and, on the whole, an unsuccessful experiment. In "Jerome" at last we have, with all the merits of Miss Wilkins's earlier work, the indefinable something added. And it is the charm and grace of a simple, sweet love-story. Lucina is an altogether dainty and maidenly creation, as true to one New England type as is Jerome to another. The story is a slight one, and the plot is not at the end worked out with great skill, though we are sure that in this case all readers will prefer a happy and inartistic

<sup>1</sup> *The Christian*. By Hall Caine. D. Appleton & Co., New York. \$1.50.  
*Jerome, a Poor Man*. By Mary E. Wilkins. Harper & Brothers, New York. \$1.50.