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JULY, 1911

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The Open Court

A MONTHLY MAGAZINE

Devoted to the Science of Religion, the Religion of Science, and the
Extension of the Religious Parliament Idea

Founded by EDWARD C. HEGELER.



THE FISH AS A MOTIVE IN CHINESE ART.
A bronze vase of the Han Period. (See page 399.)

The Open Court Publishing Company
CHICAGO

LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

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BENTEN, THE JAPANESE GODDESS OF DIVINE LOVE.

From a relief preserved in the Field Museum. (See page 391.)

Frontispiece to The Open Court.

THE OPEN COURT

A MONTHLY MAGAZINE

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THE FISH AS A MYSTIC SYMBOL IN CHINA AND JAPAN.

BY THE EDITOR.

CHINA is perhaps not as rich in folklore as India, for the Chinese are more prosaic and less poetic than other Asiatics; nevertheless the mystical significance of the fish appears as predominant here as in any other country, and the same must be said of Japan.

Professor Hirth publishes in his *Scraps from a Collector's Note Book*¹ an attractive picture which illustrates an episode of an ancient Chinese fairytale taken from the *Lieh sien chuan*. The story reminds us of Arion riding on a dolphin, the more so as the hero is a musician and his name K'in Kau, the first part of which means "lute."

The story goes that the king of the country had engaged K'in Kau as court musician on account of his musical talent, but in addition to his musical accomplishments the royal court musician indulged in some magic feats, among which his preference for living in the water is most noticeable. He used to swim the rivers of China and haunt the ocean. Finally he disappeared from his home and was no longer seen. His relatives and friends built a little temple by the riverside in memory of him, but how great was the general astonishment of the inhabitants when after 200 years K'in Kau returned by the riverside riding on a huge red carp. He carried a sword in his hand and a sun-hat on his back, tokens of his adventures and journeys in distant parts of the world.

It will not be difficult to recognize in K'in Kau a fairy-tale representation of the hero of resurrection and of life immortal. He

¹ Published by E. J. Brill, Leyden, 1905.

is the solar deity that disappears in the western ocean and after crossing the waters of the deep where lies the realm of the dead, returns in the east with undiminished vigor. Time does not affect him, and centuries are to him no more than so many hours to a mortal man.

The fate of K'in Kau reminds us of European fairy-tales. In the Greek story Arion is represented as a human being, a mortal



K'IN KAU ON THE RED CARP.
After a painting by Hwang Hau.

man, but when we consider that the story is a fairy-tale and originally an ancient myth, we shall not miss the meaning of it if we look upon him as a god, either Dionysus or Eros or a kindred deity that travels over the ocean on a fish.

The story of K'in Kau also reminds us of Rip van Winkle, who disappears for a long time but comes back and is astonished at the changes which in the meantime have occurred in the world.

Washington Irving incorporates in his story of Rip van Winkle the materials of those ancient German fairy-tales which are preserved in "The Sleeping Barbarossa," and also in the legend of the monk of Heisterbach who being alone in the woods one morning, forgot himself, the world and time in an ecstatic state of heavenly rapture, and lived as it were for a moment in eternity. When he



K'IN KAU ON THE RED CARP.
Sketch by Hokusai.

returned to his earthly existence, a century had elapsed and he found the conditions of the monastery in which he had stayed entirely changed.

The fairy-tale of K'in Kau is very popular in Eastern Asia, and it was quite natural that it traveled also to Japan where it has been illustrated by the famous Hokusai, who pictures K'in Kau on

a big carp which seems to swim through clouds, part of the fish being hidden in the fog.



KWAN-YIN ON THE FISH.

By Hokusai.

The same artist furnishes us with a beautiful picture of Kwan-yin on the fish. This divinity is a female form of Buddha which

originated in China. She is considered the divinity of mercy, charity, love and motherhood, so that her pictures are very similar in spirit to those of the Virgin Mary in Christianity. It is not



KWAN-YIN AND THE FISH.

In the Pei-lin at Singan-fu.

After a Chinese color-print.

impossible that the prototype of Kwan-yin is an ancient Chinese goddess who became thus transformed when Buddhism entered the country and changed its traditions. She is also claimed to be of Indian origin. That Kwan-yin is somehow connected with the fish

appears from the fact that dolphins sometimes ornament the pedestal of her statue and Hokusai paints her as riding on a fish.

Among the new acquisitions of the Field Museum of Natural History of Chicago,² we find several beautiful Kwan-yin figures of a special type, different from the Kwan-yin riding on the fish and representing her as a poor woman, without ornaments, carrying a fish to market.

A poem accompanies a picture of this figure which is preserved in the Museum Pei-lin of Singan-fu and dated 1451:



“Her hair dishevelled over the two temples, she is too easy-going to comb her hair;

Holding a fish she goes to market.

Not wearing her petticoat and her glittering necklace,

Who would divine that it is a Bodhisatva descending on Jambudvipa (the universe)?”

Judging from the poem this goddess is regarded as a divine in-

²We here publicly express our thanks to the Field Museum of Natural History of Chicago for permission to utilize its new collection of Asiatic antiquities recently procured through Dr. Berthold Laufer, even before the objects have been catalogued; and also for the generous courtesy of supplying us with photographs of several monuments. The director, Mr. F. J. V. Skiff, as well as Dr. Laufer, have thereby rendered us no small and thoughtful help in our researches, and enabled us to render important material accessible to our readers.

carnation which unbeknown to mortal ken represents divinity on earth.

The frequency of Kwan-yin with the fish indicates what a favorite this peculiar goddess was, and she must have been a saviour in female form.

Among the seven popular gods of Japan the goddess of divine love Benten corresponds to this special conception of Kwan-yin and is practically identified with her. A beautiful carving of this goddess in high relief is preserved in the Field Museum. Here she is represented carrying a fish like Kwan-yin. (See our frontispiece.)

Another one of these seven gods of bliss (*Shichi Fukujin*) is always represented with rod and fish. Mr. Teitaro Suzuki in his article on "The Seven Gods of Bliss" (*Open Court*, XXI, 400) says of him: "Ebis—in spite of his name which means 'foreigner' or 'stranger'—is a thoroughly indigenous production of Japan. He belongs to the mythical age of Japanese history. He was the third child of Izanagi-no-Mikoto, the first mythical hero of Japan, and was the younger brother of the famous sun-goddess Amateras. He somehow incurred the displeasure of his elders and was expelled to the Western sea, where he spent his remaining life as a fisherman. Accordingly, he always wears an ancient Japanese court dress, carrying a fishing rod in his right hand and a large reddish braize under his left arm. This fish, which is zoologically known as *pagrus cardinalis* or *major*, is considered by the Japanese the most delicious provision on the table, and as indispensable at all important festivals as is turkey at an American Thanksgiving dinner."

Ebis appears usually in the company of Daikok, another of the seven jolly gods easily recognized by the money-dripping mallet in his hand. Mr. Suzuki says:

"Daikok may be said to be principally a patron of farmers, and Ebis of merchants and tradesmen. The birthday of Ebis which falls in November, is celebrated by the commercial people, especially the dry-goods dealers, by offering the public a special sale. Some think that any fancy needle work made of the material bought on Ebis day brings the owner good luck."

A drawing by Hokusai is characteristic of the influences which these divinities exercise upon Japan. It represents four of the gods of bliss. Ebis with the fish is uppermost at the right hand, while underneath we see Daikok who has just thrown his mantle over a carrot-like plant with two roots. It is a *daikong* (literally translated "horse radish") a typically Japanese plant, which is one of



THE SEVEN GODS OF BLISS.



DAIKOK.



EBIS.

Japanese medallion.



DAIKOK.



EBIS.

From photographs of impersonators.

the most popular of their vegetables. In English it is called the "gigantic Japanese radish."



FOUR GODS OF BLISS.

Another picture of four gods of the seven shows a carriage drawn by two dappled stags. Jurojin, the god of longevity, is the

charioteer and blows a big trumpet. Bishamon, the god of strength and wealth, gallantly helps the goddess Benten, the Japanese Venus, to enter the carriage. The god Ebisu flies high in the air on his fish smiling with glee upon some poor fellows who are in desperate pursuit after good fortune. One of them is turned over in the blizzard, while the other one gesticulates wildly with his hands in despair at not being able to reach the god of luck. Everything typifies the spirit of good humor for which Ebisu has been especially famous.

We add on the next page an illustration of a scene in Japanese



GODS OF BLISS AND LAUGHING CHILDREN.

By Hokusai.

folklore in which a ragged demon carrying a flask and a fish is accosted by a hungry friend of the animal world. We reproduce the picture from a collection of Hokusai's drawings but are unable to offer an explanation.

The figure of a carp is commonly used as a paper flag all over Japan denoting male heirs or boys.

We learn from an interesting essay by Berthold Laufer on "Chinese Pottery of the Han Dynasty" that during the Han period in China cooking-stoves were buried in the graves of the dead obviously with the same purpose as when the Egyptians painted all

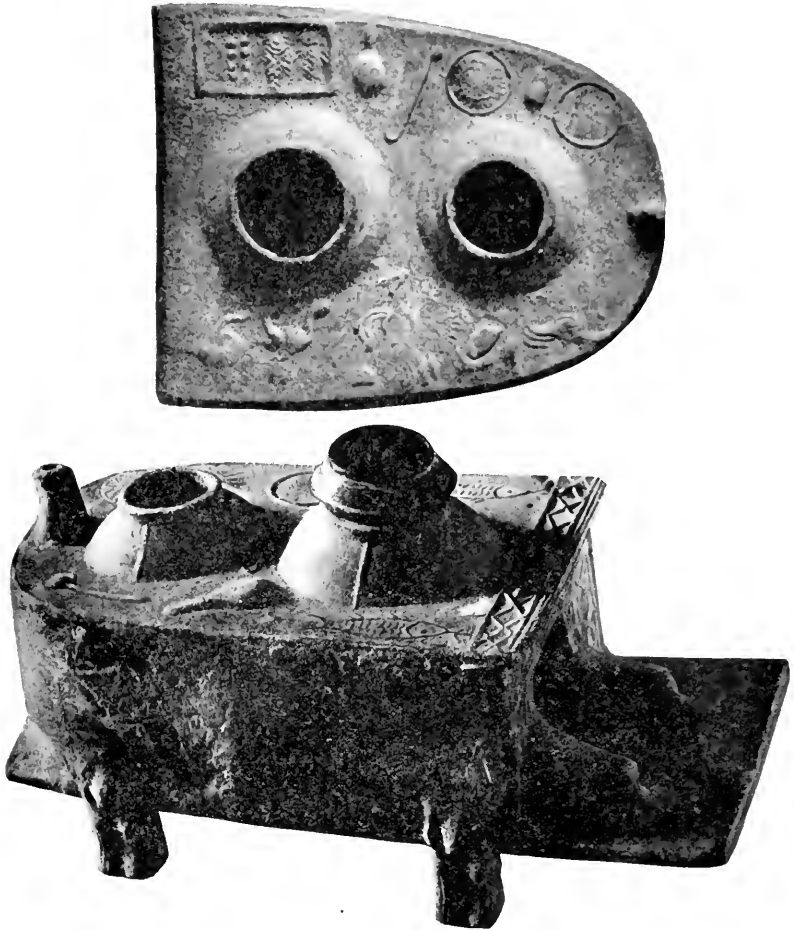
kinds of refreshing meats and drinks on the walls of their funerary chambers. These pictorial supplies were intended to provide the



JAPANESE DEMON WITH FISH.

dead with sufficient food so that they would not go about as hungry ghosts molesting their descendants and other people with frightful

apparitions. Mr. Laufer says on the subject: "The burial of clay cooking-stoves in the imperial graves of the Han dynasty is expressly mentioned in the 'Annals of the Later Han Dynasty.' Two were used for the emperor, but there can be no doubt that they were then a favorite mortuary object also for all classes of people."



FUNERARY CLAY STOVES FOUND IN A TOMB OF THE HAN PERIOD.

But the peculiarity which causes these stoves to be of interest to us in connection with the fish appears in the fact that some of them bear on their top plain pictures of fishes. They may have no other intention than to indicate the food to be used by the spirit of the deceased, but they are evidence that fish was supposed to be an acceptable diet for the dead.

We may add in this connection that the fish was a favorite ornament in those days in ancient China. We reproduce here from the same source a bronze basin of the Han dynasty the inscription of which declares that this basin is dedicated to the memory of the teacher by his sons and grandsons of the third generation. The



BRONZE BASIN WITH THE DOUBLE FISH.

words of the inscription begin with the characters "great year"; then follows the date; further down the words "to the deceased master by the third round of sons and grandsons." The Chinese inscription in the corner explains the subject to be a "pair-of-fishes basin," and it is dated "Han dynasty Ch'u P'ing (i. e., First Peace Period), fifth year (194 A. D.)"

Here we see the fish used in connection with honor paid to the dead, and here too we find the fish doubled, in the same way as in the zodiac, in Indian scriptures and on Indian coins as well as frequently also in the Christian catacombs.

Another instance of the double fish pattern for funerary use has been found on a bronze mirror of the Sung period discovered in a grave of the Shantung province (Laufer, *op. cit.*, Plate LXXIII, No. 7). A. Volpert (*Anthropos*, Vol. III, p. 16) describes a number of mortuary stone chambers of the Han period and mentions that in one of them he saw two rows of fishes represented on the lower edge of the lateral stone slabs enclosing the coffin.



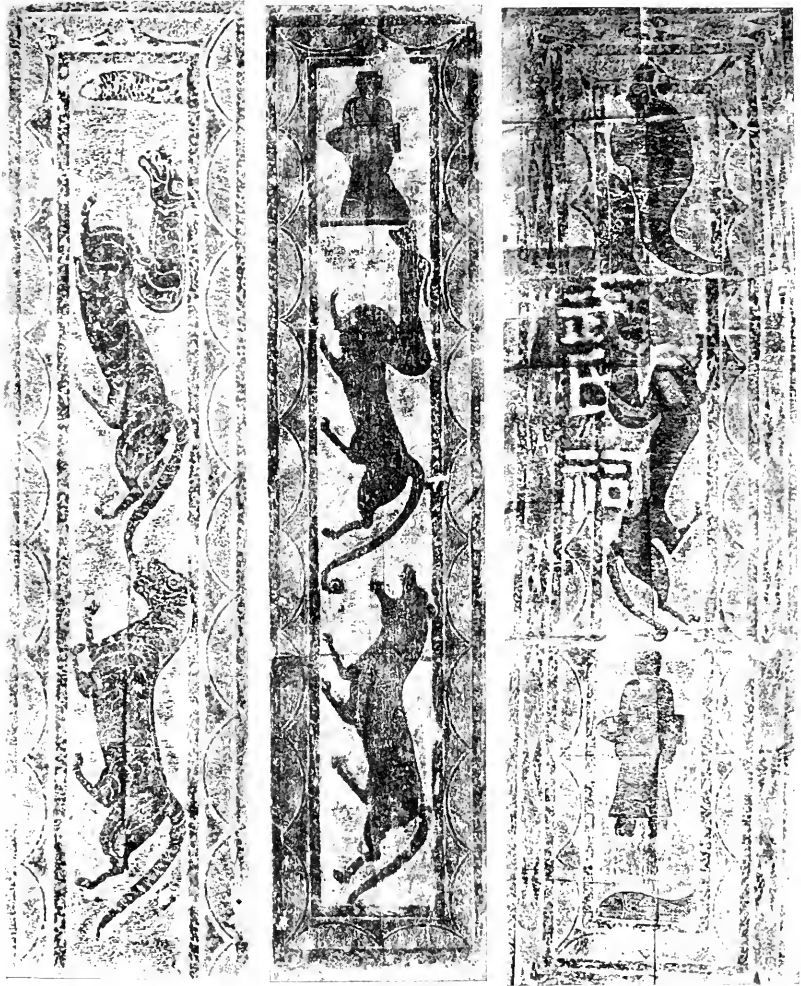
BRONZE VASE OF HAN PERIOD.

Concerning the fish as an ornament Dr. Laufer add as a footnote (*loc. cit.*): "The fish is indubitably one of the most ancient motives in Chinese art. I have here inserted a Han bronze vase after the *Hsi ch'ing ku chien* (Book 21, p. 19) called 'vase with wild ducks and fishes,' showing ducks holding eels in their bills, and others with fishes in front of them, besides rows of swimming fishes (probably carp) with tortoise interspersed."

We must remember that tortoises have a similar significance as the fish, being a common emblem of longevity. The same is true of birds of passage such as wild ducks, wild geese and wild

swans. I am unable to explain why some ducks are represented holding cels in their bills.

There are many more traces of mysterious fishes and fish sym-



THE FISH WITH MONSTER AND TIGER.

Three panels from monuments of the Han period.

bolos on the ancient monuments of the Middle Kingdom but the explanation of their meaning has in most instances been lost. Chavannes has published in his *La sculpture sur pierre en Chine* a great number of reproductions of ancient monuments and illustrations

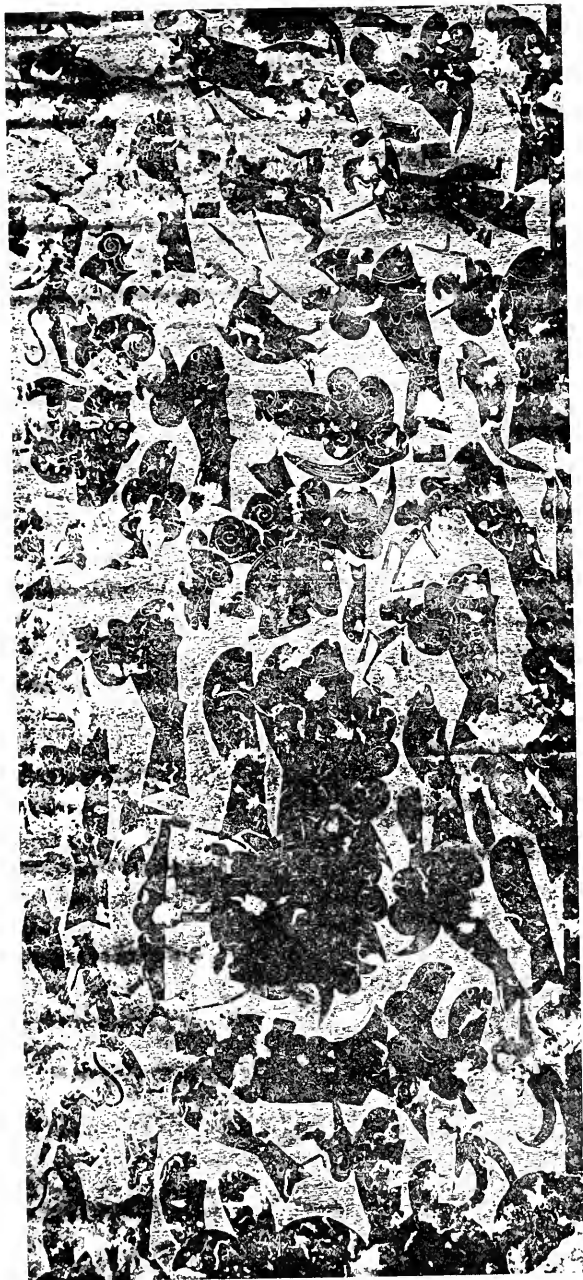
to which we have no key. We find for instance a stone bas-relief illustrating an army of fishes going to war, thus presupposing the existence of a Chinese fish-epic which may have been a battle of the fishes corresponding to the Homeric Battle of the Frogs and Mice.

Other Chinese illustrations of the fish bear a close resemblance to European legends in which the fish symbolizes the sun. We must remember that according to the Babylonian and Hebrew world-conceptions the waters were divided into the waters above the firmament and the waters in the deep under the firmament. The former are the waters of the clouds, the source of rain and occasionally the cause of a deluge; the latter comprise the ocean and the waters below the earth coming forth in the form of springs. The sun-god passes through these waters either as a fish or in his barge. The sun-charge was known to both the Egyptians and Babylonians. In Greece and Rome the idea changes to a chariot or a wheel but we may assume that the idea of the sun as a fish is the older. This conception explains also why Oannes the Babylonian mediator between God and mankind appears as a fish emerging in the morning from the Erythrean sea in the East and descending in the evening into the Western Ocean.

The same legend must have existed in China although none such has been discovered and does not now seem to be extant. But we reproduce here from Chavannes³ several panels which seem to bear witness to a similar myth. In one of them we see a monster in dragon form pursuing a fish and being in turn pursued by a tiger. Another panel shows the same combination except that the fish is held by a man. A third panel represents another scene of the same incident. It shows the dragon and the tiger running away in the other direction. Above the tiger floats a fish, while underneath we see the same man holding a fish and below him another fish. No explanation is given.

Are we not justified in identifying the fish here with the sun and may we not assume that the Chinese at a certain period of their mythical development were in possession of the same conception of the sun as a fish? In such a case the scenes on these panels would symbolize an eclipse just as German myths account for the same phenomena by saying that the sun is swallowed up by a wolf. This view is strengthened by another monument which pictures a similar monster turning against a man who holds in his hands a face representing the sun in a style very similar to that in which

³ *Mission archéologique dans la Chine septentrionale*, 2 vols., Paris, 1909.



THE BATTLE OF THE FISHES.

The original is on a stone bas-relief of the Han dynasty forming part of the sepulchral chamber of the Wu family preserved in Shantung Province at the foot of the Wu-tse-shan. These sculptures may be dated roughly at about 150 A. D. The photograph has been made from an original rubbing taken from this bas-relief, in the Field Museum, and our attention has been called to it by Dr. Berthold Laufer of that institution. He writes: "The idea of the fish representing a warrior is, curiously enough, also expressed by a famous Confucian scholar of the later Han Dynasty, Ma Yung (79-166 A. D.) who interprets its scaly armor as a symbol of martial efficiency."

the sun is frequently pictured by prehistoric peoples in Mexico and other places.

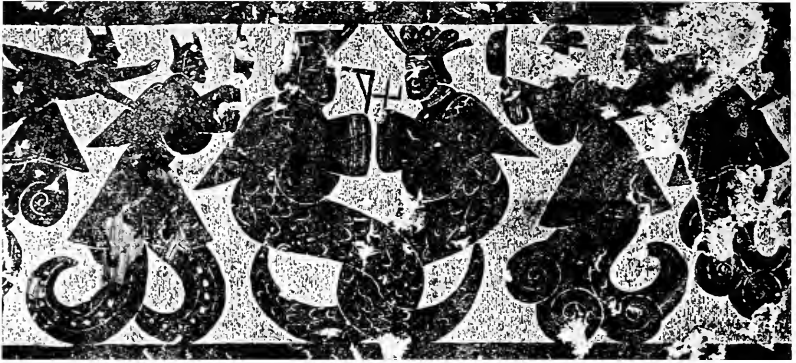
Corresponding in China to the Babylonian Oannes who revealed to mankind the arts of writing, agriculture, and other means of



GRAVESTONE OF HAN DYNASTY.
Forming part of a mortuary chamber.

civilization, stands Fuh-Hi who is generally pictured with the mystic tablet containing the first symbols of the Yang and Yin, the mysteries of heaven and earth. It is a very strange coincidence, if not positively the indication of an historical connection, that this same Fuh-Hi together with his consort and retinue is pictured as posses-

sing a fish-tail. This monument appears in the same place as those mentioned before on the fourth stone in the rear compartment among many other strange figures and is here reproduced from the same



FUH-HI AND NÜ-WA WITH FISH-TAILS, ACCOMPANIED BY FISH-TAILED RETAINERS.

After Chavannes.

source. Fuh-Hi's connection with the water further appears from the fact that the writings which he reveals to mankind are carried



THE DRAGON HORSE WITH THE MAP.



THE DRAGON HORSE WITH THE SCROLL.

by a tortoise emerging from the waters of the Ho,⁴ and that the dragon-horse which bore the mystic tablet rose from the same river.

The dragon-horse (*Lung Ma*) is also called a hornless dragon

⁴ Yellow River or Huang-Ho, commonly known as Ho which means the river.

and among the dragon tribe it is said to be the most honored one, the Yellow Dragon. Yellow has become the imperial color in the course of history, presumably because it was the color of the Buddhist monks who came dressed in yellow robes. And the mysterious animal that brought to Fuh-Hi the elements of writing came from



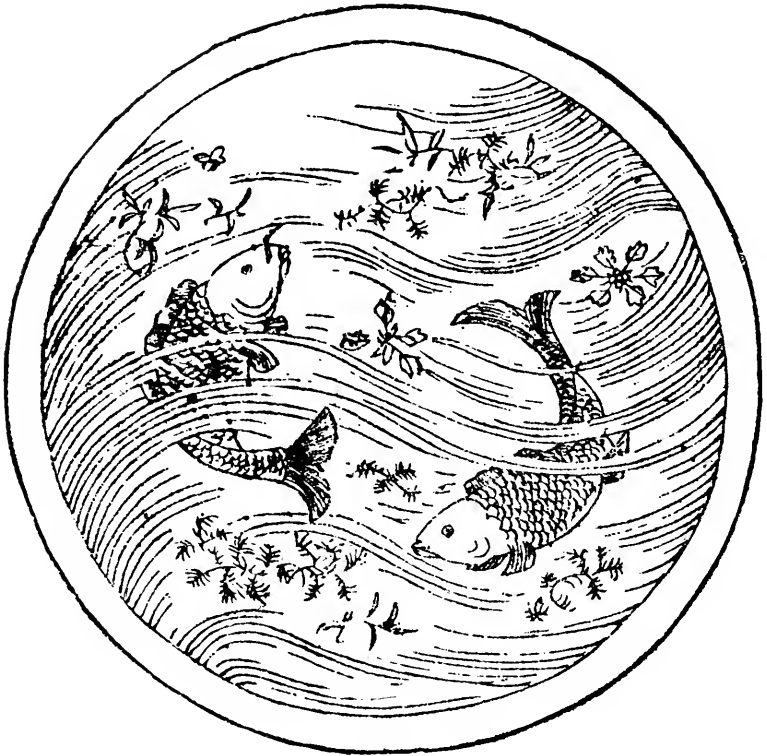
MONSTER APE WITH FISH AND MAN.

From a bas-relief of the Han Dynasty after Chavannes.

the Yellow River. The elements of writing are sometimes said to be written on a scroll, sometimes on a map or tablet and we here offer two illustrations representing both interpretations. We must bear in mind that the interpretations are more recent and the original tradition simply insisted on a divine revelation which Fuh-Hi received through supernatural animals.

From other monuments we here reproduce from the same source a very strange illustration for which no explanation is offered. It shows a savage ape in the center with a man on his right hand and a fish on his left.

The fish figures also among the Chinese symbols of good luck, and besides the single fish we find the double fish and also the twin fish. The double fish is frequently used as an artistic ornament,



THE DOUBLE FISH AS ORNAMENT.

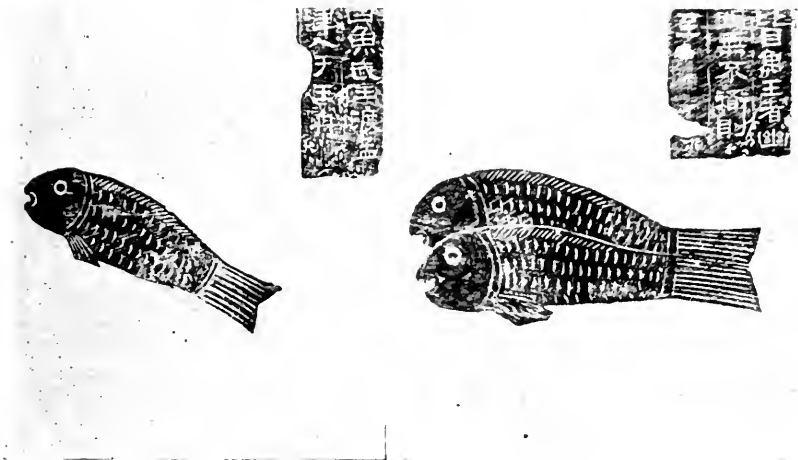
From *Fang shih mo pu* (1588), in the possession of Dr. Laufer.

for a religious symbol originally used for protection naturally changes little by little into a purely ornamental design. This is true of the cross in Christianity, of the swastika, of the solar wheel so frequent in prehistoric monuments, especially in Mycenae, and of other symbols. We reproduce here a design taken from a Chinese book in the possession of Dr. Berthold Laufer which shows the double fish moving playfully in the water among fish green. The design in this case is apparently artistic but the position of the

double fish is the same that we find in funerary offerings and also in the pictures of the constellation Pisces.

Dr. Laufer informs us that the fish has become the symbol of harmony and marital union. The idea is based on the observation that the fish can live only in the water and is therefore in harmony with that element (expressed by the phrases *yü shui hsiang ho*, "the mutual harmony of the fish and the water," or *yü shui ho huan*, "fish and water are happy in their union").

Different from the double fish is the twin fish which is peculiar to China. The double fish has made its way from Babylon over Europe into the symbols of modern astronomy, but the twin fish



THE FISH A LUCKY OMEN. THE TWIN FISH A LUCKY OMEN.

Nos. 96 and 97 of Chavannes, Plate XLVIII, entitled *Les objets merveilleux de bon augure, d'après le Kin che sou*.

together with other twin formations, a twin duck, other twin birds, a twin horse, etc., are not found elsewhere so far as we know.

The fish as a good omen appears with one special application in the shape of a carp jumping up a cataract, referring to the passing of a government examination. Such illustrations are sent to the successful candidate as congratulations. Dr. Laufer sends us the following explicit explanation:

"A frequent subject in Chinese and Japanese art is a carp attempting to swim against a stream or to jump over a waterfall. This originally goes back to the ancient legend that the sturgeons ascend the Yellow River in the third month of each year and those among them which succeed in passing over the rapids of the Dragon-

Gate (*Lung-men*) become transformed into dragons. It is obvious that this notion sprang from the name of the Dragon-Gate; it is usually understood in a figurative sense for successful graduation at the literary examination. The young student is looked upon as a fish who after passing the cataract of the examination becomes a dragon, as in the good old times the German freshman, or fox, was called an ass and became promoted to the title of horse in his



JUMPING THE FALLS.

Chinese symbol of an examination. From *Fang shih mo pu*, in the possession of Dr. Laufer.

capacity of *Bursch* as a full-fledged university student. A picture of a carp trying to jump the fall, presented to the assiduous young scholar, accordingly implies the wish, 'may you succeed and prosper in the competitive examinations!' The fish is therefore, in this case, the symbol of diligent perseverance and endurance."

Other interesting information concerning the fish has been communicated to us by Dr. Laufer. He says: "There are several ref-

erences in Chinese literature to written messages that have been found in the bellies of fishes. In an ancient song it is said: 'A stranger having come from afar has presented me with two carps. I bade my servant cook them and, lo! a letter written on silk is discovered in them.' Hence expressions like 'fish-document,' 'pair of fish' or 'pair of carp' have come to assume the meaning of letter. An emperor of the Han dynasty when hunting in his park once killed a wild goose to whose foot a piece of cloth was attached, containing the words, 'Su-Wu and his companions are away in a certain marsh.' At once messengers were despatched to the Hsiung-nu and the prisoners believed dead were released.' Hence the origin of the phrase *yü yen wang lai*, 'the coming and going of fish and goose,' meaning the same as correspondence.

"The faculty of knowing man's heart is attributed to fish. Kiang T'ai Kung was a virtuous statesman living in the twelfth century B. C., and his virtue was even acknowledged by the fishes for which he angled. Though he had the eccentric habit of angling with a straight iron rod without bait, thus offering no inducement to the fishes, they were attracted simply by his virtue and voluntarily impaled themselves on his hook. This has given rise to the familiar saying: 'Kiang T'ai Kung is fishing—only those that are willing are taken,' employed as illustration of spontaneity of action. He is supposed to have sat on his fishing perch in entire disregard of the entreaties of the numerous ministers of State who begged him to come down and become engaged in political affairs. Hence the proverb: 'See him seated on his fishing-terrace, he will not move,' which is said of one who takes no interest in an affair. He did not come down until the king himself besought him and then he exchanged the straight rod for the staff of civil office. (A. H. Smith, *Proverbs from the Chinese*, p. 94).

"In regard to two celebrated beauties in Chinese history it is recorded that they washed clothes by the river-side, and that the fish, illuminated by the light of their resplendent countenances, were dazzled and sank to the bottom (A. H. Smith, *Proverbs and Common Sayings from the Chinese*, p. 122)."

In addition to the coincidences between Chinese monuments and western mythology we must include one more remarkable case, which is the combination of the fish and the bird. This reminds us of the goddess Astarte in Hierapolis with the two emblems, the fish and the dove, and we find the same combination in the catacombs where the fish is explained as a symbol of Christ and the dove either as the dove of peace sent out by Noah or as the Holy Ghost. The Chi-

nese bird used in conjunction with the fish is explained as the heron, but the position is very similar to that of the fish and dove as it appears in the *Roma Sotterranea*.⁵



漢永和三年造
鵬

此黃秋
倉拓本
鵬雖未
見立範
而字畫
花飲工
秀如是
洵上品
也

THE BIRD AND THE FISH ON THE BOTTOM OF A BRONZE BASIN
DATED 138 A. D.

From a Chinese book in the possession of Dr. Laufer.

From a number of illustrative Chinese pictures we select one taken from a Chinese book entitled *Kin Shih So*, also in the possession of Dr. Laufer.

⁵ See "The Fish and the Dove," *The Open Court*, March, 1911.

The facts here presented prove that the fish was held in awe in Eastern Asia as well as in Europe, in Egypt and in ancient Babylon. In prehistoric times it possessed a religious sanctity. It was a symbol of immortality as which it is found in different styles in graves, and it is freely used as an emblem of good luck. Most popular, however, is its use in connection with the female Saviour who in one of its most favorite forms appears as a woman carrying a fish in a basket.

CLIMATIC CHANGES.

BY DR. J. R. GORRELL.

IS our climate becoming milder, and are our winters less severe? If so, what is the cause? There exists a concensus of opinion among close observers of meteorological conditions that there has been a perceptible change during the last fifty years. We may—they say—be unable to discover any difference from winter to winter, but a comparison of our late winters with the winters of 10, 20, 30, 40 and 50 years ago, appears to justify the belief that a gradual change is occurring in our climate.

There are those who believe that the artificial groves throughout Iowa and adjoining states, have contributed materially to raising the temperature during the winter months. It is no doubt true that the rigor of the winds has been lessened thereby, but as the absolute temperature is unaffected even by blizzards, it appears improbable that the groves have any effect on the climate. There are others who attribute our milder winters to thermal regions in space through which our solar system as a whole is passing. The solar system consisting of the sun, the planets—Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune—their Satellites, the Asteroids between the orbits of Mars and Jupiter, and all meteoric matter and comets that belong to our system, is rushing through space with a velocity of 39,600 miles an hour, and the direction is so near a straight line that it will require many millions of years to complete one revolution. It is therefore not impossible that the regions in space through which we have been passing during the last two, three, four or five decades, has had a higher temperature than that through which we passed before, because we may have approached nearer to some other sun in the sidereal system to which our solar system belongs. The grove theory is unsatisfactory, and the effect of our movement through space is naught else than speculation.

The heat of the surface of the earth and the atmosphere is

derived almost wholly from the sun. If the earth is a molten mass within, the heat from that source, in hot springs, geysers and volcanoes—if any of these have any connection with the central heat, which is improbable—is so small that it need not be considered in a discussion of climatic conditions and causes.

Some substances are transparent to light and heat that are opaque to heat without light. For example, if a pane of glass is held between the face and the sun, the heat passes through the glass and the face is burned. If the same pane is held between the face and an intensely hot cannon ball that is not incandescent, the glass acts as a perfect screen and no heat whatever is felt because the glass is opaque to dark heat.

John Tyndall was the first to call the attention of scientists to the fact that carbonic acid—carbon dioxide CO_2 —was partially opaque to dark heat, and to suggest its potency in producing a milder climate. The proportion of carbon dioxide now in the atmosphere is only about one-thirtieth per cent, but being opaque to dark heat it absorbs the heat of the earth that otherwise would be radiated into space, and thus acts as a blanket to keep the earth warm. The greater the amount of carbon dioxide in the atmosphere the thicker becomes the blanket, and the more heat it absorbs. The other constituents of the atmosphere—oxygen and nitrogen—are transparent to dark heat, and would therefore permit the radiation of the heat of the earth into space, and the result would be a cold and lifeless planet.

Prior to the Carboniferous era all the carbon dioxide now stored in the coal measures of the earth (which consist of 200,000 square miles in China and Japan; 194,000 in the United States; 35,000 in India; 27,000 in Russia; 9000 in Great Britain; 3600 in Germany; 1800 in France; 1400 in Belgium, Spain and other countries, making a total of 471,800 square miles) was free in the atmosphere, and in consequence thereof there existed a tropical climate extending to the poles, as is indicated by the presence *only* of tropical plants in coal-measures. It is estimated that the amount of carbon dioxide in the atmosphere during that period was from fifty to one hundred thousand times greater than the amount now in the atmosphere, and as a result of the warm moist climate there flourished during that geological era the most luxuriant growth of vegetation the earth has ever known, and the succeeding glacial period was the logical sequence of the withdrawal of the carbon dioxide from the atmosphere.

Prof. Joseph LeConte, in his *Elements of Geology*, says (page

617): "On account of its heat-absorbing properties, the carbon dioxide is vastly the most important element affecting the climate. It now only forms about one thousandth part of the atmosphere. With its thermal potency it will be seen that comparatively slight variation in the amount would produce great climatic effects. Physicists have long recognized this fact. It is believed that doubling the present small amount of carbon dioxide, would produce a mild climate to the poles, and that halving the present amount would bring on another glacial period."

The rapid increase in the consumption of coal, and the inevitable increase in the amount of carbon dioxide thrust into the atmosphere becomes apparent from the following facts: The consumption of coal in the United States in the year 1845, was four and one-half million tons; in the year 1864, twenty-two million tons; in the year 1874, fifty million tons; in the year 1884, one hundred and six million tons; in 1894, one hundred and fifty million tons; in 1899, two hundred and forty-three million tons. In Great Britain in the year 1845, there was consumed thirty-one million tons; in the year 1864, ninety million tons; in the year 1874, one hundred and twenty-five million tons; in 1884, one hundred and sixty million tons; in 1894, one hundred and sixty-four million tons; and in 1899, two hundred and ninety-five million tons. And the rate of increase in other countries—China and Japan, India, Russia, Germany, France, Spain, Belgium and Austria-Hungary—is approximately the same. There is at present a concurrence of opinion among the highest authorities that the world's supply of coal would probably last two or three centuries, but the rapidly increasing rate of consumption is becoming ominous. "The statements of former years that the supply of coal was inexhaustible were not only false and foolish, but pernicious."

The processes of combustion and respiration consume oxygen and liberate carbon dioxide and aqueous vapor. The incalculable combustion of coal and oil is gradually restoring to the atmosphere the hitherto confined carbon dioxide which when free produced a mild climate the world over, and will probably again create the same meteorological conditions of heat and moisture that existed during the Tertiary period—a tropical climate from pole to pole.

ON THE FOUNDATION AND TECHNIC OF ARITHMETIC.*

BY GEORGE BRUCE HALSTED.

THE PSYCHOLOGY OF READING A NUMBER.

OUR marvelous positional notation for number is built of three elements, digit, base, column. The base it is which interprets the column. With base ten, 100 means a ten of tens. With base two, 100 means two twos. With base twelve, 100 means a dozen dozen.

The Romans had a base, or rather two bases, but neither digits nor columns. Their V is a trace of the more primitive base five, seen also in the Greek *πεντάζω*, to finger fit by fives, to count. This, combining with the more final base ten, X, explains their having a separate symbol, L, for fifty.

Their ten of tens has its unitary symbol, C, and their ten of hundreds is M, a thousand.

Each basal number is a new unit, an atom, a monad, a neomon, squeezing into an individual the components, making thus one ball to be further played with.

Our present basal number-word, hundred, is properly a collective noun, a hundred, literally a count or tale of a hundred; for its *red* is the root in German *Rede*, talk, and its *hund* is the Old English word, cognate with Latin *centum*, Greek *ἑκατόν*, to be found in Bosworth's *Anglo-Saxon Dictionary*, but seldom used after A. D. 1200.

The *Century Dictionary*, to which I may be forgiven for being attached, says *hund* is from the root of ten, and this idea leads it far, into the postulating of an assumed type *kanta* which it gives as a reduced form of an equally hypothetical *dakanta* for an assumed original *dakan-dakan-ta*, "ten-ten-th," from assumed *dakan*, on the analogy of the Gothic *taihun-taihund*, *taihun-t̄hund*, a hundred, of

* Continuation of an article begun in the February *Open Court*.

which it regards *hund* as an abbreviation or reduced form. The same original elements, it says, without the suffix *d = th*, appear in Old High German *zehanzo* = Anglo-Saxon *teón-tig*, *ten-ty* = *ten-ten*.

The element *hund* occurring in the Anglo-Saxon *hund-seofontig*, seventy, etc., *hund-endlefontig*, eleventy, *hund-twelftig*, twelfty, it gives as representing "ten" or "tenth," and these words as developed by cumulation (*hund* and *tig* being ultimately from the same root, that of "ten") from the theoretically assumed *hund-scofon*, "tenth seven," etc. Murray is not well persuaded of all this, and says there is no satisfactory explanation of the use of *hund* in these Anglo-Saxon words.

For myself, even if the root of *hund* be that of ten, I can well conceive that *hund* should mean hundred without any first hypothetically postulated and hypothetically worn-away reduplication. Have we ourselves not "million," a simple augmentative of *mille*, a thousand?

Nor is the reduplication theory consonant with the fact that in Old Norse the word *hundrað*, "hundred," "tentale," originally meant 120; it was a tentale not of tens but of dozens, the rival base twelve, against which the bestial base ten, an Old-Man-of-the-Sea saddled upon us by our prehuman simian ancestors, has been continuously fighting down to this very day. And even in modern English remnants of this older usage remain. The *Glasgow Herald* of Sept. 13, 1886, says: "A mease [of herring] . . . is five hundreds of 120 each."

Chambers Cyclopædia says: "Deal boards are six score to the hundred."

This hundred was legal for balks, deals, eggs, spars, stone, etc.

Peacock, in the *Encyclopædia Metropolitana*, I, 381, says: "The technical meaning attached by merchants to the word 'hundred,' associated with certain objects, was six score—a usage which is commemorated in the popular distich:

"Five score of men, money, and pins,
Six score of all other things."

All this abundantly proves that hundred is very far from being a simple numeral adjective, like, e. g., seventy; so that while we properly say seventy-five, to say a hundred-five is a hideous blunder.

Hundred is strictly not an adjective at all, but a collective noun; it is always preceded by a definitive, usually an article or

a numeral, and if followed by a numeral, this must invariably be preceded by the word "and."

A following noun is, historically, a genitive partitive, in Old English a genitive plural, later a plural preceded by "of." Thus 1663, Gerbier, *Counsel*, "About one hundred of Leagues." Hale (1668): "These many hundred of years." Cowper (1782) *Loss of Royal George*: "Eight hundred of the brave." To-day: "A hundred of my friends," "A hundred of bricks," "Some hundreds of men were present." [Murray].

Even if there be an ellipsis of "of" before the noun, the word hundred retains its substantival character so far as to be always preceded by "a" or some adjective. Compare "dozen," which has precisely parallel constructions, e. g., "a dozen of eggs." Hooke (1665): "A hundred and twenty five thousand times bigger." Murray's *Dictionary* (1901) gives as model modern English: "Mod. The hundred and one odd chances." Again it says: "c. The cardinal form *hundred* is also used as an ordinal when followed by other numbers, the last of which alone takes the ordinal form; e. g., 'the hundred-and-first,' 'the hundred-and-twentieth,' 'the six-hundred-and-fortieth part of a square mile.'" Gould Brown, *The Grammar of English Grammars*: "Four hundred and fiftieth."

All this furnishes complete explanation and warranty of the "and" which must always separate "hundred" from a following numeral. It marks a complete change of construction: "a hundred of leagues and three leagues"; "a hundred and three leagues." This fine English usage is unbroken throughout the centuries. Thus, Byrhtferth's *Handboc* (about 1050): "twa hundred & tyn"; Cursor Ms. 8886 (before 1300): "O quens had he [Solomon] hundrets seuen." Myrr. *our Ladye* (1450-1530) 309:

"Twyes syxe tymes ten, that ys to a hundereth and twenty."

Oliver Wendell Holmes, "The Deacon's Masterpiece":

"Seventeen hundred and fifty-five.

Georgius Secundus was then alive,—

Snuffy old drone from the German hive."

The *London Times* of Febr. 20, 1885: "The hundred and one forms of small craft used by the Chinese to gain an honest livelihood."

The new *Encyclopædia Britannica*, 11th Edition, 1911, Vol. 2, p. 523: "Thus we speak of one thousand eight hundred and seventy-six, and represent it by MDCCCLXXVI or 1876." Again, p. 526: "A set of written symbols is sometimes read in more than one way.

Thus 1820 might be read as *one thousand eight hundred and twenty* if it represented a number of men, but it would be read as *eighteen hundred and twenty* if it represented a year of the Christian era."

Though all the numerals up to a hundred belong in common to all the Indo-European languages, the word thousand is found only in the Teutonic and Slavonic languages, and maybe the Slavs borrowed the word in prehistoric times from the Teutons.

Very naturally thousand is construed precisely like hundred: "Land on him like a thousand of brick"; "The Thousand and One Nights."

And just so it is with that marvelous makeshift *million*, "big thousand," Old French augmentative of Latin *mille*, a thousand.

Says Piers Plowman (A), III, 255:

"Coneyte not his goodes
For millions of moneye."

And the divine Shakespeare:

"Or may we cram
Within this wooden O the very casques
That did affright the air at Agincourt?
O, pardon! since a crooked figure may
Attest, in little place, a million!
And let us, ciphers to this great accompt,
On your imaginary forces work."

"Thus, we say six million three hundred and twenty thousand four hundred and thirty-six" [Whitney's *Essentials of English Grammar*, p. 94], which does not at all militate against our reading 10033 to the telephone girl as "one, double oh, double three." The word which specifies the local value of the digit is best omitted when this local value is unimportant or is otherwise determined. The date 1911 read "nineteen eleven." The approximation $\pi = 3.14159265$ read "*pi* is nearly equal to three, point, one, four, one, five, nine, two, six, five." Here, as in all decimals, the "point" fixes the local value of every subsequent digit.

The country schoolmaster's use of "and" solely to indicate the decimal point is not merely bad form and stupid; it is criminal. It introduces a completely unnecessary ambiguity, doubt, anxiety into the understanding even of oral whole numbers, since she (if it be a country schoolma'am who is reading them out) may end with a wretched fractional, such as hundredths, a retro-active dampener over all that has preceded it.

When that most spectacular of Frenchmen, who, like so many

great Frenchmen, was an Italian, witness Mazarin, Lagrange, etc.,—when the comparatively unlettered Corsican, Napoleon, sat upon his white horse at a German jubilee while an official opened at him an address of felicitation, the great Captain began to be puzzled at the silent strained attention of those listeners who were supposed to understand the German speech. He whispered to his aide, “Why do they not applaud?” “Sire,” was the answer, “on attend le verbe.” Just so when the country schoolmaster reads a number, one awaits the fractional!

ALBRECHT DUERER AND THE FREEMASONS.¹

BY W. P. TUCKERMANN.

HOW many blossoms of medieval culture have faded and disappeared, choked out by the Italian Renaissance! It is probable that their memory found an echo here and there as late as the beginning of the seventeenth century and the Thirty Years' War, but the devastation of Germany which that struggle occasioned swept away every trace of the old culture, so that those who wish to study the earlier period must grope their way as painfully as antiquarians elsewhere. A promising field for investigation is furnished by Albrecht Dürer's copper-engravings, etchings and woodcuts, which in addition to their other great merits in the faithful portrayal of the life of his time have caught and handed on to us many old traditions. Real mines of information are Dürer's mystically symbolic copper-plates, "which have always been treasured and admired—to-day more than ever—although their meaning has remained an unsolved problem."² Of these puzzling will-o'-the-wisps the most important is the one entitled "Melancholy," which was formerly considered the first picture in a cycle representing the various moods of the soul, but which now, viewed in the light of the Nuremberg developments, is seen to be an exposition of the now completely forgotten medieval freemasonry.

What the freemason lodges, those romantically mysterious guilds of builders with patrons and honorary colleagues, accomplished from the earliest Middle Ages in the construction of the great Gothic cathedrals of France, England, Germany, the Netherlands, and other countries, is everywhere known and admired; but names, organizations, technical and ethical teachings, the content of their secrets, have remained secret or have been forgotten. Yet their

¹ Translated from the German by R. T. House.

² Moritz Thausing, *Dürer*.

operations can be traced in England until far into the sixteenth century, and in Germany to the end of the fifteenth century, as it is known that in Strassburg, in 1498, Emperor Maximilian I gave the German lodges whose patron and honorary brother he was, a new organization, charter and coat of arms. The years from 1439 to 1477 were occupied in the construction of the choir of the church of St. Lorenz in Nuremberg, with its rich, artistic Gothic vaulted roof; and when we remember the dates of Dürer's birth and death, 1471 and 1528, the figures fit together so well that the probabilities seem to point to Dürer's personal contact with the Nuremberg fraternity and his knowledge of their teachings; and a closer examination of his engraving "Melancholy" will show very clearly that he is enforcing the ethical doctrines of freemasonry by the use of the conventional symbolic formulas.

Symbolism, that double form of expression, having a naive and innocent form for the larger public and a hidden meaning for the intelligent initiated, is well known to have been the resource of the medieval freethinking teacher who was forced to pick his way with the utmost care among the rocks of the Inquisition. Victor Hugo calls the images on the portals of Notre Dame the "freedom of the press" of that epoch. It was natural that the architects, sculptors and painters of the Middle Ages, in their criticisms and satires directed at social evils, should have shielded themselves from the church, which, moreover, employed symbolism in the promulgation of her own mystic dogmas. Hence it is that Dürer avails himself of this stratagem in the promulgation of his humanistic ideas by his drawings, which were sold at the fairs under the inquisitorial eye of the church; although the church, in spite of her severe punishment of humanistic activities, was unable to prevent the public appearance of the Reformation in Nuremberg after the year 1524.

Humanism involved a revival of Platonism and the hope of an assimilation of the antique with the Christian view of life—a fusion which after the destruction of Byzantium was advocated especially by the Greek scholars who had removed to Italy and by the secret societies founded by them and termed Platonic Academies. But at even an earlier date the contagious doctrines of Greek philosophy had permeated the Masonic teachings and given them their ethical content, as can be inferred, among other reasons, from the fact that the great Aristotelian Albertus Magnus was a member of the lodge in Cologne. Thus these two secret organizations, the academies and the masonic lodges, are united in the pursuit of the moral development of mankind, and seek this end in a fraternity which

has freed itself from church supervision. During Dürer's stay in Italy as a student in 1505, which took him to Bologna, he undoubtedly made the acquaintance of the academies there, as appears clearly from copper-plates like "Great and Little Fortune." On the other hand, in view of his extensive knowledge of mathematics and engineering he must have been associated with the Nuremberg lodge, and was probably even a member of it. That he publicly handled the ethical doctrines of the latter, which through their agreement with teachings of the humanists were already known to a large circle of the uninitiated, in the regular symbolic language, indicates that the most severely kept secrets in the lodge were not these teachings, but some ritual which is known no longer.

When we examine the picture of Melancholy in a purely objective fashion, we come to the conclusion, from a view of the most elevated figure, that of the writing angel, that the theme is some divine command which this being is communicating, a revelation or an ethical teaching. The content of the latter is drastically brought out, as always with Dürer, by a sharp contrast, the contrast in this case between the lower material handicraft and the higher symbolic labor, so that in the arrangement of figures the former is placed on a lower level, the latter on an elevated platform. On this level appears the prominent figure of the whole picture, a genius with mighty wings, much larger than the little angel, who in accordance with the old symbolism is represented as a small winged child. The leading figure is a woman in rich festal attire, a garland on her loosened hair, her head supported thoughtfully on her left arm. Her right arm rests on a book, probably the Bible, and in her right hand she holds an open pair of ornamented compasses with which she is drawing figures on the tablet on her knees suggested by the form into which her skirt is drawn. Humanistically interpreted, this genius is the personification of some virtue operating with the writing angel, and the use of the compasses suggests the activity of the masons. The explanation is given added weight by the polygonal structure with the ladder and the great building-stone leaning against it. But all this does not mean the completion of the work; it has only symbolic significance. In this the three great Platonic virtues, beauty, wisdom and strength, play a leading part as the means to human perfection—just as Raphael, for instance, treats them in the *Segnatura*—and are here evident as the content of the three main elements in the picture. First the angel, who sits on a round stone hung with a rich fringed cover, symbolizes wisdom because he is the means of divine revelation. At his left the

great winged genius, the prominent person in the picture, is Beauty. In her is symbolically represented the main interest of the fraternity; she is their guide and adviser, who teaches them to handle the compasses in the production of beautiful architectural figures.



MELANCHOLY.

Copper engraving by Albrecht Dürer, 1514.

Finally, at the right of Wisdom, Strength is represented, not in a personification, but by an indication of the result, by a symbolizing of labor as the principal object of the effective Masonic lodge. This lesson is taught by the great, many-sided building-stone, with the shaping-hammer at its side, the conventional symbol of labor. The

logical conclusion of this ethical teaching is the landscape in the background, with a sun breaking forth from rain-clouds and a diabolical creature who has no place in the calm scene and who is hastening to leave it, bearing a sign which labels him Melancholy.

This sad attitude of soul, which would to-day be called pessimism, is ascribed only to the fleeing, banished devil, not to the genius of Beauty—serious as this personage, in common with Dürer's characters in general, appears—nor to the picture as a whole, which is thus wrongly named. This general characterization of the engraving as the ethical content of freemasonry is borne out by the symbolic additions. In the first place it is significant that exactly over the angel on the outer wall of the polygonal structure the scales are hung, the well-known symbol for the judgment of the world and divine justice. This arrangement therefore characterizes the polygonal structure as a temple, the symbol for the perfection of all humanity.

Only two faces of the building are represented, before whose broader front sits the genius of Beauty. Beauty, according to the Platonic conception, is moderation and harmony of the soul; in technical masonry it is rhythm in architectural proportions. This genius has a secret to guard, as is indicated by the bunch of keys and the bag suspended from her girdle. The subject of the secret is indicated again by the articles on the temple wall, especially the hour-glass, the symbol of our fast fleeting life and the careful valuing of earthly and heavenly goods. On the dial above the hour-glass the hand stands between the figures 3 and 4, which can be distinctly seen with a magnifying glass. These two numbers play an important part in the figure that follows, which is a so-called magic square,—hung up likewise on the temple wall, and reading 34 in every direction.

16	3	2	13
5	10	11	8
9	6	7	12
4	15	14	1

If the reader will make the trial with the numbers from 1 to 16 written in the sixteen squares he will be astonished at the result. The same sum, 34, is obtained not only in the horizontal and vertical rows, but also in the diagonals, in the four smaller squares, in the middle square, etc. In the symbolism of numbers 3 is the number of completeness and 4 indicates the extension of space in four direc-

tions, to the right, to the left, upward and downward. Hence 4 is the symbol for the world and the house, moreover for the masonic lodge and the masonic fraternity. If these symbols are combined with the bell symbol above, the meaning is this, and may be put in the mouth of the genius as follows: "Here sits the genius of Beauty, whose efforts are directed toward securing harmony between God and the world, and in view of the transitory nature of life she invites an active interest in the symbolic temple structure, which represents a perfected world."

All these explanations are taken from well-known works on Christian symbolism and the symbols of the old Christian catacombs. The seven-runged ladder also, which leads into the temple, has its significance, as have the surfaces of the great building stone. We must assume that Dürer, the accurate draughtsman, has made a correct picture; and in fact any one who goes scientifically to work to secure the projections of this stone will be surprised at the many conclusions to be derived from a study of this traditional piece of apprentice-work. One surface is an equilateral triangle, another a regular pentagon, two are trapezoids and two irregular pentagons. An architect acquainted with old buildings recognizes the block as the keystone for the vaulted ceiling of a six-sided cloister room, a chapel with a round apse in which belongs the flat circular stone, whose center where the altar stands is cut with a double opening, all with symbolic significance. The keystone is to be so placed that the triangular side comes underneath, with the point toward the altar and the base toward the entrance. It is easy to reconstruct such a building, and the result opens up a wonderful perspective into some as yet unknown connection between the masons and the Templars, the order which was destroyed in 1313 and whose prototype for all their chapel structures is just the plan we have described. One more symbol is to be mentioned, the melting-pot which stands beside the stone, burning vigorously and ready to fuse the lead. This symbol is unknown elsewhere but can reasonably be assumed to indicate the Brotherhood fused together in love, as the clamps and braces are leaded and secured by the help of the flame.

We have already spoken of the landscape in the background, but we must add that there is no evidence of a comet, as some commentators insist; it is the sun breaking through rain-clouds and sending out somewhat exaggerated beams. If it were not the sun the rainbow could not be where it is, seen by the spectator with his back to the sun, so that he looks out of the picture. According to the old Christian symbolism the rainbow is a sign of peace and the

covenant between God and men. When this alliance with the Most High is perfected, the batlike, nocturnal devil's imp, Melancholy, flees from the temple and the scene. On the label there appears after the word which has led to so mistaken a conclusion, a figure 1 or an *i*. The scholars who insist on a series of four pictures dealing with moods of the soul, considered this drawing the first because they read a 1; but if it is the letter *i*, it indicates an abbreviated Latin word, appropriate to the general tone of the picture, for example *iacet*. Then it reads "Melancholia iacet," Melancholy falls in defeat or flees, which indicates the thought of the picture as a whole. Now if the old interpretation of the engraving, which makes the great winged genius the personification of Melancholy, is abandoned, and the new one accepted, the meaning of the articles scattered about on the ground is clear. They are the carelessly dropped, as it were discarded, tools of the trade at the feet of the winged genius, just as in Raphael's celebrated picture, Saint Cecilia discards the musical instruments which seem to her inadequate.

In contrast to the higher symbolic spiritual implements, these tools, pliers, beveling tool, plumb line, plane, iron band, saw and nails, represent incompleteness. But among them we see the sleeping dog, the ball, and an article which is not absolutely clear, but which is perhaps a vessel for incense. The dog, who lies very significantly under the round altar-stone, represents in Christian symbolism, on account of his watchfulness and fidelity, the priestly order, as is indicated by the phrase *Domini cancs*. When this order disregards its duty and, like the dog here, falls asleep, it belongs among the discarded tools and gives the laity who constitute the masonic fraternity the right to open communication with the Most High without clerical mediation. As a pendant to this could not the article lying near, an unused incense-vessel, the symbol for the prayers which are pleasing to God, indicate that this vessel, belonging to the priesthood, is also discarded and that in its place we have the loving alliance of those who seek perfection through their own efforts, symbolized by the melting-pot? The ball, elsewhere a mathematical sign of completeness, here standing for the earth, is probably also a symbol of earthly imperfection, in view of which the flight into purer regions of the spirit seems all the more necessary.

Many scholars undervalue Dürer's inventive independence. Thus we read in Dohne's *Kunst und Künstler*: "There is no reason for imputing profound thoughts to him; Dürer was no nineteenth

century philosophical thinker, but his was a genuine artist-nature, and in works like 'Melancholy,' 'Nemesis,' and others, we may be sure that he was working under the orders of learned patrons." Who of the Nuremberg humanists—Pirkheimer perhaps, or the town-clerk Lazarus Spengler—could have coupled with his philosophical training so intimate a knowledge of the practical demands of stonemasonry? It is just here that we have an evidence of Dürer's peculiar nature, which this ethically symbolic material, appealing to his mystic bent, fitted exactly. Hence this profound artist-philosopher, who sought to train his contemporaries in wisdom and beauty to strength, becomes for us a still far from exhausted source of the highest pleasure and the noblest teaching.

AN ORTHODOX CRITIC.

BY THE EDITOR.

IN reviewing *The Pleroma*¹ in the *Princeton Theological Review* of April, 1911, a very courteous but hostile critic, the Rev. Gordon M. Russell of Crawford, New Jersey, makes the following comment:

"The works of the author of this essay, and many of the other publications of the Open Court Company are not, as they claim to be, and no doubt honestly strive to be, merely unprejudiced scientific investigations in the field of Comparative Religion. They are part of a great modern propaganda. They voice the demand that all religions are to be explained as evolutionary in origin, natural in development and similar in aim and authority. Of course, they take for granted at the outset that the peculiar activity of the Supernatural in history and revelation as it has been claimed to be manifested in the Bible does not exist and never was so manifested.

We do not deny making a propaganda, but it certainly is exactly our intention to be unprejudiced and scientific. As to the term "supernatural" we must say that it is a word which has been frequently misused. The question is, what is natural and what supernatural. If we understand by "natural," lower nature, the purely physical and material, we must grant that man's spirit develops from the natural and reaches from the physical into a spiritual sphere which is a kind of supernatural. The term "supernatural" is justified for all those conditions which range above purely physical existence. The mathematician knows that mathematical truths, the theorems of geometry, arithmetic and logic, are above material existence. They are literally supernatural, for they apply equally to any kind of nature. In this sense we have pleaded that mathematical truths have a just title to be called supernatural. This supernatural element pervades all nature in the same way that God is believed to be omnipresent. In fact we go one step farther and

¹ Paul Carus, *The Pleroma*. Chicago, The Open Court Publishing Co., 1909.

claim that the mathematical truths, including logic and arithmetic, are part and parcel of God.

We make this statement to indicate that in our propaganda we do not take a onesided view but incorporate traditional conceptions into the world-conception of modern science. We see that the old contains many truths, but what dogmatism formulates in allegories and symbols condensed in the symbolical books as confessions of faith, we trace in the laws of nature as formulated by science.

Our kind critic continues, and here lies the main difference between his views and ours:

"Before considering in detail this essay we must therefore remember the fundamental position which underlies the author's work when he begins by denying as impossible one of the chief claims of Christianity, the immediate supernatural personal revelation of God to men chosen to receive this, and then adds to it the denial of another doctrine also everywhere insisted upon in the Scriptures, that the inspiration of the Bible is peculiar to itself and that therefore Christianity and Christianity *alone* is a true statement of the relation of God and man and of the unseen world as well. When these denials are postulated it no longer becomes possible to have a really scientific investigation to determine the truth of the religion of Christ. Should such an investigation be commenced, it should take note of these claims; and instead of utterly disregarding them or considering them as no longer anywhere believed, it should carefully investigate them, weighing the evidence pro and con. In this way it would be necessary to consider not only the origin of each religion and its similarity to others but also its effects and to judge whether, in the light of the influence of Christianity upon the individual and the race, there was not required a sharp distinction between it and all others, between its sacred writings and the sacred books of all the other race religions."

Although we do not deny an immediate and constant revelation of the world power above and within us that makes for righteousness, although we recognize its spirit in Christianity, although we concede that "God" is an appropriate name for it, we do not see that it reveals itself in Christianity *alone*. We see its dispensation anywhere, and we affirm that it is broader and wider and higher than the traditional Christian conception of God. In recognizing the truth that is in others, I do not see that the adherents of any one religion suffer thereby in any way. When Christians broaden by comparing their own spiritual treasures with the noblest thoughts of pagan sages they shall certainly not lose the divineness of their own.

All further criticisms raised by Mr. Russell are in questions of detail which ought to be decided by historical investigation. For instance in denying that Christianity owes more to paganism than to the Jews and that many ceremonies, and among them the idea

of eating the flesh and drinking the blood of the Saviour, are directly opposed to Judaism, he says:

"The Communion Service or the Last Supper is strictly parallel to a Jewish feast, in complete harmony with the Passover ritual and not heathen in origin. Even the symbolism is connected with that of the paschal lamb. Also the difficulties raised here did not seem to trouble either the Christians or the Jews of the first century and therefore it is not reasonable to suppose that they are real."

And yet we do not eat for the Lord's Supper a paschal lamb, but partake of bread and wine, using the same kind of wafers and a eucharist cup as the Mithraists.

We need not enter into the several points on which we agree with this representative of dogmatic theology. It is natural that he would find the idea of a God-man in the Old Testament while we regard it as typically a pagan and anti-Jewish idea. The idea of a dying God who rises to life again is common to almost all pagan religions while the Jews have no trace of it and scorn the ceremony of women lamenting for Tammuz in the temple of Jerusalem. The Jews object to this doctrine just as Mohammed disclaims that God is a father, saying in apparent reproach of the Christians, that Allah is neither begetter nor begotten.

Our critic claims that the name Nazarenes originated in the meaning of followers of a man born in Nazareth, but this is scarcely tenable, and we need not here repeat our arguments. The same is true of the Ebionites or "the poor" and there is little need to discuss the passage on Mark xii. 35-37. Here Christ declares that the Messiah need not be the son of David because David himself calls the Messiah "Lord," and Jesus argues, How can a father call his son, Lord? thus implying that the Christ need not come from the family of David. It is true that later redactions of New Testament scriptures insert a genealogy of Jesus which presents some impossible family trees for the purpose of proving his Davidian origin and we also find that in the mouth of the poor people Jesus is called "Son of David," but the passage in question is clear enough: Jesus proves from the standpoint of his age that the Messiah need not claim descent from David.

Mr. Russell insists on a thorough study of the Bible and it goes without saying that we agree with him in this. He says:

"This essay makes increasingly manifest the need of thorough Bible study. Its form is so attractive, its material so well chosen and its conclusions, on their face, so natural and plausible that it can only harm those who will not investigate for themselves. Truth is ever good and ever necessary, but half truths are exceedingly dangerous to those who are either too lazy to study and

think for themselves or are too ignorant to be able to distinguish and to understand. The only real antidote for this propaganda is a thorough knowledge of what the Bible really is and what it really teaches, and this can come only through study. A church or a body of Christians ignorant of doctrine and the Bible must be ever at the mercy of the latest plausible and tempting theory."

We are not surprised to find objections to the interpretation of Christianity as the fulfilment of the times in the sense of being the result of a long preparation in the history of mankind, and Mr. Russell insists that in addition to the natural conditions there was also present the supernatural element of Christ. He concludes his views as follows:

"The fulness of time came but it did not of itself produce the needed religion. Some of the elements were present, some of the outward emblems, in their form at least, were in readiness; but there was no life, no power, no incarnation of truth. The world was skeptical, tired, and hopeless. Then God sent forth His Son, and hope became reality; and the Power of the Spirit of God has ever since proved the uniqueness and exclusive right of the good news of Jesus Christ."

In conclusion we will say that our position is not anti-Christian nor anti-religious in any sense. It is true we have dropped many dogmas of traditional Christianity, but we have done so under the stress of their untenability before the tribunal of science and have after all retained their spirit, thus creating a new conception of religion which in spite of its radical conclusions is conservative in attitude; and we would save all that is true and good in the old while boldly accepting the truth of the new scientific world-conception.

Liberals are commonly vague. They only know that the old has become untenable and they mean to tear it down. The policy of *The Open Court* has been different. We unhesitatingly accept new truths without throwing away the old. We believe that science can find out what is true and what is untrue and we need not discard the old because it comes to us in the form of a wrong interpretation. In this sense we believe in, and we propose, a new orthodoxy which states the truth in positive terms so far as all explanations of philosophical and scientific truths as well as statements of historical facts are concerned.

THE CHRISTIAN CONTRIBUTION TO JAPANESE EDUCATION.

BY DR. SEKIJI NISHIYAMA.

HAS Japanese civilization been influenced by Christian missions? Baron Kikuchi, president of Kiyoto University and formerly Minister of Education in Japan, was asked this question by the audience in Carnegie Hall, New York, at the close of his interesting and learned lecture on "The Intellectual and Moral Development of New Japan" for the Civic Forum, February, 1, 1910. His reply was a prompt and decided negative, but he afterwards added the qualification, "Of course they have given inspiration to young Japanese students, through the characters of such men as Drs. Hebron and Harris, Fulbeck, Brown, etc."

Evidently Baron Kikuchi believes that the only good influence exerted by Christian missionaries upon the spiritual world of Japan, is the inspiration afforded by the subtle force of personal character of some of the representative missionaries from America to Japan.

I wish to reply to this international question in a somewhat more affirmative way. I am not a convert to Christianity nor am I any too favorable to Christians; yet I have no prejudice against the Christian movement in Japan.

Often valuable results come from the third of Hegel's three methods of investigation, thesis, antithesis and synthesis, and it is this procedure which I shall follow in contrasting Baron Kikuchi's antithetical point of view with some historical events in Japan, the consideration of which is important for the solution of this very natural question from Christians in the United States.

The Japanese people were under the charm of Buddhism for more than ten centuries. Three centuries ago Tokugawa Shogun, the Governor of Japan, realizing the undesirable influence exerted on the Japanese people by the Jesuit missionaries who had been

brought by the Dutch and Portuguese to Japan in 1548, issued an order prohibiting the practice of Christianity.

Notwithstanding this edict, enthusiastic Japanese Christians did not change their belief back to Buddhism, but carried their pictures and images of Christ to the Japanese temple, and prayed to Christ there. The Government, ignorant of this fact and supposing the people were praying to a Japanese God, concluded that a wonderful change had taken place in the belief of these Christian converts. This fact proves how deeply religious the Japanese are as a nation, in spite of the opinion of American critics who say that they are irreligious. Statistics report thirty thousand Japanese Christians.

Forty years ago there were hardly any schools for girls in Japan. This was the natural result of the national conviction which could not recognize the necessity and value of the education of girls. Perhaps our Japanese proverb shows the situation. "The woman seems wise, yet she has failed to sell a cow at a higher price." It is necessary to have intelligence and fine diplomacy for success in commerce, and woman was thought to possess neither. Hence commerce was a wise man's business.

Christian missionaries saw the difficulty. They discovered the national neglect of the education of Japanese women, and started at once to establish a school for girls. By their efforts several schools were opened in different parts of Japan, and the Japanese girls who have been educated in these Christian schools have proved to our people the good results of the education of woman.

Finally the Japanese Government recognized the great importance of educating the girls and in 1890 the number of public high schools for girls was increased to seven! The government reports for 1903 stated that the number of schools for girls had increased to 155 and the total number of their students was 35,546 under the direction of 1094 women teachers. It should never be forgotten that by word and deed, by work and inspiration the Christian missionary gave a strong impetus to Japan in causing our people to recognize the vital necessity of the education of women.

Quite a number of Japanese women are physicians, some have become journalists, and many are trained musicians and artists. Some Japanese girls too are entering the business world as clerks. These facts could not even have been dreamed of in the visions of a poet twenty years ago, and prove how rapidly our Japanese people adopt, assimilate and actualize a good idea.

The good results of the education of Japanese girls by the

enthusiastic efforts of Christian missionaries made two great steps in the progress of Japan, (1) an unchangeable belief in the desirability and necessity of the education of women, and (2) woman's position in Japanese society has been improved, because the Japanese girls who received an education showed that there was an undreamed-of capacity for companionship and efficiency in Japanese women, and therefore we Japanese should fully appreciate the debt our civilization owes to Christian missionaries in the education of our girls. This great contribution should be written in full in the history of the New Japanese civilization.

THE FISH IN CHRISTIANITY.

BY THE EDITOR.

A COLLECTION of the scattered stories of the fish in pagan worship, as treated in previous articles, would be of little interest to us were it not for the fact that the fish has also been for centuries a most sacred symbol in Christianity. In fact the fish has been identified with Christ, and we have found it pictured again and again in the catacombs of Rome where it is assumed to be an evidence of Christian faith, and what in addition is interesting and instructive is the coincidence that the symbol of the fish is quite frequently associated both in paganism and in Christianity with the symbol of the dove. Just as Lucian speaks of the sacredness of these two creatures in one and the same sentence, and as the fish and the bird appear together on funerary basins in China, so we find them often represented side by side on one and the same tombstone of the early Christians.

Christianity did not flash upon mankind in a finished state. It grew and adapted itself rapidly, but step by step in a normal process of evolution. Its sacred symbols, the cross, the lamb and the fish, were not ready-made and the type of the Christ ideal in art remained undecided for many centuries. We are told that for a long time Orpheus took the place of Jesus, and Christian archeologists have claimed that the substitution was made because during the time of persecutions Christians concealed their belief in Christ under a pagan symbolism. This interpretation however is forced. If their consciences allowed them to hide their faith under the pretense of a pagan cult why did they suffer martyrdom at all?

Historians have gradually come to the conclusion that the theory of the secrecy of early Christian worship and stories of Christian persecutions, though not untrue, have been greatly exaggerated, and it has been claimed with good reason that some persecutions were pure fiction invented for the edification of pious souls.

It is plausible that if people painted an Orpheus in their funeral chapels they believed in Orpheus, and when they no longer believed in the letter of the myth, Orpheus remained to them the symbol of immortality and as such they continued to depict him on their tombs. To those however who became Christians the figure of Orpheus found its fulfilment in Christ. Thus we see in the Orpheus pictures a pagan element that lingers longest. Far from being a substitute for Christ, we think that it was gradually supplanted by the picture of Christ.

It seems quite probable that for a while the pagan beliefs lingered with the Christians who clung to old customs as much as they cherished the new interpretation that had become dear to them. The more clearly Christian doctrines became defined, the fewer were the pagan elements retained, and those symbols alone continued in use which in one way or another had adapted themselves to the new religion.

This is best seen in the fish. The fish was dear to Christians before they knew why. Christians were compared to the fish, and this is accidentally done in the Gospels. Many of the apostles were fishermen, and Jesus promises them that they shall become fishers of men. In the same connection the kingdom of heaven is compared to a net (Matt. xiii. 47). The Jonah story is remembered in its symbolical meaning with reference to immortality (Matt. xii. 40; Luke xi. 32); further we read in the Gospels of fish meals taken in a mystical, almost sacramental, way with miraculous multiplication of food, as also after the resurrection of Christ in John xxi, a passage where it is told that fish are roasted on coals and eaten.

All these references to fish in the New Testament are of a general nature and nowhere can we find the slightest hint that Christ himself should be called a fish. Similar ideas are expressed in the old Testament. In Jer. xvi. 16 God promises to send many fishers, "and they shall fish" the children of Israel from among the Gentiles. Even Buddhism, as we have seen, represents Buddha as a fisherman, and in the same way Christ is originally not a fish but a fisher. Clement of Alexandria quotes a hymn which reads:

“*Λιτὴν μερόπων
τῶν σωζομένων,
πιλάγονε κακίας
ἐχθρῆς ἀγνοίας
κίματος ἐχθροῦ
γλυκερῆ ζωῆ δόξαζον.*”

“Fisherman of mortals
Of the ransomed heirs,
Sav’st from sea of evils,
From the heinous ocean
Fishes pure and holy
With sweet bait of life.”

The tradition that the Saviour was a fish was not unknown to the Jews, for the word fish in Hebrew, *Dag*,² being in number value 4+3, was identified with the Messiah, and the Messiah himself is called fish or *Dag*.³ In the Talmud the fish is the symbol of innocence on the basis of Micah, vii. 19, and the birth of the Messiah is to take place when Jupiter and Saturn meet in the constellation of the fishes (Pisces).⁴

In spite of the Jewish tradition Christ is not compared to a fish in the early church during the first century. So far as we know, the first thus to refer to him is Tertullian who lived from 150 to 230, a few years earlier than Origen; but Origen does not seem to have known of Christ as a fish, and we must observe that Tertullian is a Roman and the fish-symbol has its center in Rome.

Tertullian says in his essay on Baptism (Chapter I), "We little fish following the ΙΧΘΥΣ, our Jesus Christ, are born in water [baptism] and cannot be saved otherwise than by remaining in water." It is not sure whether Tertullian knew of the Christian interpretation of the Greek word ΙΧΘΥΣ which is an acrostic from the words Ἰησοῦς Χριστὸς Θεοῦ Υἱὸς Σωτήρ, "Jesus Christ, God's Son, Saviour." for this acrostic became prominent in Christian literature in the third and fourth centuries, and found its classical expression in the Sibylline oracles where it appears in Book VIII, verses 217 and following.

From the Sibylline books it has been quoted by St. Augustine (*De civ. dei*, XVIII, 23) and Eusebius (*Or. con. ad coetum SS*, XVIII). The acrostic itself is frequently mentioned in the fourth and fifth centuries especially by Bishop Optatus of Mileve (*De schismate donatistorum*, III, 2), Maximus of Turin (*Tractatus quatuor contra paganos*), and Paulinus (*Epis. XIII ad Pammachum*); and the idea of Christ as a fish grows on Christians until Severianus of Gabala says, "If Christ had not been a fish he could not have risen from the dead."

The origin of this symbol cannot be sought in the New Testament but must come from another, an independent source. Indeed it seems that the symbol was used before the interpretation of the acrostic had been invented. The fish was used in the catacombs mostly but not exclusively by Christians and its interpretation as ΙΧΘΥΣ seems to be secondary.

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³ See Buxdorf, *Synod. Jud.*, XXIV.

⁴ See Münter (*Sinnbilder*, page 49) who refers to *Abrahamel* and other sources.

The interpretation comes as an afterthought which endeared to Christians this pre-Christian symbol of immortality.

Strange to say, the Sibylline oracle spells the word *Christos* as "*Chreistos*." Another well-ascertained instance of the spelling *Chreistos* is recorded by Münter in his *Sinnbilder* on Plate I, No. 2, where a gem is pictured with an anchor and two fishes and the inscription "Ἰησοῦς Χρειστός." The spelling is assured in the oracles because the letters *c* and *i* have their special verses in this peculiar acrostic poem, but we must bear in mind that the spelling *Christos* was not as yet settled in the second century, for Justin Martyr used still another spelling, *Crestos*, which also is well assured, for Justin comments on its meaning in the sense of the Greek word *chrestos* meaning "useful," an unmistakable evidence that he himself prefers this spelling at least in the passage referred to. But we may add that otherwise the spelling *Chrestos* is the better version according to the best manuscripts, and we may therefore positively say that the spelling *Christos* has been decided on only since the derivation of the word "Christ" from the Greek *χρίειν*, "to anoint," has become universally accepted.

Obviously the original meaning of the word *Christos* is still an open question. The word *χρίειν* means more "to besmear" than "to anoint," and we may be sure that if it really had been intended as a translation of the Hebrew "Messiah," the Greek translator would have used a more dignified word. The probability still remains that the name *Christos* was the title of a saviour, used broadly among certain classes of people, and became finally established in the general sense of saviour corresponding to the Hebrew Messiah.

The suggestion has been made that *Christos* might be a corrupt form of the Sanskrit name *Krishna*, but how shall we account for the change of *n* to *t*? And in lack of any further evidence nothing positive can be said on the subject.

The Sibylline oracles date back to the beginning of the third century. Being a collection it is a matter of course that many oracles are of an older date.

An English translation of this acrostic by Neale was published in *The Open Court* of June, pages 332 and 333.

* * *

The similarity between Christian and pagan symbols can scarcely be accidental, and we become more and more assured of an historical connection by observing that among the tombstones containing the symbols of the dove, and especially of the fish, there are many

which must be regarded as doubtful while some are unequivocally pagan, and at least one is Jewish. Accordingly we have a connecting link between paganism and Christianity, and the peculiarity is that in all cases the fish serves as a symbol of immortality, and is therefore especially used in connection with funeral ceremonies. We see in the monuments of ancient Babylonians that the priests at the sick bed engaged in keeping away the goddess of death are dressed in fish skins, presumably in commemoration of Oannes or Odakon, which indicates that the dead have to become fish like Oannes in order to pass together with the setting sun through the ocean of death and thus survive this dangerous state of transition.

A crossing of the ocean becomes the symbol of the conquest of death, and thus the ship has, in the same sense as the fish, become a symbol of salvation. We find the emblems of the ship in the most ancient tombs of the Mediterranean races, and the Teutons in ancient times preferred to be buried in tree boats. We have reason to believe that some of these boats were never used in the water but had been made for the purpose of burial which goes far to prove that the underlying idea is of a religious or a symbolic character.

The church is commonly represented as a ship, and in Buddhism the same symbol has been used since the days of its founder. Since Buddhism spread and took root among the large masses, the Buddhist church accented this innovation by claiming to be a large vessel or Mahayana in contrast to the Hinayana, the small vessel or little boat of the older church. The Buddhist canon is full of references to what is called the ocean of life and death, symbolizing *Samsara*, the world of *Mara* the evil one, the deity of death. *Nirvana* is the safe shore, or the island on the other side of the water. *Buddha* passes over the ocean of life and death and walks on it as one would walk over flagstones, while his disciples who are firm in the faith will be able to follow him over the stream dry shod. The same story is told of *Jesus* and *Peter* in the Christian gospels.

Again for the same reason birds of passage, especially cranes and wild geese, have become symbols of transmigration and of immortality. We find them pictured in the frescoes of the Buddhist caves in India, and they are frequently alluded to in the folklore of Tibet, China and Japan, but they are less used as religious emblems in the West.

In this connection we will incidentally remark that the main symbol of Christianity, the cross in all its several shapes, as the simple Greek cross, the Latin cross, the swastika or Buddhist cross,

the *crux ansata* or hooked cross, i. e., the key of life of the Egyptians, was used before Christianity among all pagan nations, being regarded as a sacred symbol to ward off evil, but it has received the name of cross, and its interpretation as the martyr instrument on which Christ died, only in Christian times. Before the Christian era and in its first century this same symbol, the two intersecting lines, or the "thwart" as we propose to call its general form, was called the *signum salutis* or "the sign of salvation"; but since the second century this same symbol has been so identified with Christ's cross that the latter (though merely called "wood" in the New Testament) is now commonly thought to have had the form of a thwart.

The same process which changed the thwart into a cross has taken place with the fish. The fish, the ancient symbol of resurrection, continued to be used as an emblem of immortality, and was used as a talisman to ward off evil. The pagans used it as well as the primitive Christians, but the later Christians gave it a new interpretation. They saw in it a symbol of Christ the Saviour. The pagan interpretation was the more easily superseded as the original pagan significance had long been forgotten and its use had become a mere habit of tradition. The dove met with the same fate. It was the symbol of Istar, the Great Mother goddess, and became the emblem of the Holy Ghost, who was regarded in primitive Christianity as the mother of the Logos. The Koran still identifies Mary with the Holy Ghost, and if the word *pneuma*, spirit or ghost, in Greek had been a feminine noun as it is in Hebrew (*ruakh*)⁵ it is not improbable that the Christian trinity would have remained a trinity of God Father, God Mother and God Son, such as it was in several other religions, especially in Egypt where in many temples the trinity consists of Osiris, Isis and Horus.

Thus the dove naturally took its place as the emblem of the Holy Ghost and the passage in the New Testament in which it is said that the Holy Ghost descended upon Christ in the form of a dove canonized this emblem for all Christian churches.

If a new thought takes possession of mankind we invariably find that it assimilates the traditional customs but gives to them a new interpretation. The old forms remain but they are filled with new meaning. So it happened with the symbol of the cross, so with the dove, so with the fish.

The underlying meaning of them remained practically in all

⁵ רוח

cases the same in spite of the unlimited variety of applications. This is most apparent in the fish which, from the beginning down to Constantinian Christianity and even further, represented man's hope of immortality. It served as an emblem of the Saviour and a talisman for the protection of the soul on its journey through the ocean of death.

MISCELLANEOUS.

VERSES BY LI T'AI PO.

TRANSLATED BY JAMES BLACK.

[Li T'ai Po (705-762) was a wonderfully romantic figure and a born poet. The words he wrote of another poet may well be applied to himself:

“Still shall the poet's name a day-star shine
When clean eclipsed his lord's imperial line.
Inspired, he writes, and, writing, shakes the hills,
And, wrought the luminous line, with pride he thrills.”

For an account, all too brief, of his riotous youth, his glittering manhood, his embittered later life, the interested reader may be referred to Professor Giles's *History of Chinese Literature*.

The following extract from one of the prefaces of his “Collected Works” describes the occasion on which these verses were written, and gives a characteristic glimpse of the T'ang court and some of its personages: the Emperor Ming Huang-ti, the favorite T'ai Chen Fei, the eunuch Kao Li-shih, and the poet himself.

“Having obtained four species of peony, a red, a purple, a pink and a white, the Emperor ordered them to be planted in the palace grounds east of the Hsing Ching pond, fronting the Chen Hsiang pavilion, and when the time had come that the flowers were blooming in great profusion, the Emperor rode there one night in his night-chariot, and T'ai Chen Fei followed him in a wheeled sedan. He ordered also the best of the palace musicians to come thither, making sixteen instruments in all. Li Po, who was famous for leading the music, was about to start the musicians, when the Emperor suddenly said: ‘With those beautiful flowers and T'ai Chen Fei, why should we use the old songs?’ and he ordered Li Po to take the imperial tablets and write something new. Li gladly obeying, though still somewhat affected with wine, took the pencil and wrote three verses to the tune called ‘Ching Ping Tiao.’ The poem finished, he presented it to the Emperor, who ordered the musicians to try it with the music, and Li to sing it. T'ai Chen Fei, holding in her hand a costly goblet of West Liang raisin wine, received the song with smiles, and, wishing to do honor to it, the Emperor ordered the jewelled flutes to be used, that the music might be played in harmony, and he wished that at the end of each verse the melody might be prolonged. This he did to please T'ai Chen Fei, who having finished her wine, gathered up her embroidery, and bent before him repeatedly. Thenceforth the Emperor looked upon Li as the greatest of all the Hanlin scholars, and he ordered Kao Li-

shih to undo his shoes, which the latter considered a great humiliation. Another day, Kao-Li-shih, hearing T'ai Chen Fei constantly humming the song, said: 'At first you seemed to dislike Li Po intensely, what has made you change your mind?' T'ai Chen Fei was startled by the question, and replied (as she really disliked Li Po): 'How is it that those Hanlin scholars insult people so?' Li-shih replied: 'In comparing you with Fei Yen, surely he has insulted you greatly.' T'ai Chen Fei thought that truly this was the case. It seemed that the Emperor had many times desired to confer upon Li Po an official title, but had always been prevented by the influence of the palace women. (And so intrigues were renewed against Li which bade fair to cost him his life.) But Li, in the course of his travels, had once visited Ping Chow, and there made the acquaintance of a local ruler of Fen Yang, at that time serving with the troops, and him he had rescued from a certain punishment, and greatly encouraged, so much so that he himself came near being involved in the same trouble. This man had now accomplished some meritorious work for which the Emperor was to reward him with certain dignities, but he came forward and asked that his reward should be the ransom of Li Po. To this the Emperor acceded, being thus enabled to save the poet. Such was Li Po's knowledge of men, and such was the ruler of Fen Yang's manner of requiting a kindness shown him."]

Cloud-like her garments, and her face a flower.
 Spring zephyrs waft their fragrance through her bower.
 Surely I saw her on Chun-yu's magic mount,
 Or 'neath the glistening moon on Yao-tai tower.

A garland she, dew-drenched, rich, fragrant, fair.
 Sadly the Wu-shan maids with her compare.
 In what Han palace could you find her like?
 'T was art that rounded Fei Yen's beauty rare.

Imperial flower and kingdom-conquering queen,
 Both by the Emperor's smiling eyes are seen.
 Ill-will, that wind-like blows, be far from here.
 See; on the Chen Hsiang latticed fence they lean.

Note.—"Chun Yu mount," the hill of jade; "Yao tai tower," the jewelled tower; "Wu shan," the fairies' hill (all fabled, not real, places inhabited by beautiful women); "Han," the Han Dynasty, one of the emperors of which had a favorite named Fei Yen; "Chen Hsiang pavilion," a pavilion in the palace grounds at Chang-an, the T'ang capital.

"EVOLUTION OF THE DIVINE."

BY DR. JAMES G. TOWNSEND.

In addition to those incisive comments made by Dr. Carus on Mr. A. E. Bartlett's most suggestive study of a great theme, may I be permitted to add a few words of commendation and criticism? (See Mr. Bartlett's article in the June issue, and the editorial discussion entitled "The God-Problem.")

In the assertion that the mind must work in the circle of the "infinite and the eternal" Mr. Bartlett has made a brave plea for the sufficiency of the intellect to find a solution of the problems which confront it. "The universe

must submit itself to the critical review of the human intellect." He certainly is not in sympathy with that conventionalism which maintains that all the great religious generalizations have been made, all the fundamental things said. Indeed the knowledge we coordinate, the questions we ask, the ideas we conceive, the problems we assail are greater, nobler than any in the past.

Mr. Bartlett's theory is that the integrated soul of all, which Fechner calls "God," makes constant effort "to realize an ideal personality." And he says: "This ideal personality, which is the goal of evolution must also be looked upon as the potential *cause* of evolution." This looks very much like reasoning in a circle. And how does Mr. Bartlett know that the universe has sprung from a fundamental "force-entity"? And how can an unconscious, unintelligent "force-entity" have the passion for the "unfolding of an ideal personality"? And the question might be asked: Was there a time in the past eternity when this "force-entity" began to be?

Mr. Bartlett contends that this "force-entity" is possessed of "latent feeling, will and thought," and proves it by the "beneficence of nature," the prevalence of august moral laws, and the affirmation "that the creative essence hears our petitions because our aspirations invariably set in motion forces that gradually work out in our character the results for which we long" (a sentence that ought to be written everywhere in gold).

Now these contentions may be true, but if they are not the baldest anthropomorphism I do not know where to find it.

Undoubtedly many of our chief men of science no longer believe evolution to be the senseless raging of blind mechanical forces; they admit there is in nature something more or less psychical, a consciousness, an "impulse of progress," a ceaseless striving, a passion to produce a more perfect form, a "higher personality," some ever nobler goal. And with this view, that there is in the universe a divine element groping after law, order, beauty, truth, Mr. Bartlett is in accord; and he is so far a pluralist that he admits the divine is susceptible of growth, and that the universe may rise to self-comprehension in the human personality. As Professor Jacks intimates, our reasoning, our philosophy, may be one of the methods in which the absolute "becomes conscious of itself."

Mr. Bartlett further affirms that "if nature is evolving God, God must be already involved in nature." This assertion is very much like the arguments of the Catholic priests who thought they had demolished evolution by the phrase, *minus nequit gignere plus*. But men of science said there are increments not in the original substance, and Mr. Bartlett seems to imply this in his peroration. And why may not God meet new conditions, and find new problems awaiting him for solution?

Mr. Bartlett seems to think that evil "is not a reality but only an imperfect stage in development"; and Dr. Carus thoughtfully says: "Life is everywhere struggle and struggle is impossible without exertion, without conflict, without competition, without wounds, without occasional defeats."

But neither of them, in my judgment (I have not had the privilege of seeing *God an Enquiry and a Solution*) touch the heart of the awful problem. For evil is more than "imperfection" or "struggle." It is a black, pitiless, absolute, irremediable, degrading reality. I mean even something worse than the Martinique volcanoes or the cruelties of nature. Think of the millions of innocent children whose childhood, which ought to be pure and happy, is blighted! Think of the millions of peasants who because of foul conditions

and ignorance have lived for thousands of years in huts and hovels ankle deep in unnamable filth! Think of the millions who to-day live in the slums of the great cities!

Across the white page of Mr. Bartlett's "beneficence of nature" are these *black lines* of cruelty, ignorance, injustice, pollution and crime! And according to "monism" the absolute cannot be surprised, cannot be ignorant, cannot be mistaken. Then God is involved, implicated in his creation. According to "monism" the universe, or God, is one great conclusive entity outside of which is nothing. So evil must be an essential part of God. What then becomes of the divine goodness?

EDITORIAL COMMENT.

These comments on Mr. Bartlett's article have been received just as the Editor is leaving for Europe to attend the Universal Races Congress at London, July 25-29. Although we have not time to read them carefully we notice the last paragraph, and thinking that by the general term "monism" Dr. Townsend means to refer to our own views, we wish to urge that according to our conception of monism God is not an entity. We object to Dr. Townsend's identification of God and the universe. We repeat what we have said before, that God is that something, whatever it may be in the world, in the universe, in existence, which directs, helps, governs, rules it, and by the existence of which it becomes an orderly whole. God is that feature of existence which makes law possible, which produces reason, and through the prevalence of which rational beings develop; which makes man a human being, gives to him all his ideals, his rationality, his aspirations and the potentiality of rising higher and higher. This God-conception may frequently be called monotheism, and it is quite different from the old pantheism which identifies the universe with God. God is not the sum total of things; God is the law, the order, the governing principle which makes it possible that from physical forces the higher powers of rational and moral life can develop.

THE RT. REV. HIKKADUVE SUMANGALA. OBITUARY.

The Anagarika Dharmapala informs us of the demise of the venerable Hikkaduve Sumangala, the Buddhist high priest of Ceylon, in these words:

"Universally respected by the millions of Buddhists in Asia for his immaculate character and almost superhuman learning, the great and illustrious Buddhist Chief Priest, His Holiness Hikkaduve Sumangala, leaving thousands of scholarly pupils and the whole Buddhist world to mourn him, departed this world in his eighty-sixth year, on the morning of April 30 at the Oriental University at Colombo, Ceylon.

"Till the day of his passing away the late high priest was in good health, and never for a moment lost the spirit of cheerfulness which was an innate characteristic in him. European and American Orientalists held him in the highest personal esteem. Throughout the world of Oriental scholars there was none to excel this great gifted, self-sacrificing scholar. For nearly sixty years he was engaged in disseminating knowledge throughout the Buddhist world. In 1873 the principal Buddhists of Colombo invited him to take the presidential chair of the Oriental College founded by them, and since then he has been its devoted head.

"The Vidyodaya College so named by him became through him the foremost seat of Oriental learning in the world. Students from all parts of the Buddhist world came there to learn Pali, Sanskrit, Elu, mathematics, Indian astronomy, etc., and the high priest was kind to all his students.

"The late illustrious high priest was also the President of the Maha Bodhi Society.

"Buddhist kings sent valuable gifts to the high priest, and when the late king of Siam visited Ceylon his majesty paid reverential homage to the illustrious scholar. The yellow robe has been the sign of spiritual supremacy from the time of the Lord Buddha and crowned heads have bowed down to the symbol of wisdom and holiness since the days of ancient India. According to Buddhism the wearer of the yellow robe is above men and gods, and the Bhikkhu (monk) is a member of the Most Holy Church founded by the Lord Buddha 2500 years ago.

"In the late illustrious and saintly monk were found all the virtues required of a high character. He was born of a noble family in South Ceylon, became a novice when he was seven years old under the late illustrious monk Walane, and from his boyhood showed signs of phenomenal learning. He inherited the virtues of the succession of great monks of the Buddhist church founded in Ceylon by the son of the Emperor Asoka, 2200 years ago. If ever a person lived a virtuous, holy, self-sacrificing life it was this most noble personage, and his loss to the world is irreparable. He was the embodiment of phenomenal activity from the time of his ordination when he was 21 years old. His daily ecclesiastical duties began at 4 A. M., and he was active till midnight. He mastered the whole Buddhist law and scriptures, the Dhamma and the Vinaya, and the title conferred on him by the Buddhist Church was that of "Supreme Master of the Holy Three Pitakas." He was an honorary member of the Royal Asiatic Society of London, and of several Continental learned societies. He was the recipient of gifts from the late King Edward VII, when the latter visited Ceylon in 1875 as Prince of Wales. He was the Lord Abbot of the sacred temple of Adam's peak. Ever affable, full of solicitude, willing to help every one that came to him, by spiritual advice or instruction, he was loved by all, revered by king and peasant, admired for his marvelous learning, and we feel that with him the sun of Ceylon has set. Death is no respecter of persons, king or peasant, high or low, rich or poor, the wise or the foolish, but the good that we do remains and we find the good only in an individualized personality.

"The memory of the late high priest shall never die for he was the embodiment of all the high virtues found in human ideals."

An account of some of the academic honors conferred upon this Oriental scholar and of the rigors of the monastic life he led was given in our issue of May, 1910.

THE BUDDHA ANNIVERSARY.

The 2500th anniversary of the Buddha's attainment of enlightenment becomes the natural occasion for a revival of interest in the life and teachings of that great teacher. Vaman Baji Kulkarni, secretary of the Buddhyanugami Society, is making every possible effort to arouse the Buddhists around Bombay to an appreciation of their opportunities. He is not trying to inaugurate any independent movement but is in full sympathy with the corresponding

efforts of the Anagarika Dharmapala in Calcutta, nor does he wish to confine the interest to Buddhists alone. At a preliminary meeting held in April to arrange for commemorating Buddha's memory by a fitting tribute, he invited "all persons, all lovers of truth, rich or poor, whether Hindus, Mohammedans, Christians, Parsees or Jews, to attend and think over to do something substantial in memory of one to whom not only India but the whole world ought to be grateful." In his appeal the secretary pertinently remarks, "It is really a matter of great shame and humiliation that India with her sublime genius for hero worship has altogether forgotten her ideal hero."

The "memorandum of association" under which the Buddhagami Society is to be registered enumerates nine objects of the society. Besides general items with regard to spreading the doctrines of Buddha and celebrating his anniversary we find two of the objects named are "to promote universal brotherhood by abolishing caste, creed and race animosities; and to promote social intercourse among different classes and creeds by destroying caste and race prejudices," thus inculcating the principles of universal brotherhood from a Buddhist point of view.

SARDINIA'S CONNECTION WITH BABYLON.

BY ALAN S. HAWKESWORTH.

Dr. Luigi A. Milani, Ph.D., Professor of Etruscan Antiquities at the University of Florence, gives an exceedingly interesting paper of 31 pages on "The Sacred Things and Sacred Symbols of the Sardinians" in the *Hilprecht Anniversary Volume*. The article is illustrated by 44 pictures of prehistoric Sardinian antiquities; many of them now in the Museum at Cagliari.

This is the sole essay in the volume not directly bearing upon some Babylonian subject. And yet, as Dr. Milani shows, there was without doubt some connection between prehistoric Sardinia, with its queer *Nouraghes*—round-towers—and weird weapons on the one hand, and the culture of primeval Asia Minor, Phrygia, Egypt, and Babylonia on the other—a connection the closeness of which will possibly be the discovery of some future archeologist. Indeed, in this respect, every student of Egyptology will recall the "Shardana" of the Tell el Amarna tablets; the "Shardana" bodyguard of Rameses II, with their queer horned helmets, and especially the two solitary naval victories of Egyptian history, under Menephtah (1208 B. C.) and Rameses III (1180 B. C.), on which occasions the invading galleys of the "hosts of the sea"—Cretans, Dardanians, Sardinians, etc., were beaten off and annihilated. The Philistines indeed of early Israelitish history, with their variants, the Cerethites and Pelethites of David's bodyguard, were the debris and remnants of said invaders.

BOOK REVIEWS AND NOTES.

ZUR LEHRE VOM GEMÜT: Eine psychologische Untersuchung. Von Dr. Johannes Rehmke. Leipsic: Dürr, 1911. Pp. 115. Price 3 marks.

Professor Rehmke of Greifswald, author of a textbook on general psychology, has no patience with the modern psychology which he cites constantly as the "psychology without a soul," basing his own theory on the efficacy of the soul as a unit. He claims that the words "sensation," "feeling" and "idea" have no meaning without the assumption of an individual as a subject, that they are not specific notions but represent relational ideas.

"This individual (*Einzelwesen*) however," continues Professor Rehmke in his outspoken dualism, "that perceives, feels and thinks is not that familiar thing which we call 'man'. . . For man is not an individual at all, not even an individual composed of simple individuals as an object is made of atoms, but he is the constant unity of action of the individual's 'body' and 'soul.' However if man cannot be conceived as an individual, we cannot speak of him as perceiving, feeling and thinking, for only individuals can perceive, feel and think. Nevertheless man, this constant unity of action, unquestionably possesses such an individual, the soul; and that which in its relation to the individual 'soul' we call the soul's sensation, feeling or idea is conceived of in these words as the distinguishing singularity (*Bestimmtheits-besonderheit*) of the individual 'soul.'"

MOTHER AND CHILD. Being Letters from an Old Nurse to a Young Mother. By *L. M. Marriott*. London: Walter Scott, 1910. Pp. 126, Price 1s.

This little book appears as one of "The Red Useful Series" which contains besides popular works on hygiene books of such varied themes as *New Ideas on Bridge* and *On Choosing a Piano*. The book before us deals not only with the proper care and management of children but includes also general suggestions from furnishing of the nursery to the treatment of servants. It will be found of great practical value to young and inexperienced matrons. ρ

Arthur Baker, 700-714 East 40th Street, Chicago, an enthusiastic Esperantist, has written a brief Esperanto grammar, and being convinced of the usefulness of the language is anxious to make a propaganda for its general introduction, promising to send out free copies to any person sufficiently interested in the establishment of an international language. He solicits criticism and so he encloses a stamp for reply. He is pleased that Esperanto has been well received by more than 50 nations, but noticing that it has been criticized sometimes harshly, sometimes by irresponsible judges, he desires to reach thinking persons who wish to familiarize themselves with the new language and so to be enabled to form their own opinion.

Two Chicago professors of psychology, James R. Angell and Carl L. Rahn, introduce to the English speaking public Oskar Pfungst's explanation of Herr Von Ostand's remarkable horse which has become known to the whole world under its name Clever Hans. The English translation has been published by Henry Holt & Company, New York, 1911, and we can only say that it is a most important contribution to animal psychology. The frontispiece shows the owner of the horse by the side of Hans, placed before two black boards covered with figures and problems which the latter is ready to solve.

There is now before the house a bill to "establish in the District of Columbia a laboratory for the study of the criminal, pauper and defective classes." There is no question that such an institution is much needed, and buildings for a similar purpose have been made abroad under the supervision of several governments. Laboratories of this kind ought to be connected with all large cities, prisons, penitentiaries and their results made available for our criminal courts.

THE CHRIST MYTH

BY

ARTHUR DREWS, Ph.D.

Professor of Philosophy at Karlsruhe.

300 pages. Cloth, price \$2.25 net, post paid

THIS book is an able attempt to show that the origin of Christianity can be accounted for without the assumption of an historical Jesus. By a comparison of the myths current in the early Christian period with the Pauline Epistles and the Gospels the author reaches the conclusion that Jesus was not an historical figure but the suffering God of a Jewish sect, to whom the metaphysical speculation of St. Paul gave universal significance.

As a scientific and well-documented study in comparative religion the work is likely to be of much interest, even to those who are not able to accept the author's more extensive views.

“‘Die Christusmythe,’ by Arthur Drews, has stirred the heart of Protestant Germany and roused it into keen opposition. It is an essay in Christian mythology on lines similar to those followed in Mr. J. M. Robertson’s ‘Pagan Christs’ and ‘Christianity and Mythology.’ Only faint echoes of the controversy which Drews has called forth have reached our shores, but with the appearance of an English version his book is not unlikely to become a storm center of Christian thought here as elsewhere. As an illustration of the importance of the ‘Drews’ controversy in Germany we may mention that large popular meetings have been held in various places at which the question ‘Hat Jesus gelebt?’ has been discussed by scholars of the first rank.”—The Inquirer.

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An editorial in "The Monist" (January, 1911, page 19), entitled "Professor Mach and His Work," contains a biographical sketch based on information furnished by Mach directly, and this is the only account of his life that has hitherto been published.

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A few copies of ZARATHUSHTRA, PHILO, THE ACHÆMENIDS AND ISRAEL, pp. 460+xxx, (Chicago: Open Court Pub. Co., 1906, price \$4.00 net), are still to be had of Kegan Paul, Trench, Trübner & Co. and of the leading booksellers in Oxford at 12s. 6d. "He treats his subject thoroughly and exhaustively. . . deep and patient studies." J. J. Modi, Head Priest of the Parsi Colaba, Bombay, in the *Parsi* of Bombay, 1900. — "A wealth of learning and thought." *Nation*, N. Y., Aug. 30, 1906.

AVESTA ESCHATOLOGY COMPARED WITH DANIEL AND REVELATIONS, by L. H. MILLS, (published by the Open Court Pub. Co., 1908, 50 cents net). SAGGI DI LETTURE, TENUTE ALL' UNIVERSITA' DI OXFORD, SULLA RELIGIONE DELL' AVESTA, dal Prof. LORENZO MILLS. Being sections of lectures delivered in the University of Oxford, translated into Italian by an accomplished Italian man of letters upon his own initiative. Torino, 1909. To be had of G. Sacerdote, Turin, Italy. Pp. 75. Price, 2s.

The 31st volume of the *Sacred Books of the East*, the YASNA, VISPARAD, AFRINGAN AND GAH, pp. 400+xlvii, 1887 (same Author) is still to be had at 12s. 6d.; as is the ANCIENT MANUSCRIPT OF THE YASNA, collotyped in an unsurpassed manner in the actual size and color of the original, 770 photographs with Introductory Note by L. H. Mills, Ten guineas. This is the main document of the above-mentioned works, — for the presence of the original of it in the Bodleian, Mr. Mills is responsible, 1889.

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