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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.




A GRECIAN JONAH.
(See page 279.)

The Open Court Publishing Company
CHICAGO

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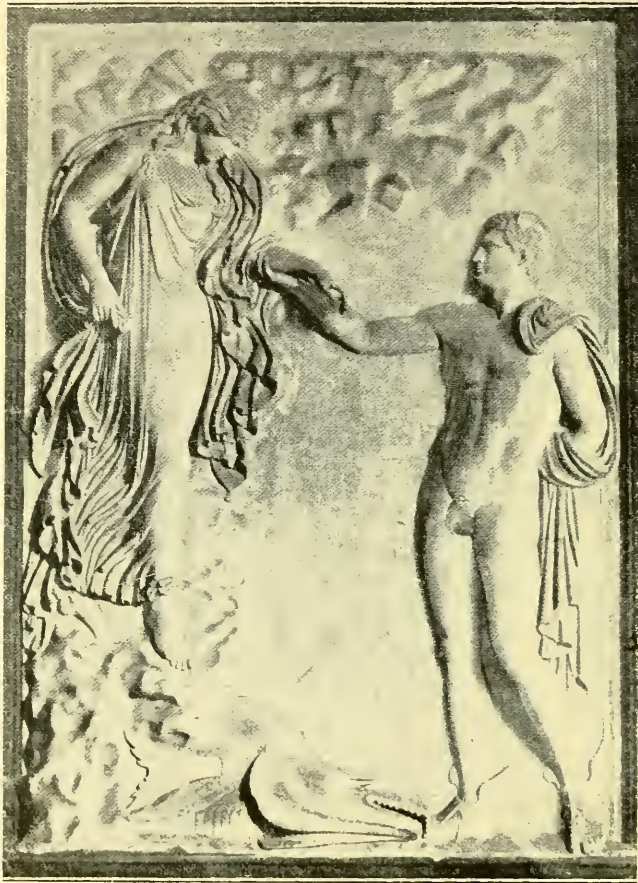
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PERSEUS AND ANDROMEDA.

Frontispiece to The Open Court.

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BUDDHIST TEXTS QUOTED IN THE FOURTH GOSPEL.

BY ALBERT J. EDMUNDS.

OUR somewhat provincial education has not yet made us realize that, at the time of Christ, India was one of the four great powers of the earth. The other three were China, Rome and Parthia. But India was the greatest intellectually, and her then most popular religion, Buddhism, was the dominant spiritual force upon the continent of Asia.

It is to be regretted that so few theologians and even Orientalists are acquainted with Pali literature. Our culture has too long been bounded by the River Euphrates, and the central fact of the world's religious history has not yet taken its place in the historical imagination of Europe and America. That central fact is this: The two greatest missionary religions, each emanating from a wonderful personality, started from the Holy Land of antiquity¹ and proceeded in opposite directions around the world. Each went as far as it could go until it reached the Pacific Ocean; and now, in Japan and the United States, these two great world-faiths are facing each other. Henceforth the Pacific Ocean, instead of the Mediterranean Sea, must be the center of our culture; and the two religions, instead of being enemies, must be friends.

It is well known that there are, in the New Testament, quotations from other literatures than the Hebrew and the books of its canon, as when Paul quotes the Greek poet Aratus² and Jude the apocryphal book of Enoch.³

¹ The region between the Ganges and the Nile. See *Buddhist and Christian Gospels*, "Historical Introduction."

² Acts xvii. 28.

³ Jude, verses 14 and 15.

In the Gospel of Mark there is a quotation, as if from Scripture, which does not occur in the Old Testament, but which Rendel Harris discovered in a midrash on Genesis ascribed to Philo.⁴ It evidently emanates from some early commentary or apocryphal work known to the Evangelist.

"I say unto you that Elijah is come, and they have also done unto him whatsoever they listed, *even as it is written of him.*"—Mark ix. 13.

Nowhere does the Old Testament foretell that the second Elijah will be persecuted. The quotation is therefore apocryphal or extra-Judaic.

Scholars have long been accustomed to such quotations, and are not astonished thereat when they spring from the literature that surrounded the Judæans. But modern research has made it clear that a wider range of influence affected the composition of the New Testament than the books of the Hebrews, the Greeks and the Romans. Heretofore, these have been our three classic nations, and their common lake, the Mediterranean, has been our central sea; but since the acquisition of India by the English in 1757, and especially since that of the Philippines by ourselves, the sacred books of Asia have widened our horizon. The Pacific Ocean is now our central sea, and to our classical peoples we have added several more, with India first and foremost. We have found that India was the home of the ancient fable, the mother of Æsop and of the Arabian Nights. A folk-lorist has traced Indian fables in the Jewish Talmud, one of which can be dated at A. D. 118.⁵

Three stories in the Christian Apocryphal Gospels are also found in that great Buddhist apocryphal gospel, the *Lalita Vistara*,⁶ which contains a poetical account of Buddha's early life, and was translated into Chinese in the seventh century, while a legendary life of Buddha, closely akin, was translated in the sixties of the first century.

It has also been discovered that the life of Buddha was translated into the language of Persia quite early in our era, and worked up into a Christian romance called *Barlaam and Joasaph*. This ancient church novel was popular all over Europe throughout the

⁴ Philonis Judæi Alexandrini libri Antiquitatum, Quæstionum et Solutionum in Genesisin. Basileæ, 1527, folio.

⁵ See *Æsop's Fables*; edited by Joseph Jacobs. London, 1889.

⁶ These stories are: the obeisance of idols to the divine child in a temple; his supernatural knowledge of the alphabet; and his being lost by his parents and found engaged in religious activity. These parallels are fully treated in my new edition of *Buddhist and Christian Gospels*. My attention was directed to them by the works of Pfeleiderer and Van Eysinga.

Middle Ages, from Greece to Iceland, while so late as the eighteenth century a Jesuit bearing the historic name of Borgia translated it into the Tagalog of the Philippine Islands! The name Joasaph or Josaphat (for it is written both ways) has been proven to be a corruption of the Sanskrit Bodhisattva, a title of the youthful Buddha; and the Indian saint, under this disguise, was canonized by both Greek and Roman churches. On the twenty-sixth of August in the Eastern communion and on the twenty-seventh of November in the Western, we have the singular spectacle of Catholic priests commemorating the Hindu thinker as a Christian saint.

Now it has been cogently argued by a European scholar⁷ that if Christendom could thus borrow from Buddhism in the sixth century, it could do the same in the first, for the same channels of intercourse were open. Indeed at the time of Christ this intercourse was at its height, for the geographer Strabo, who was writing in the twenties of the first century, when the youthful Jesus was a carpenter in Galilee, saw one hundred and twenty ships prepared to sail from a Red Sea port to India.

If this be the case, we need not be astonished at the following Buddhist text embedded in the Gospel of John, that most mystic and recondite of the four, charged, as it is, with the philosophy of Ephesus and Alexandria, where the thought of all nations found a home.

MIRACULOUS WATER PROCEEDS FROM THE SAINT.

"He that believeth on me, *as the Scripture hath said*, out of his belly shall flow rivers of living water."—John vii. 38.

"What is the Tathagato's knowledge of the twin miracle? In this case, the Tathagato works a twin miracle unrivalled by disciples: from his upper body proceeds a flame of fire *and from his lower body proceeds a torrent of water*. Again, from his lower body proceeds a flame of fire, and from his upper body a torrent of water."—*The Way to Supernal Knowledge*, I, 53.

The agreement is almost verbal between the Greek and the Pali, but the Evangelist has added the adjective "living." Still the passage cannot be found in the Old Testament.

Dean Alford, in his commentary, voices the despair of all the exegetes from the beginning, when he says: "We look in vain for such a text in the Old Testament, and an apocryphal or lost canonical book is out of the question." The learned dean interprets by making the body refer to the under part of the temple in an oracle of Ezekiel, wherein that mystic beholds rivers of living water pro-

⁷ Van Eysinga, in his work on Hindu Influence upon the Gospels. 1901 and 1904. New edition, 1909.

ceeding from beneath the holy place. But no such far-fetched theory is needful any longer, now that we have found a Buddhist oracle almost verbally coincident.

The Fourth Evangelist transfigures the passage, and converts the miraculous torrent of the magus into a spiritual river. The single adjective "living," with its prophetic associations, is enough to exalt the whole conception into a loftier sphere. At the same time we must remember that the Buddhists also found mystical meanings in their scriptures, and produced their Philos and their Origenes, as we shall some day realize more fully, when the vast literature preserved in Chinese is made known to Europe and America. "Living water" or "immortal drink" is also a Buddhist phrase, and in the Realist Book of Discipline (Tibetan) it is applied to Nirvana. The conception that lies behind the legend of the Twin Miracle is that of the microcosm: the saint is conceived as uniting in himself all nature, and hence in the water-meditation he is assimilated to water, and in the flame-meditation he passes away in fire.

Be it observed, that, in the Pali text, this miracle is "unrivalled by disciples," and indeed the summing up expressly says that Buddhas alone can perform it. But in the Book of Avadanas, which has Realist affinities, the Buddhist Daniel performs the Twin Miracle:

"From half of his body the water did rain;
From half did the fire of a sacrifice blaze."

Moreover, in the Pali texts themselves, Dabho the Mallian emits fire from his fingers to light the monks to bed, and finally passes away in the flame-meditation, a veritable Buddhist Elijah.

Similarly in the Gospel, the believer can accomplish the water-miracle, though of course in a mystical sense, in accordance with the higher plane of the Fourth Evangelist. Moreover, the latter is perhaps quoting some Buddhist book belonging to the Realist school, which predominated in Northwestern India, where the Greek empire adjoined. It is almost certain that such literature had found its way westward in that empire, perhaps in Greek, perhaps in Syriac. The recent discovery of Manichaean scriptures in Chinese Turkestan has prepared us for anything in the way of ancient distribution of sacred literature.

Now, while one case of the mysterious Fourth Evangelist quoting a Buddhist text as Scripture would be remarkable, two such cases are significant, and almost certainly imply historical connection, especially when taken together with the fact that other parts of the Gospels present verbal agreements with Pali texts.

And there is one other case where the Gospel of John quotes a Buddhist oracle as Scripture. It was first pointed out in *The Open Court* for February, 1900. Indeed it was placed at the very outset of my first series of *Gospel Parallels from Pali Texts*. It has been reprinted in subsequent editions of that collection, and last appeared in the fourth edition of *Buddhist and Christian Gospels*, Philadelphia, 1908-1909, Vol. II, p. 97. It is here reprinted once more.

THE CHRIST REMAINS [ON EARTH] FOR THE ÆON.

"The multitude therefore answered him. *We have heard out of the law*, that the Christ abideth forever [*εἰς τὸν αἰῶνα*, 'for the æon.']"—John xii. 34.

Enunciations VI, I, and Long Collection, Dialogue 16 (Book of the Great Decease. Translated in Sacred Books of the East, Vol. XI, p. 40.)

"Anando, any one who has practiced the four principles of psychical power,—developed them, made them active and practical, pursued them, accumulated and striven to the height thereof,—can, if he so should wish, remain [on earth] for the æon or the rest of the æon.

"Now, Anando, the Tathagato has practiced and perfected these; and if he so should wish, *the Tathagato could remain* [on earth] *for the æon* or the rest of the æon."

The words in italics agree with those in the Greek of John, except the mood and tense of the verb. Rendel Harris has pointed out to me that the tense of *μεινει* is ambiguous, being either present or future. This is because the oldest manuscripts are without accents. Tathagato is a religious title equivalent to Christ. Its exact meaning is still debated, but its analogy to Sugato is obvious, and Rhys Davids's translation of it as "truth-winner" is probably as near the mark as we shall ever get.

As our text occurs also in the Sanskrit of the Book of Avadanas (which has an independent transmission) its antiquity is certain. Moreover, the Book of the Great Decease and that of Enunciations are two of the oldest in the Pali, Enunciations being also one of the nine divisions of a lost arrangement of the canon.

The ascription of the saying in John to "the multitude" shows it to have been a current belief at the time of Christ. It is not a New Testament doctrine, though the physical second coming has been assimilated to it. Commentators have been at a loss to identify the Old Testament passage ("out of the Law") which is supposed to be quoted. The Twentieth Century New Testament proposes the Aramaic version of Isaiah ix. 7 as the source. The learned August Wünsche, in his work on the Gospels and the Talmud, says

that the source is unknown. Be that as it may, we have here a verbal Pali parallel:

ὁ Χριστός μενεῖ εἰς τὸν αἰῶνα = *Tathâgato kappam tittheyya.*

A kindred sentiment appears at the conclusion of Matthew:

"Lo, I am with you alway, even unto the end of the æon."

If we could be sure that the Evangelist was copying this from the lost Mark-ending or from the Logia, we could pronounce it a first-century document and an utterance of the Lord; but we cannot, and most Matthæan additions to the Synoptical record are suspect. It is quite likely that these words were added to the First Gospel after the appearance of the Fourth, with its doctrine of the Paraclete. On the other hand, we can date the first translation of the corresponding Buddhist doctrine into Chinese at about A. D. 68, and this in a popular manual which presupposes the vast body of the Sutras.

Another verbal agreement between John and the Pali texts (though not expressly quoted) is given in *Buddhist and Christian Gospels*, Vol. II, p. 79,

"I have overcome the world."

Other Johannine passages in the Buddhist canon may be seen in *Buddhist and Christian Gospels* and in *Buddhist Texts in John*, p. 16.⁸

Those curious about the proofs of the antiquity of the Buddhist phrase in question will find them in these works. The present article is merely the main substance of the shorter treatise, with the more technical matter omitted.

I do not hold that the Fourth Evangelist necessarily quoted from the Pali canon nor from any other of the numerous recensions of the Buddhist scriptures which were extant in his time. He may have quoted such, but, as one of my friendly critics suggests, he is more likely to have quoted from some Greek or Jewish book drawn from Oriental sources. It is well known that the earliest Christians quoted as sacred works any pious literature that forwarded their aims, and such a well-read man as our Platonizing Evangelist might easily quote some such from memory, without being very nice as to whence it came.

My general attitude toward the Buddhist-Christian problem is this: Each religion is independent in the main, but the younger one arose in such a hotbed of eclecticism that it probably borrowed a few legends and ideas from the older, which was quite accessible to it, as the intercourse between the Roman Empire and India was

⁸ Philadelphia, 1906: Innes and Sons, 1311 Sansom Street; London: Luzac and Co. (8vo, pp. 41.)

active. But there was no wholesale borrowing; the few things that may have passed over are of minor importance only, like the texts in John before us. My book, *Buddhist and Christian Gospels*, is not an exploitation of loan-theories, but a tableau of the two great world-religions. At the same time, the historical question could not be ignored, though it is treated as a side issue, not as the main thesis.

My essay on John was printed in 1906, and since then it has often been criticised. The late Otto Pfeleiderer considered that I had proved my case, as does also Paul Carus. Van Eysinga admits the Buddhist origin of the first quotation, but not of the second. James Hastings, while neutral, gave the essay respectful consideration in his *Expository Times*, while Rhys Davids wrote a congratulatory postal card, and gave me the permission to quote him as saying, "The evidences in favor of intercommunication are growing every day."

Though the Twin Miracle does not appear in the older books of the Pali canon, it appears in the Book of Discipline of the Realist sect, and is a favorite scene in Buddhist sculptures.⁹

The Buddhist gospel scene wherein occurs our second Johannine quotation was also a favorite subject in sculpture of pre-Christian antiquity, as may be seen in my own essay.

CONCLUSION.

Already in the eighteenth century Michaelis discerned a Zoroastrian and a Sabian influence in John; so that our present thesis is no radically new departure.

Had the Evangelist used without ascription the phrases and doctrines herein set forth, we might consider them due to a community of Oriental ideas; but his express quotation of two of them as Law and Scripture compel the inference that they existed in some sacred literature of the Apostolic age.¹⁰ The only known source of the two quoted texts is the Buddhist canon, which in the first Christian century was the most widespread of all sacred codes—covering even a vaster field than its great rivals, the Septuagint and the Zend Avesta, and being the dominant religious force upon the continent of Asia.

⁹ See Foucher, *Le grand miracle du Buddha*. Paris, 1909, p. 77.

¹⁰ Hostile critics overlook this necessary condition.

A WORD ABOUT TURKISH WOMEN.

BY HESTER DONALDSON JENKINS.

THE Turk is little known in America, and perhaps least of all is the Turkish woman understood. I have lived for nine years in Constantinople and have learned to love both Turkey and its women. I have grieved with them over the dark days that are past, and have rejoiced with them in the wonderful transformation that July 1908 made in their land, and I hope with them for the happy future of Turkey. And for none do I desire this future more than for its women to whom a free government brings a chance for growth and more abundant life.

Would that I could give an adequate picture of my Turkish friends; that I could convey the charm of their simple, gentle natures, their gracious and graceful manners, their low, warbling voices, and their lovely expressive faces; that I might waft over the seas the aroma of beautiful Turkish personality.

What are Turkish women like and what are their possibilities?

They are often not strong physically. They have known too little how to live, and careless and slothful habits have told on their strength. Nevertheless I see no reason why they should not, with proper training in exercise and knowledge of their own bodies become a vigorous people.

Dr. Nazim Bey, a remarkable Turkish patriot, a man who after receiving a fine general and medical education in Paris, assumed the disguise of a *hodja* or dervish and went all over Asia Minor arousing in people a hatred for the despotism of Abdul Hamid and a desire for freedom, and who was one of the organizers of the recent revolution in Turkey, has interesting views on the Turkish people. He told me that as a physician he had noticed that the mixed races were the strongest physically and intellectually, and that he based his ardent hope for the future of the Turks partly on their being a young race and uninjured by the use of alcohol and

absinthe. He said that the Turks had as yet given nothing to the world, that their native intelligence had been stifled by despotism, but that the time was soon coming when they would contribute to the world's knowledge and ideals. His ideas seemed reasonable and his fervor was contagious. "Mark my words," he said eagerly, "the world will hear from the intelligence of the Turks ere you and I are dead."

Others, Armenians and Europeans, agree with Dr. Nazim Bey on the native and undebauched intelligence of the Turkish peasant, and I see no reason why both men and women, once free to develop, should not form a fine race physically and intellectually. Women have not been regarded by the Turks as intellectually promising, as is shown by their proverb, "Woman's hair is long but her wit is short." But they are coming to take their place beside the men in intellectual work, as their success in writing, studying, and teaching amply demonstrates.

What occupations are normally open to a Turkish woman?

A Turkish *hanum*¹ almost always marries, in which case, unless she be poor, she sits at ease and is tended by her servants, not even darning her husband's stockings. Of course if she be poor all the household drudgery falls on her. Nevertheless there are some single women, widows or unmarried girls or a very few who do not marry at all, who need to work. What can they do?

They may become servants, but only in Moslem households; a Moslem would not work in a Christian house. They may sell sweets or fruit or *semits* in the woman's cabin or waiting room of the steamers, but they can never serve in shops for the general public. They may wait on women in the baths, and give massage or assist in the toilet.

There are no Turkish trained nurses, although there are some women who do a rough sort of nursing. After the granting of the constitution some women petitioned through the papers to be allowed to study nursing, and the best surgeon in Constantinople said he would admit a few women into his hospital for training, but the counter-revolution of April put a stop to all such movements for a time.

Another set of women petitioned Hamdi Bey, the curator of the Art Museum, to admit them into the so-called School of Fine Arts; he replied that it was impossible, as men were studying there and the accommodations were too slight to admit of women having

¹ A common noun meaning "lady"; used also as a title corresponding to "Miss" or "Mrs."

separate rooms, but that he would arrange later for Turkish women to study drawing and painting.

Gypsy women tell fortunes and dance for money, but no decent Turkish woman would do this. I suppose some could sew for a livelihood, but all the ladies of my acquaintance get their clothes made by Greek or French dressmakers. Cooks, bath maids, laundry maids, wet nurses, coffee servers, secretaries, readers of the Koran, are found among Turkish women. Old women hawk articles of dress, jewelry, embroideries and cosmetics from harem to harem, and carry local gossip, as do the New England sewing women. In the royal palace the female officials include the Lady of the Treasury, the Private Secretary, the Keeper of the Seal, the Mistress of Robes, the Lady Water-pourer, the Lady Coffee-server, the Lady Pipe-keeper, the Mistress of the Sherbets, the Lady Wet-nurse and Lady Chaplain, and other ladies in waiting.

The best occupation for Turkish women is teaching. The Dar-ul-Malumet school turns out a good many teachers in a year who give private lessons, become governesses, or teach in the schools exclusively for girls. Of course, the schools being few, this is not a large field. Women also become matrons of schools and orphanages. I call to mind a sweet-faced elderly lady who is principal or matron of the Industrial School for Girls, and who, they say, is like a mother to the orphan pupils in her charge.

Doing embroidery and making rugs are trades by which a girl may make a meager living, and earn a little dowry for her settlement in life. There practically exist no mills or factories in Turkey. Professional match-making, buying and training girls for the rich harems, and guarding the members of the imperial seraglio, are all occupations along the line of housekeeping. A profession that is coming to the fore since the revolution is that of a writer, this being one which a married woman can best follow, and which will increase in importance with the years. Partly because there are so few trades for women, a very large number are driven to the lucrative employment of begging.

The moral character of Turkish hanums shows the same lack of training that marks their physical and intellectual nature, but also shows great possibilities. A Turkish wife and mother is very loving and devoted, although seldom intelligently so. She has been sharply trained to modesty, but not at all to self-control, and will cry aloud or scream, and let herself go on in a way that shocks our western ideas. She is naturally intensely loyal, and this quality easily develops into patriotism. She has a great deal of natural

pride; in Turkey, even among the women, one never forgets that the Turks are the dominant race. In a mixed school the Turks and the English girls affiliate naturally, while the subject races form other groups.

A sense of truth has not been developed among Turkish women, for truth demands intelligence, and that the average Turkish woman has not possessed. That they can learn to regard truth very strictly is proved by my own experience with the absolute trustworthiness of Turkish women who have received an education.

In America the Turks have been judged, naturally but most unfortunately, by the cruel and tyrannical actions of their late sultan, Abdul Hamid II, and often also by the excesses of Kurds and Bashi bazooks, who, while they are Ottoman subjects, are not Turks at all. The world nevertheless has been forced to regard with surprise and admiration that wonderful bloodless revolution of July 1908, by which they threw off the shackles of a blighting despotism and in which they displayed not only heroism and power of organization, but such moderation and magnanimity as make the revolution one of the greatest national achievements. Again, when the treacherous sultan and his minions organized a counter-revolution in April 1909, and bathed Cilicia in innocent blood, and imperiled the newly-won liberty of Turkey, the Young Turks were prompt, decisive, and able in putting down both uprising and sultan, and still showed themselves untouched by rancor, a spirit of revenge or bloodthirstiness.

The splendid qualities of the Young Turks displayed in these cases as well as in the period of suspense before the outbreak in July, are also possessed by the women of Turkey. They too have shown heroism, self-sacrifice, love of liberty and of humanity, intelligence in service and the lofty quality of devotion to an abstract cause.

I will here describe a little of the work they have done for their country. The conscious preparation for the Revolution took about thirty years. A handful of people in Paris, among them Selma Hanum working with her brother Ahmed Riza Bey, and another handful in Turkey, had to arouse the whole slumbering land to a sense of horror of the tyranny under which they were supinely lying, and to a hope in the power of the Young Turk party to save them from that tyranny. In this work of education, women took their part. Several Turkish ladies refused to marry and gave themselves to teaching that so they might enlighten and stimulate such girls as showed promise of intelligence, and win their adherence to the cause. When the Young Turk party was well organized,

women served to carry their dangerous messages and papers from one harem to another, for a Moslem woman is never searched.

In Salonika, for years the headquarters of the Young Turk party, among the most disinterested and useful of these women was Gulistan Hanum. She had been educated at the American College for Girls at Constantinople, and when she married Asim Bey, a fine young man, she taught him English and became his friend and companion. She used to take a Boston journal, and culling articles from it that she thought would interest the Turkish women, translated and published them in Turkish journals in preparation for the revolution. Her work was recognized in Salonika, for when the constitution was proclaimed there, she was the spokeswoman for the Ottoman women of the city in an address to the leaders of the Young Turk party.

Women were used not only to carry messages but also to convert men to the cause. As an instance I will relate the story of a remarkable Turkish woman whom I count among my friends.

Halideh Hanum was educated in the American College for Girls in Constantinople. The government objected again and again to her taking a western education, and occasionally removed her from the college, but her father was so much impressed with her intellectual possibilities that he deliberately sacrificed his own future to keep her in school. She was a conspicuously fine student, especially in philosophy, astronomy and literature, and early showed a taste for writing.

After finishing her college course with distinction, she married and became the mother of two boys. During these years she wrote a good deal, essays and sketches for the most part, but could never publish them, as all original writing was checked by the government. But her literary attempts cultivated her style, while her personal experience disciplined her character, and her studies in Turkish history and literature sharpened both her intellect and her patriotism.

With July 1908 came the opportunity to use these qualities. She was lifted up to the seventh heaven of joy by the revolution, and seizing her pen she wrote a poetical outburst entitled "Address of Othman to the Third Army Corps," in which Othman, the founder of the Ottoman Empire is represented as glorying in the deeds of the Army Corps of Salonika that had accomplished the bloodless revolution. This article, so Oriental in its imagery and spirit that it is hardly translatable, brought her immediate fame. The editors of a newspaper, the *Tanine* or "Echo," destined to play a large

rôle in Ottoman politics, immediately engaged Halideh Hanum as contributing editor, and she wrote for it regularly under the name of Halideh Salih, the latter being her husband's name. She wrote careful, intelligent articles on such subjects as woman's education and curricula for new schools; she wrote burning essays on the griefs of the Cretan Moslems, and later on the cruel massacres of the Armenians near Adana; she wrote historical sketches of women who have swayed Turkish rule and rulers; and the people read all she wrote and called for more. Her old manuscripts were gathered up into volumes and she was asked to contribute to seven papers and magazines.

Halideh Hanum's husband, an able professor of physics in the so-called Turkish University, was put on the Ministry of Education with the avowed idea that he would speak not only for himself but also for his intellectual wife. She was asked to teach a new school, to organize women's clubs, to be honorary member of men's clubs. The soldiery sent her word that they adored her. There was not a busier nor happier woman in the world than Halideh Hanum from July 1908 to April 1909, and few women have been more influential. Throughout all this period she kept moderate, sane, and unselfish, never leaving off her veil, nor behaving other than as becomes a modest Turkish lady.

When the counter-revolution of April 1909 burst upon the astonished city of Constantinople, Halideh Hanum was temporarily carried down by the flood that threatened to drown all progressive and enlightened Ottomans. The office of *Tanine* was wrecked and all the manuscripts were torn to pieces. She was compelled to fly from Stamboul, and with her children took refuge in her old College. There she showed such endurance, such heroism as one seldom sees. Her cry was "my country, oh my country!" with no concern as to her own losses or danger. When the army of liberation marched into the city and freed it from the tyrant, and when Abdul Hamid was deposed forever from the throne he had abused, Halideh Hanum was one of the Young Turks who rejoiced solemnly over the restored liberties of Turkey. She has resumed her writing and will retain her eager, intelligent interest in Ottoman politics, as well as in the larger interests of humanity. Halideh Hanum, with her strong intellectual grasp, her trained pen and her beautiful idealistic character would be an honor to any country that she called hers.

Halideh Salih is not the only woman writer in Turkey. Ferideh Hanum has written for the papers; Niguar Hanum is a recognized

poet; one lady is writing a play with her husband; Meliha Hanum has translated some poems from English into Turkish. Of the literary work of Gulistan Hanum I have already spoken. The wife of Tewfik Fikret Bey, who is considered to be Turkey's foremost living poet, learned all his poems by heart in the old days, for fear that their papers should be seized and destroyed. Fatma Alieh Hanum has written several attractive essays on Moslem life. Several special women's journals were published in the winter of 1908-9, containing some very worthy contributions from women.

Of course the access of freedom that came upon Turkey in 1908 aroused great desire in the hearts of Turkish women for a fuller intellectual life. Clubs started up all over Constantinople, and the ignorance and helplessness of so many of the women combined with their eager desire for culture were pitiful. Women, as I said elsewhere, petitioned to be allowed to study nursing and art. I know one very talented girl, Rabieh Hanum, who without a single lesson in drawing or painting has taught herself to reproduce in black and white such great pictures as she could obtain. She is now hoping to study abroad. In the plans made for women's schools Selma Hanum and Halideh Hanum are constantly consulted and will probably have a large hand in working out details. They feel that there are no Turkish women as yet trained to take the direction and organization of schools for girls and that American or English women will be needed to start them, but I am sure Turkish women can be trained to make good teachers and will be quick to assimilate western methods. In the American College for Girls we find the Turkish girls very docile and eager to learn.

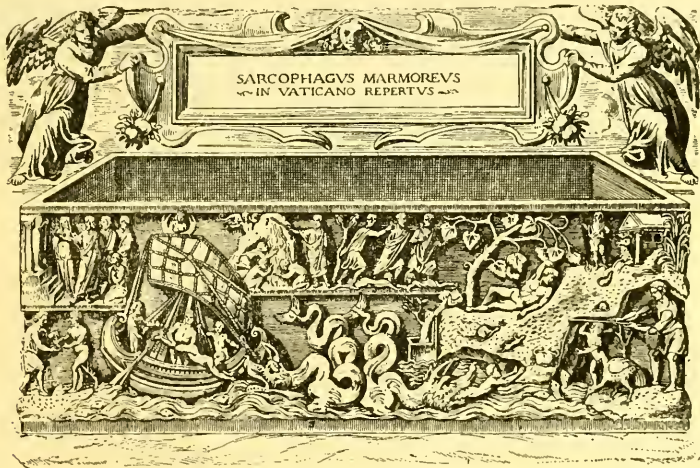
Have I not shown enough to produce a faith in the future of Turkish people that can count among them such inspiring intellects as Halideh Hanum, such disinterested patriots as Gulistan Hanum, such writers as Fatma Alieh Hanum, such pure souls and promising intelligences as are these Turkish women of whom I have written?

In that future day when Turkey shall take her rightful place among the enlightened nations, by the side of the brave, loyal men shall be found intelligent, loving and high-minded Turkish women.

THE JONAH STORY AND KINDRED LEGENDS.

BY THE EDITOR.

THE ancient tradition of the fish as a guide through the ocean of death reaches a new phase in those stories which have found their classical type in the Biblical Book of Jonah. The myth assumes a literary form and thereby the properly mythological features disappear; it is humanized, but the symbolic meaning of it



THE JONAH STORY ON A SACOPHAGUS.

Found on Mt. Vatican.

was still understood in the days of Christ. Being one of the latest additions to the Old Testament the story scarcely received its final shape much before the third century preceding our era.

The interpretation of the Jonah story is contained in a prophecy which Gospel tradition places in the mouth of Jesus himself, who says: "For as Jonas was three days and three nights in the whale's

belly; so shall the Son of man be three days and three nights in the heart of the earth."

The interpretation of the fish as representing both the powers of death and also the chance of resurrection, or of an immortality of some kind, is unequivocally expressed in the quoted passage. We may assume that this interpretation is the echo of a very ancient tradition and actually represents the original meaning of the myth.

The Book of Jonah is apparently not derived from an Israelite source. Its Gentile origin is indicated by the fact that its scene is laid in Nineveh the "Fish City." It is the only book of the Old Testament which speaks of the salvation and conversion of a Gentile nation. It is true the hero of the story appears to be, though he is not necessarily, a Jew, but he is sent out to pagans. He is sent not to convert them to Judaism, but to make them repent of their sins.



JONAH AT SEA.

Fresco in the Catacombs of St. Calixtus.

The moralizing tendency in connection with the legend ought not surprise us, for the same tendency develops in other myths. Think only of the moral lessons which accompany the Heracles story in its later versions where the solar hero from a boisterous and sometimes even mad athlete develops into a paragon of virtue and the ideal of a cosmopolitan defender of the right.

The Jonah story is not so isolated in comparative folklore as it might appear. It is true that the versions of it in the mythology of other nations seem to have disappeared, but traces of it are still left in Greek mythology, only the dolphin replaces the monster fish.

The dolphin is sacred to such saviour gods who are restorers to life as Apollo, Eros and Dionysus.¹ One Greek legend explains the connection between Dionysus and the dolphin in the story that

¹ Athene too is occasionally pictured as carrying a dolphin on her shield in place of the Medusa head. For an instance see a vase among the Athenian prize vessels in Springer's *Kunstgeschichte*, I, 102.

Dionysus was once caught by Tyrrhenian pirates who were changed into dolphins and then driven into the sea by satyrs. Thenceforward the dolphin was sacred to Dionysus.



DIONYSUS AND THE DOLPHIN.
Relief on the Lysicrates monument at Athens.

We cannot doubt that the original meaning has been obliterated in this legend which is artistically represented in the relief of the Lysicrates monument at Athens.

The best known legend of salvation through a fish is the legend

of Arion. It is said that Arion the minstrel was on his way to Corinth bringing with him many precious gifts which he had gathered while abroad. The sailors coveted his treasures and wanted to kill him, but granted him his last wish to sing before he died. Then the dolphins gathered around the ship and when he jumped into the sea, one of them carried him safely to shore. Arion, however, forgot to push the dolphin back into the open water, and so the unfortunate creature died on the shore. The king of Corinth ordered a burial as if he had been a human being and placed a bronze



ARION ON THE DOLPHIN.
A coin of Methymna.

dolphin on the tomb in commemoration of the marvelous event. When the sailors reached Corinth he summoned them to his palace and inquired after the fate of his friend Arion. They declared that he had died on the voyage and were ready to confirm the statement by oath. The king led them to the dolphin monument, but when they were ready to take the oath Arion stepped forth from the inside of the statue whereby the sailors were convicted of their crime.

We can not doubt that Arion was originally a god like Apollo, like Eros or Dionysus. His minstrel character he had in common with these three gods, and that he passed unharmed through the

sea on a fish's back symbolizes the soul's journey through death to new life.² In assuming a literary shape the myth has been humanized but in a different way than the story of Jonah. There may actually have been a bronze monument erected to the sacred fish, and the poet who adapted the tale to the taste of his age made Arion ride on the back of the dolphin and afterwards come out from within the monument. We must assume that in the myth Arion traversed the sea in the belly of the fish and on arriving he came forth from the real dolphin, not from the bronze monument. The connecting link may have been the dramatic performances of the legend in which this tradition was commemorated.

Another story less known but not less significant is preserved in the legend of Melikertes. But in this case the fish rescues the body of the victim, and so we are reminded that the hero must die and did die according to the old tradition. The legend states that



MELKARTH ON THE SEA-HORSE.

Tyrian coin. Below the waves is a dolphin.

Ino, the sister of Semele and aunt of Dionysus, in order to escape the wrath of her husband, King Athamas, threw herself and her youngest son Melikertes into the sea from the Molurian rock. She became the local goddess of those shores, helping sailors in distress. The body of Melikertes, however, was borne by a dolphin to the isthmus of Corinth and deposited under a pine-tree. The Corinthians instituted the Isthmian games in his honor, and coins of Corinth commemorate the event.

The name Melikertes seems to indicate that this form of the legend has been imported from Phœnicia, for the name Melikertes appears to be a Hellenized form of Melkarth. This derivation is further confirmed by the existence of a Tyrian coin on which Melkarth, lord of the city of Tyre, is represented as riding on a sea horse. The Greek word *Melikertes* would mean honey-winner, and

²Hermes lulled Argus to sleep by his music, and the same figure of a divinity of death is represented by the piper of Hamelin. The sirens too sing, and so also does the siren of the Rhine, the Lorelei.



COINS ILLUSTRATING THE MORE IMPORTANT FORMS OF THE GREEK
DOLPHIN LEGENDS.

From Usener, *Die Sintfluthsagen*, frontispiece.

For further particulars with regard to the dolphin coins (on the opposite page) see Usener, pp. 278-279. It will be noted that three out of the four Corinthian coins (10-13) picture Melikertes as alive riding on the dolphin in an upright position.

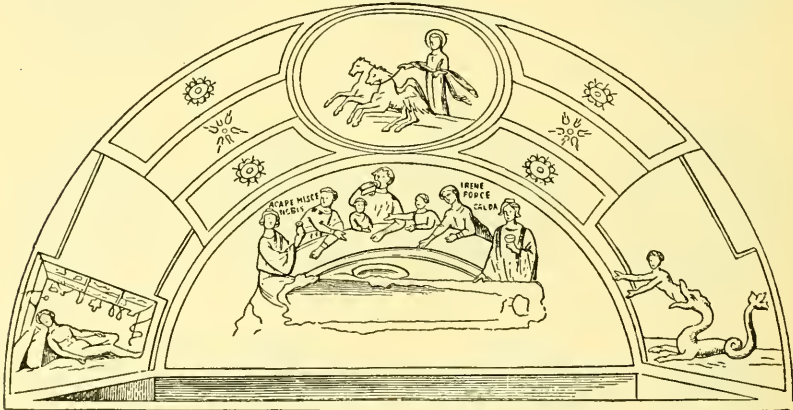
1. Bronze medallion of Maximinus from Anchialus: Aphrodite in upright position and at her left Eros on the dolphin.
2. Bronze of Antoninus Pius from Nicomedia: Eros turning the dolphin to the right.
3. Bronze of Elagabal from Perinthus: Eros reigning in the dolphin to the right.
4. Bronze of Gordian from Perinthus: Eros riding the dolphin towards the left.
5. An amber from Cyzicus: A man of the Tarentine type riding towards the left and holding in his right hand a tunny; below him another tunny.
6. Another amber from Cyzicus: A fully dressed woman riding on a dolphin towards the left with a wreath in her right hand and a shield in her left; below a tunny.
7. Bronze of the first century B.C., from Methymna in Lesbos: A man, clothed, sitting on a dolphin with his legs hanging down in front; in his left hand a lyre.
8. Bronze of Commodus from Methymna in Lesbos: A man, clothed, riding towards the left on a dolphin and turning backwards; in his left hand a lyre.
9. Bronze from Iassus in Caria: A youth with left arm thrown over a dolphin swimming toward the right.
10. Corinthian bronze of Marcus Aurelius: Melikertes stretched out dead on the swimming dolphin; behind him the sacred pine.
11. Corinthian bronze of Antoninus Pius: Melikertes standing upright with a mantle falling over his back, the dolphin facing toward the right.
12. Corinthian bronze of Lucius Verus: Melikertes as youth riding on a dolphin.
13. Corinthian bronze from the time of Tiberius: Melikertes as a child holding a thyrsus staff over his shoulder.
14. Silver coin of Ambracia: Athene-head with helmet; at her left a winged Eros sitting on a dolphin clasping his left knee with his hands.
15. Silver coin of Tarentum: A dolphin rider with a polypus in his left hand.
16. Silver coin of Tarentum: A dolphin rider facing the left; a mussel below.
17. Silver coin of Tarentum: A dolphin rider with inscription.
18. Silver coin of Tarentum: A dolphin rider facing the spectator and spearing a fish with a trident.
19. Silver coin of Tarentum: A dolphin rider holding a trident in the right hand and a round shield in the left.
20. Silver coin of Tarentum: A dolphin rider kneeling on his right knee and with spear and shield in his left hand.
21. Bronze coin of Brundisium: A dolphin rider with a cornucopia in his left hand, and a Victory standing on his right hand.
22. Bronze coin from Paestum: Eros riding on a dolphin holding in his right hand a wreath and in his left an upraised trident.

in Greece his name was associated with the honey cult, but it has originally as little to do with honey as Heracles with the goddess Hera. These explanations are mere afterthoughts suggested by accidental similarity of sound. One coin here inserted (the last in



CORINTHIAN COINS IN HONOR OF MELIKERTES.

our illustration) indicates that Melikertes was originally a god of vegetation, because he is surrounded by ears of wheat and other symbols of vegetable life. Hans Schmidt in his scholarly book on *Jona* (Göttingen, Vandenhoeck & Ruprecht, 1907) points out that



JONAH IN THE CATACOMBS.

in the two stories of Melikertes and Arion the artistic sense of the Greek has obliterated the grotesque features of the myth which appear natural in Oriental religions but are offensive to Greek taste.

The story of salvation through the fish must have been very popular, for it was told and retold and changed in different versions. Hellanikos in an incidental comment (*apud. Schol. Iliad Y. 146*) relates that Heracles in delivering Hesione, the daughter of King Laomedon of Troy, descended into the belly of a dragon and slew him by cutting his intestines, which was a task of three days' labor. The monster was of such a nature as to burn the hero's hair by the internal heat of his body.



JASON COMING OUT OF THE DRAGON'S MOUTH.
From an Attic vase.

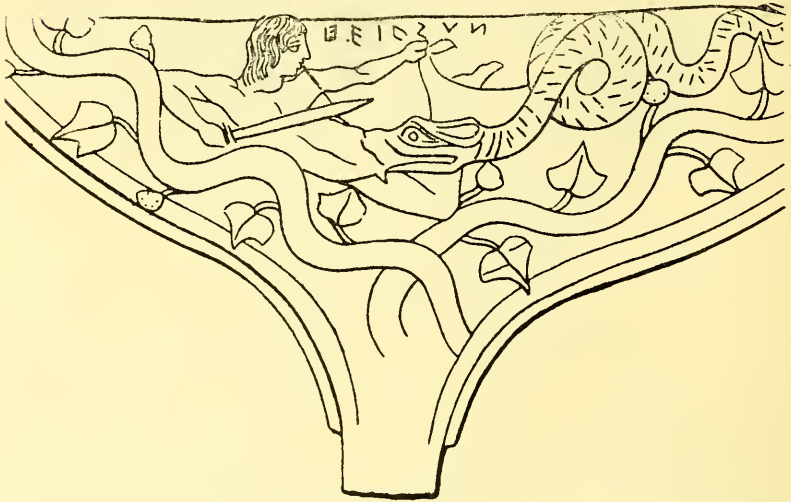
This adventure is quite isolated and is not enumerated among the twelve labors of Heracles; yet it finds another parallel in the story of Jason not mentioned in the legend, but repeatedly represented in art. There is a vase picture which shows Jason coming out of a dragon's jaws in a fainting condition. Before him stands Athene assisting the hero in the accomplishment of his feat. Happily Jason is identified by an inscription and Athene by the medusa head on her breast and an owl which she holds in her left hand. Otherwise in the absence of all information in Greek literature we

would be at a loss what to make of the picture. Nor is this motive in ancient art isolated, for an Etruscan metal mirror pictures Jason,



A CHRISTIAN VERSION OF THE FISH AS AN ENEMY.

The angelic figures representing the three persons of the Trinity attack a monster and a fish which stand for Behemoth and Leviathan.



JASON SWALLOWED BY A SERPENT.

Ornament of an Etruscan mirror.

who is identified by an inscription, sword in hand as being swallowed by a snake-like monster.

The Jonah story differs from the myth of Heracles in so far

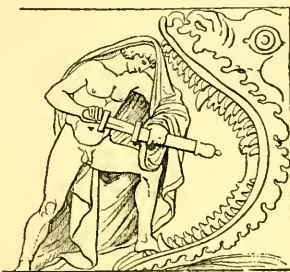
as the fish has changed into a monster which must be struggled against and conquered. The fish as a saviour changes into the power of death from which man's life must be rescued. This ap-



PERSEUS IN COMBAT WITH THE GREAT FISH.

Hydria in Berlin Museum.

pears not only in the stories of Heracles and Jason but also in their variant, the story of Perseus and the rescue of Andromeda, which is most dramatically represented on a hydria, a water jar preserved



HERACLES ENTERING THE JAWS OF THE MONSTER.

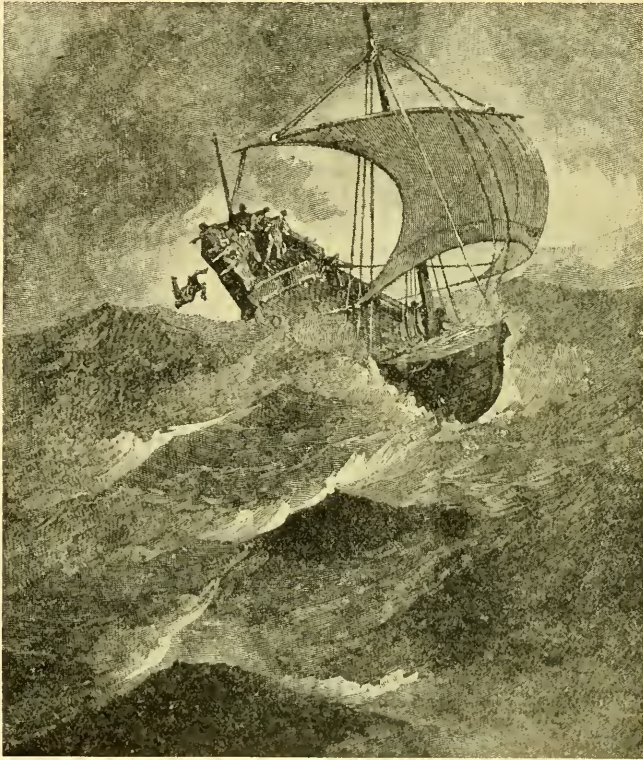
Etruscan vase picture of Perugia.

in the Berlin Museum. We see Andromeda tied to a rock; to the right and to the left are her parents, and underneath in the water, which is indicated by the presence of fish, Perseus with a sickle

sword in his right hand and a lance in the left struggles with the monster.

The rescue of Andromeda was a favorite subject with Greek artists, and our frontispiece shows one of the most beautiful marble reliefs that have come down to us from Greek antiquity.

We know nothing more about these legends, but the indication



JONAH THROWN OVERBOARD.

Typical Christian representation by Fred. B. Schell.

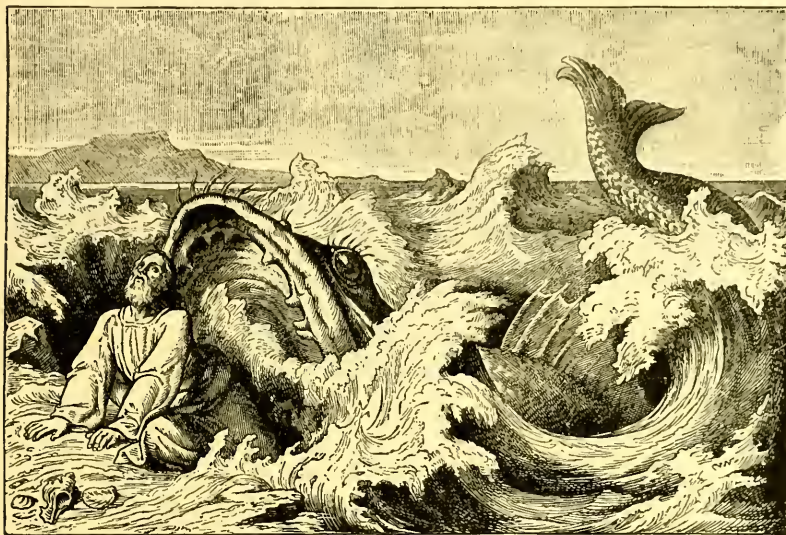
is sufficient to prove that there were myths current among the Greeks after the pattern of the Jonah story.

It is peculiar that Hellenikōs makes Heracles stay three days in the belly of the monster, and this is the same time attributed to Jonah by Jesus and to his own sojourn in the "heart of the earth," which means the abode of death.³

³ For an explanation of the number three, three and a half, after three days, etc., see the author's article "The Number π in Christian Prophecy," published in *The Monist*, Vol. XVI, p. 415.

While the Jewish prophet plays the part of a patient sufferer, being swallowed and spit out again, the Greek heroes enter the dragon's jaws not in passive submission, but with sword in hand as energetic fighters, determined to conquer the monster and gain their salvation not through prayer by the mercy of God, but through their own valor.

Though nothing can be positively stated it does not seem probable that the biblical story of Jonah has been derived from a Greek source, and if we consider that it has been located in Nineveh, the great Assyrian metropolis, we may assume with great plausibility that we shall have to seek the immediate source of the story in



JONAH REACHING THE SHORE.

Typical Bible illustration.

Assyria, perhaps through a Babylonian medium. That we have not yet been able to trace the original in the ancient monuments is no refutation. At any rate there is no reason to seek its source in a more distant country, as for instance India, where Pischel locates it. Whether or not this hypothesis be correct, it stands to reason that ultimately all the legends of the fish representing death with the power to save date back to a prehistoric source in which animal symbolism was an essential feature of religion.

We may mention in this connection that the idea of magicians living in the belly of a fish occurs also in other quarters of the

world, but the similarity of this idea to the Jonah story is only in appearance. Mr. Albert Niblack publishes an interesting report about the Haida Indians in an article which appeared in the Report of the U. S. National Museum, 1888, p. 231, under the title "*The Coast Indians of Southern Alaska and Northern British Columbia.*" There a medicine man is mentioned who inhabits a big fish, and the adjoined picture shows this *soi-disant* Haida Jonah in the belly of an orca. He is a kind of Indian werwolf called skana, for it is stated that he can change his shape into any animal, but his common lodging is an orca or whale. Mr. Niblack (pp. 322-323) quotes Judge Swan as saying:



THE HAIDA JONAH.

"He can change into any desired form, and many are the legends about him. One which was related to me was that ages ago the Indians were out seal-hunting. The weather was calm and the sea smooth. One of these killers, or black-fish, a species of porpoise, kept alongside of a canoe, and the young men amused themselves by throwing stones from the canoe ballast and hitting the fin of the killer. After some pretty hard blows from these rocks the creature made for the shore, where it grounded on the beach. Soon a smoke was seen, and their curiosity prompted them to ascertain the cause, but when they reached the shore they discovered, to their surprise, that it was a large canoe, and not a Skana that was on the beach, and that a man was on shore cooking some food. He asked them why they threw stones at his canoe. 'You have broken it,' he said, 'and now go into the woods and get some cedar withes and mend it.' They did so, and when they had finished the man said, 'Turn your backs to the water and cover your heads with your skin blankets, and don't you look till I call you.' They did so, and heard the canoe grate on the beach as it was hauled down into the surf. Then the man said, 'Look, now.'

They looked, and saw the canoe just going over the first breaker and the man sitting in the stern; but when it came to the second breaker it went under and presently came up outside of the breakers a killer and not a canoe, and the man or demon was in its belly. This allegory is common among all the tribes on the northwest coast, and even with the interior tribes with whom the salmon takes the place of the orca, which never ascends the fresh-water rivers. The Chilkat and other tribes of Alaska carve figures of salmon, inside of which is the full figure of a nude Indian. . . . Casual observers, without inquiry, will at once pronounce it to be Jonah in the fish's belly, but the allegory is of ancient origin, far antedating the advent of the white man or the teachings of the missionary."

Mr. Niblack expressly states that we have here no echo on the biblical Jonah story because the legend antedates the appearance of the white people. We might add that in other respects too the story bears no resemblance to the tale of Jonah or any of its kindred versions. The similarity is only in the appearance of the picture, which is quite incidental, but back of it there is after all a connection between the two through the aboriginal belief in the magic power of the fish, who among the Haida is identified with a great medicine man inhabiting the ocean and regarded by the Indians with great awe.

THE CARPENTER OF NAZARETH.

BY EDWARD DAY.

AMONG those who have not thought to question the existence of a Galilean teacher, known to later time as Jesus, there must be some who have frequently asked themselves most seriously if after all this man's original name has not been lost. Was the name "Jesus" the name given him at birth? Was it the name which he bore in childhood and by which he was known as he began to associate with his fellows as a man among men? We raise this question, not in any spirit of hostility or of irreverence, but frankly and sincerely. We feel that we are bound to do this, that modern criticism has reached the point where it must face the question of the historicity of the Nazarene and that the question here raised has an important bearing upon that. There are a few considerations that should seem worthy of serious attention.

In the story of the annunciation found in Luke i. 28 ff. the angel is represented as saying to the young maiden Mary: "Behold, thou shalt conceive in thy womb and bring forth a son, and shalt call his name Jesus." And in Luke ii. 21 we read that upon the eighth day when the child was circumcised this son of Mary was called Jesus, and that he was so named by the angel before he was conceived in the womb. Unquestionably we have here an allusion to Luke i. 31. Turning to Matthew we find we are told that an angel appeared to Joseph encouraging him to take Mary, his betrothed, to wife, though she is with child, because that which is conceived of her is of the Holy Spirit. The angel is made to add: "And she shall bring forth a son, and thou shalt call him Jesus, for he shall save his people from their sins" (See i. 20 f.). In i. 25 we are told that Joseph, who had then taken Mary to wife, upon the birth of her first-born son, called his name Jesus.

That the two accounts here found in the "Gospel of the infancy" passages of Matthew and Luke as to the naming of the son

of Mary contradict one another we are hardly warranted in saying, although they seem to be parts of independent legends. We, however, may feel that scholars are not justified in asserting that they are perfectly harmonious and at the same time supplementary, that Matt. i. 20 f. follows Luke 1. 31, while Matt. i. 25 is not contradicted by Luke ii. 21 which follows Luke i. 31. What we are interested to notice is that they have little, if any, worth to the student of the life of the Nazarene, for they undoubtedly were later than the Gospels at the opening of which they were put. At the most we can only say that when the legendary "Gospel of the infancy" took shape it was very generally supposed that the name "Jesus," by which the Nazarene was then known, was the name that was bestowed upon him at birth or shortly thereafter.

The name "Jesus" is recognized as virtually the same as the Hebrew "Joshua," a common name in Old Testament story. True, it really is not the earlier and usual form but a later and less common form, "Jeshua," and might be rendered "Jesu." The Greek form of the name seems to be responsible for the final *s*. The earlier Hebrew form has not the force of "deliverer" or "saviour"; rather does it suggest that the bearer is "helped of Yahveh." The later form is from a Hebrew verb meaning "to deliver," "to save." Hence "Jeshua" was taken by a free etymology to have the signification of "deliverer" or "saviour" to those who knew and followed the Nazarene.

Scholars who look with less favor upon the material in Matthew and Luke having to do with the birth and infancy of the Master than the later synoptic material may question not unreasonably whether the Carpenter of Nazareth really was called "Jesus" before he had a considerable following in Galilee. After once he had, as the foe of a dead ceremonialism, a dreary legalism, and a hypocritical faith, stirred up all Galilee with his winsome doctrine of the Kingdom of God it is fairly supposable, even if he had not been so known before, that this carpenter would now be enthusiastically proclaimed as their deliverer, that is, as their Jesus.

It is said in Mark vi. 1-3 that when he came into his own country with his disciples and began to teach in the synagogue many hearing him marveled and asked: "Is not this the carpenter, the son of Mary?" In Matt. xiii. 55 the form of the question differs somewhat, but it is substantially in harmony with this. If Mark vi. 1-3 is the older and more reliable form, as seems likely, then we may say that this Galilean had already become known in his home community, and presumably outside of it in Galilee, as "the Car-

penter." Certainly the supposition that he was so known seems probable. If this was the case and if afterward, as his ministry increased in popularity, he were given the most appropriate designation of "Jesus" (Deliverer), we may very reasonably ask if his real name was not lost or ignored as of no particular consequence. Had he been named after his father, as it is likely he was, his name "Joseph" ("whom Yahveh increases") would have no particular significance to his enthusiastic followers, while the term "Jesus" would have.

A partial solution, if not the key to the problem, may be found in Josephus. Galilee in the time of Roman domination was in a state of constant revolt. The people were free, liberty-loving and fearless, though sadly wanting unity. Earnest patriots as partisan zealots and many less nobly endowed were able to secure a few hundred followers here and there and give the Romans, if opportunity offered, no little trouble. The book of the Acts is in agreement with Josephus just here.¹ But the thing to be noticed is that according to the latter several of these men were known by the name of Jesus.

While it may be admitted that the name "Jesus" is one which we would naturally expect to encounter often in Jewish story the fact that a considerable number of leading Galilean patriot leaders, who seem to have led their separate companies in revolt against the Romans, or to have been guilty as outlaws of lawlessness near the beginning of the Christian era, bore the name of "Jesus" is specially significant; for in the mind of the masses the Nazarene carpenter must have been associated with the thought of unfriendliness to the government. The gospels are not without marks of this. Turning to Josephus we see that a Jesus, son of Sapphias, as a leader of a seditious tumult of mariners and poor people, is mentioned in his *Life*.² Another Jesus is named by Josephus as a man who came against him with eight hundred men and fought him and his forces (*Life*, sec. 22). He is said to have been a captain of robbers; but it is to be surmised that the Jewish historian is hardly fair in so characterizing him. It is presumable that he was an acknowledged patriot leader in Galilee among its most reputable people. Josephus also speaks of a Jesus, son of Shaphat, the principal head of a band of outlaws who were potent men among the seditious who troubled Valerian. Here we encounter another patriot (*Wars of the Jews*, III, IX, 7 and 8). It is likely that there were a goodly number of

¹ See Acts v. 36 f.; viii. 9 ff. Cf. Dr. Carus's *The Pleroma*, p. 43 f.

² See sec. 12; cf. sec. 27; see also Graetz's *Hist. of the Jews*, Vol. II, p. 274.

others who were popularly known by the same title "Jesus." That the original names of these men were lost or forgotten when they were given the name "Jesus" by some of their zealous followers is what might have been expected.

This supposition has an important bearing upon the question whether the carpenter of Nazareth was not one whose real name, given at circumcision, was unknown to the people of Galilee. Shortly after he began to attract attention as a carpenter who had a message of good cheer for them they may have seen fit to speak of him as "Jesus," a designation that was at once accepted even by many who did not themselves follow him. Ardently responsive as these eager lovers of liberty were they were bound as patriots, galled by a foreign yoke, to look to him as a deliverer.

There was nothing about the trade of the Nazarene, though he was poor, to stand in his way or to lower him in their eyes. Trades were held in honor among them. Their great rabbis were men who had their trades and prided themselves therein. The only thing that concerned them was whether this Nazarene could enthuse and rally the masses as a patriot leader. That he could seemed to them apparent by his successes. Hence to many of them none was better fitted than he to be known as "Jesus."

The name thus thrust upon the Nazarene clung to him. Except by members of his own family and his closest followers he was known by no other. Naturally the name clung to him because up to the last week of his life the Galileans had hopes of him as their deliverer. As however their hopes faded when the Nazarene was apprehended and crucified the nearer circle of his followers took it up as most appropriate because to them the spiritual nature of his mission came to stand out so clearly that they saw that none so truly deserved it as did he.

We should not overlook the fact that nowhere in the Synoptic Gospels are the disciples represented as addressing their loved Master as "Jesus." To them he was *rabbi* (teacher) and *adthonai* (Master). While in some passages, as Mark ix, 5; xi. 21; xiv. 45, we have the Greek transliteration of the former, in others, as Mark iv. 38; xiii. 1; Luke viii. 24; ix. 33, we have Greek equivalents for the latter. The more common Greek equivalent *kurios*, found in Matt. ix. 28; xiv. 28; Luke v. 8; ix. 54, etc., is also frequently used for *adthonai*; but unfortunately by our Trinitarian translators appears in the English texts of the Synoptic Gospels as "Lord" where we should have "sir" or "Master." Surely neither of these terms, *rabbi* or *adthonai*, as used by the disciples, was anything more than a

term of respect. They contained no connotations of deity. Yet these were the only terms, if we may judge from the Synoptic Gospels, that were used by the disciples in addressing Jesus or in alluding to him.

Nor was the Nazarene ever represented as alluding to himself as "Jesus." Some ancient authorities have: "Then charged he the disciples that they should let no man know that he was Jesus the Christ"; but most reputable scholars to-day fail to find sufficient warrant for retaining the "Jesus" here. If retained it should be recognized as an official rather than a personal term. Hence it would have little significance for this study.

The gospels in thus representing the disciples and their loved teacher as using other terms for him than "Jesus" should be accepted as true to early tradition. The fact has an important bearing upon my thought that somewhere midway in his ministry, if not earlier, in Galilee this teacher became known to most of his followers, if not to his intimates, as "Jesus." Presumably his immediate disciples were slow to adopt this term which the masses accepted enthusiastically in the thought that he was to deliver them somehow from the thralldom of Rome. After his death, if not before, his closest and most devoted followers must have allowed the thought of him as their "Deliverer" or "Saviour" to grip their minds and hearts. However seriously we as students of the New Testament may question the thought that the Great Galilean was known in his early years as "Jesus," we certainly can see no reason for refusing him that title to-day. Though he may be shorn of much that has been claimed for him as a teacher and an actor upon life's little stage, we shall cling to the name by which for over eighteen centuries he has been affectionately known.

The material which has been handled in this paper, as we are well aware, has in whole or in part been used to suggest the conclusion that there was no such person as Jesus, that he was not an historic character. Even a prominent orthodox divine³ in asserting that the Christian church is founded upon the Christ-God idea frankly admits that we cannot be sure that there was a human Jesus, that it is enough for the church that it has the thought of God as coming into touch with life and the closely correlated thought of him as suffering to redeem man. It seems to the writer that a fresh and more fearless handling of the text of the Synoptic Gospels than critical scholars have heretofore given us must put us in touch

³ Rev. K. C. Anderson in the *Hibbert Journal* of January, 1910, on "The Collapse of Liberal Christianity."

with an actual Nazarene, a man who when seen as he was may disappoint us in some respects but who must still be regarded as one of the most original and inspiring religious teachers the world has thus far seen.

SOME NOTES ON LANGUAGE STUDY.

BY THE EDITOR.

LATIN, the language of the Romans, is the only Italic dialect that has been preserved in a rich literature and lives on in several daughter languages, viz., Italian, French, Spanish, Portuguese and Roumanian. It belongs to the great Aryan family of which the Sanskrit and Iranian are the main Asiatic branches, and Greco-Italic, Slavic, Germanic and Celtic the main European ones.

Latin is of interest to us first because the Romans, like the Greeks, are our kinsfolk, but its importance to the people of English speech is still greater. Latin has influenced the formation not only of the old Saxon, since the Saxons settled in Britain, but also of modern English at a time when the language was forming. The Saxon inhabitants of Britain owed their civilization to Rome, and so Roman words were used for all those institutions, activities and ideas which came to them in the course of progress. The Latin *schola* became school; *penna* became pen; *corona*, crown; *crux*, cross, and so forth.

The Romans, however, were not the inventors of civilization. They had acquired their culture from Greece, and so Greek words had crept into Latin. The Romans were mere preservers and transmitters. Such words as church, bishop, priest, monk, baptize,¹ etc., are ultimately derived from Greek terms, after they had become Latinized. With the civilization of southern Europe, the northern European nations adopted from their teachers the names of the new institutions. For this very reason it is indispensable for a thorough knowledge of English that we possess some knowledge not only of Anglo-Saxon but also of Greek, Latin and medieval French, but especially of Latin which has contributed most to the vocabulary of English speech.

The importance of Latin for all English speaking people can

¹ κυριακή, ἐπίσκοπος, πρεσβύτερος, μόναχος, βαπτίζειν.

not be overrated, but though Latin is very important, its significance can be and has been misunderstood, and now and then it has happened that even scholars have misstated it. Considering the innumerable Latin words which have been incorporated into the vocabulary, it is obvious that to any one who wishes to acquire a fair command of the English mother-tongue, at least some knowledge of Latin is indispensable. However, Latin can not be called either the father or the mother of English, for English is and will remain a Saxon language. The character of a language is determined by its grammar, its declensions, conjugations and its syntax. They form the framework of thought into which are fitted all the many indigenous and foreign words. To be sure, foreign words tend to modify the speech of a people, they widen its horizon and enrich its thought, but for all that they do not change the lineal descent of its speech. For this reason English is and remains a Saxon language so long as it retains the Saxon spirit and the character of Saxon thought, which it evinces by Anglicizing foreign words and treating them according to the rule of Saxon grammar, Saxon inflection, and Saxon syntax.

It would be wrong to say that the English language has been overpowered or has suffered by the invasion of Latin terms, or generally speaking through the introduction of any foreign words which came in large numbers from all parts of the globe. On the contrary, the English language took possession of them; it grew in both exactness and wealth of expression and yet it remained English, the child of Saxon speech.

* * *

Languages change, and they changed even more in former times when language was mere speech, i. e., purely oral language. Some letters can be pronounced either more or less sharply, and so the Roman *cornu* was pronounced *horn* among the Teutons. In a similar way the Latin *helvus* is the English *yellow* and the German *gelb*. The root of "hundred" (i. e., *hund*) corresponds to the Latin *centum*, and the Latin *homo* is the Gothic *guma* which corresponds to an Old-German word *gomo*, now lost but still preserved in the compound "Bräutigam" and in the English *groom*. The more a language becomes fixed by writing, the less it is subject to modifications, and the more stable it grows.

The languages of the North American Indians change so rapidly that when a tribe splits up and its members are separated for

only two generations they are scarcely able to understand one another.

We must grant, however, that there is a special reason why Indian languages change more quickly than others, and this is their habit of tabooing words. Whenever anything happens that impresses the Indian he avoids the word that denotes the offensive object, and so he has to invent a new word in its place. The words tabooed are sometimes very numerous, and this in addition to linguistic changes of pronunciation tends to produce new languages within a very short time.

English has become the more stable according as the written language has more and more become common property; nevertheless it is still subject to change and it has been changing to a considerable degree in the past. The linguistic cause of changes is governed by laws, the most obvious one of which was discovered by the Grimm brothers, those great scholars of Germanic language and literature who may fairly be regarded as the fathers of comparative philology.

The Grimm brothers were born and raised in central Germany, near the border line of High and Low German speech. In their time the people still spoke Low German at home and used High German as the professional language in school, on the stage, in the pulpit, in official documents, at court and in literature. The High Germans say *das* for the English *that*, while the Low Germans say *dat*, and a similar relation prevails between other consonants.

The Low German *t* changes in High German to *z*, pronounced *ts*, a double consonant and very sharp; and the Low German *p* is modified by a following *f* into *pf*.² Upon the whole High German becomes harder and more guttural, losing the dental aspirates (*th* as well as *dh*) and also the *w*, while the Low Germans near the shore, especially those Saxons who emigrated over the sea into Britain, were inclined to soften their language, to change the broad *ah* into *ay*, *ay* into *ee*, and *ee* into *i*, and gradually to discard gutturals altogether. At present, guttural aspirates of English speech are preserved only in Scotch dialects.³

A comparison between the two dialects which the Grimm brothers spoke and the languages which they learned in school, especially Latin and Greek, which were later supplemented by Sanskrit, led

² Instances: the Low German *tid* (pronounced *teed*; it is the English "tide") changes to *Zeit* (i. e., "time"). The Low German *pierd* (the English *palfrey*, derived from the Celtic Latinized word *paraveredus*) changes to *Pferd* (i. e., "horse").

³ For instance, *loch*, a lake.

them to the conclusion that some changes of the mute consonants are governed by a definite law, expressed in the formula AMTA or TAMTAM, which means that a tenuis or sharp consonant (viz., *p*, *k*, *t*) changes into its corresponding aspirate (viz., *ph*, *kh*, *th*); an aspirate into its media or flat consonant (viz., *b*, *g*, *d*), and the media again back into the aspirate.

There are two kinds of aspirates, soft and hard, or flat and sharp. One is the aspirate of the tenuis, *ph*, *kh*, *th*; the other of the media, *bh*, *gh*, *dh*. The hard or sharp aspirate of the labials is *f*, the flat or soft one *v*. In the same way we have two dental aspirates *dh* as in "that" and *th* as in "thorn." Guttural aspirates do not exist in English but are quite in evidence in German; they too are twofold, *kh* as in the German *ach* (i. e., "alas") and *gh* as in the German *ich* (i. e., "I" in English). Modern German, having lost the dental aspirates, replaces them by *z*, pronounced *ts*.

The law of the Grimm brothers means that under certain conditions a language is apt to change *p* into *ph*, *ph* into *b*, and *b* again into *p*. In the same way *k* changes to *kh*, *kh* to *g*, *g* to *k*; and *t* changes to *th*, *th* into *d*, and *d* into *t*. Thus we have a circle of Tenuis, Aspirate, Media, Tenuis, etc., which, read as an acrostic, makes TAMTAM or AMTA.

We quote only a few instances of the Grimm law. The Greek *ther* (θήρ) means "animal" but corresponds in its form to the English *deer*. It is *dîus* in Gothic and changes in High German to *Tier*. The Greek *dyo* and Latin *duo* are changed in Low German into *tuo*, which is the English *two*, originally pronounced as in Low German *tuo*. It has been modified to the High German *zwo* which was the feminine form of *zwei*.⁴ Analogous is the transition from the Greek *deka* (δέκα) and the Latin *decem* through the Old Low German *tehan*, English *ten*, to the High German *zehn*. We select as a third example a word that in the first stage shows a tenuis. The Greek *treis* and Latin *tres* corresponds to the Saxon and English *three* and to the High German *drei*.

We present a few more instances in tabular form:

SANSKRIT	GREEK	LATIN	GOthic	ENGLISH	H. GERMAN
tvam	τὺ	tu	thu	thou	du
bratar	φράτηρ ⁵	frater	brothar	brother	Bruder
pitar	πατήρ	pater	fadar	father	Vater

⁴ In Middle High German the masculine form is *zween*, the feminine *zwo*, the neuter *zwei*.

⁵ In classical Greek a *φράτηρ* is a member of a *φρατρία* or brotherhood, and the word has been replaced by *ἀδελφός*.

SANSKRIT	GREEK	LATIN	GOTHIC	ENGLISH	H. GERMAN
matar	μήτηρ	mater	——— ⁶	mother	Mutter
dant	ὀδοίς Gen. ὀδόντος	dens	tundus	tooth	Zahn
[dadhamī ⁷]	[दधिमु ⁷]	do, dēre ⁷	deths	do	thue
pad	πόις	pes, pedis	fotus	foot	Fuss, Pfote

It will be seen that not all follow the rule exactly, for instance the Gothic *fadar*, ought to be "fathar"; and in other instances further complications arise through the kinship of *r* and *s* (e. g. the English *was* is the German *war*) and the frequent interchangeability of mutes of the same kind. Thus the guttural aspirate of the Anglo-Saxon *enough*, the German *genug*, changes in its modern English pronunciation to *f*.

Sometimes the meaning of a word changes. The Latin *vulpes* (or *volpes*) means "fox," the same term as the English *wolf*; while *fegos* (φηγός) means "oak" in Greek, but *fagus* in Latin means "beech." It is etymologically the same word as the German *Buche* and the English *beech*. Being derived from the root *fag* (Greek φάγειν, "to eat"), we must conclude that originally it designated a tree with edible fruit and that when the Pelasgian Greeks separated from the other Aryans, they ate acorns, while their Italic and Teutonic cousins found in their homes plenty of beech-trees the fruit of which they used for food.

Again two words which sound different are sometimes the same in meaning and etymology. The verb *plere* is the English "to fill," and that which fills a country is in Latin *plebs* (or with reduplication *populus*) and in English "folk," in German *Volk*, (pronounced *folk*).

Comparative philology traces this law of the Grimm brothers through the Aryan languages of Europe and Asia, but history has witnessed an actual transition from one stage into another in Germany in the beginning of the Middle Ages, modifying the language of the South German tribes. When they came in touch with the

⁶ There is no doubt that the Goths used the word mother, but I can not note it down here, because I am unable to find it in the Gothic documents at my command. Ulfilas uses in its place the endearing term *aiþei*; so in Luke ii. 34 and 48. Although the Gothic translator uses the word *fadar*, he addresses God in the Lord's prayer not *Fadar unsar*, but *Atta unsar*. The tenderness of the two terms *atta* and *aiþei* is almost untranslatable, for they are both far from the cold respect due to a father and from the levity of the unconventional expressions "papa" and "mamma." We come nearest to the meaning when we use two words such as "father dear," "mother dear."

⁷ The Sanskrit, Greek and Latin verbs corresponding to the English "I do" mean "I place; I posit; I put up." In Latin the verb "do" (*dēre*) has become obsolete; it has been replaced in the sense "to put up" by *ponere* and in the sense "to do" by *facere*, but it is still preserved in such compounds as *condere*, "to found" and *credere*, "to believe."

Celts and Romans, they changed their pronunciation which resulted in the formation of a new language called High German. The Old Low German remained unaffected by this linguistic modification, and together with Roman and Greek stayed on the same stage with the most ancient form of Aryan speech, the Sanskrit.

It is interesting to note that some dialectic changes of ancient Greek repeat themselves in the differences between German and English. The German corresponds to the Doric and Æolic, the English to the Ionic. The former were inlanders and preferred the broad *ah* sound as in father, while the latter, the English and the Ionians, both seafaring people, show a tendency to change *a* into *η* and *ah* into *ay*.

Concerning the aspirates, we may add that gutturals seem to prevail in the speech of mountaineers, while the inhabitants of the coasts prefer the dentals.

* * *

Languages change not only in their linguistic aspect but also through a tendency to shorten words, and this is most apparent in the speech of the German nations. There is a great difference between Græco-Italic and any one of the Germanic languages which consists in the fact that the latter allows the accent of the word to play a most dominant part. The Greeks and also the Romans possess a kind of euphonic accent. The accent changes with conditions. Thus the word *poētae* (the poets) has the accent on the *ē*, but in the genitive *poētārum* the accent is thrown on the *ā*, and similar rules obtain in Greek.

Both the Romans and the Greeks possess a special sense for what is called prosody, which means the length or shortness of vowels independent of the accent. As far back as we can trace the development of their language, the Teutonic nations have insisted on keeping the accent on the root syllable. The inflection of the word was of secondary account, and its quantity changed according to conditions. They neglected euphony and cared most for the meaning which was emphasized by the accent. The French even to-day have a kind of accent of sentences, the accent of words may change. Not so in German, not so in English, nor in any other of the Germanic languages. Here a change of accent renders words almost unintelligible.⁸

⁸ When a Frenchman says "I am an infidel" instead of "in'fidel," one has to think twice before catching the meaning. The pronunciation "atroc'ity" makes a decidedly different impression on the ear of English speaking people than atro'city. On the other hand French people may pronounce *la mai'son* or *la maison'* according to the euphony of the context.

This difference in the significance of accent is a national characteristic of the speech of our forebears, and it had important consequences for the development of their language. The tendency of Germanic tongues is to shorten the words and their poetry consists not in measuring the duration of syllables, but in counting accents.

Greek and Roman poetry is based on prosody alone. The lays of ancient Germanic poetry bring out the logical emphasis, suggesting that the dancing step of the ballad was the prototype of their rhythm, while the metrical laws of classical poetry follow the rules of music. They measure the duration of the syllables while the word-accent is neglected.

This difference in the principle of pronunciation renders it almost impossible to imitate classical meters in Germanic poetry, but whenever we introduce classical forms of poetry we must replace long syllables by accents and short syllables by unaccented syllables. But this is only a makeshift, for in Greek and Latin the duration of a syllable remains the same under all conditions, while in the Teutonic languages the same syllable may be long or short according to its position.

In the development of Germanic speech the dominance of the accent resulted in a shortening of words, the unaccented syllables being more and more slurred, and sometimes it came to pass that four syllables were changed into one. Take for instance the Gothic word *habaidedum* which means "we had," literally translated, "have we did." This combination with the ending derived from the auxiliary verb *didan*, "to do," was the original mode of expressing the imperfect. It was contracted in German first into *wir habeten*, then into *hatten*, and the English have gone one step further and say simply "had."

* * *

The most primitive languages appear to have been monosyllabic, and there was a time when the so-called roots were ideas of a general character which were used for the purpose of communicating intentions, or requests, or declarations. They first denoted actions, for language originated as an accompaniment of cooperative work of a communal activity.

Several theories have been proposed as to the origin of language.

First, language was conceived as a reflex of nature in the human mind, and it was assumed that the external commotion and noises echoed back as they came. This is the theory of sound imitation. Its originators called it "the making of names," using for it the ponderous Greek term "onomatopœia."

If the onomatopœic theory were right, we ought to call the dog "bow-wow," the cat "miew-miew" and the engine "choo-choo"; but the history of language proves that onomatopœic expressions are almost entirely limited to the modern nursery. Onomatopœic word-formations are made only by those who are in possession of a fully developed language. Therefore there is not the slightest probability for this theory, and it is obvious that the origin of language is much more complicated. The reflex comes forth from deeper strata of man's soul, and so philologists proposed a new explanation which regarded language as the reaction of man's sentiments. A sentient creature fitted out with an apparatus for making sounds would vent its feelings by shouts such as "ah," for grief, "oh," for regret, etc. But even that theory was insufficient, for these exclamations have remained the most sterile roots. We form the verb "to pooh-pooh," but not "to ah," "to oh," "to alas." Moreover primitive man has no such articulate expressions of sentiment, he vents his feelings in groans, grunts and shouts. There is a difference not so much of sound as of intonation.

The last step in explaining the origin of language was taken by Ludwig Noiré⁹ who points out that the origin of language is closely connected with man's communal work.

Man is a social animal, and the primitive society of mankind was held together by the fear of common dangers and methods of warning, by common struggles and common tasks, for all of which mutual assistance, mutual encouragement and mutual communication was required. This was done by shouts, serving as signals to fall in, as sailors utter their unison singing when pulling a rope.

Prof. F. Max Müller humorously called these three theories the bow-wow theory, the pooh pooh theory, and the Yo-he-ho theory.¹⁰

Noiré calls his theory the "Logos theory," and Prof. F. Max Müller has adopted it in his essay on "The Identity of Language and Thought."¹¹

The main problem, however, of Noiré was not so much the origin of language, as the origin of reason, and he came to the conclusion that reason is developed through language. Language is the machinery of reason; yet it is not reason that has produced language, but language has produced reason. There was not first a rational

⁹ For details see Ludwig Noiré's essay *On the Origin of Language and the Logos Theory*. As to Noiré's claim to priority, see F. Max Müller's little book *Ludwig Noiré*.

¹⁰ Cp. *Monist*, II, p. 80.

¹¹ Published in F. Max Müller's *Three Introductory Lectures on the Science of Thought*.

animal who through its reason invented language, but in the course of the development of social conditions language originated and language produced reason. The speaking animal became a rational being.

The same principle holds good still. Thought is the soul, and speech is, as it were, its body. In order to mould thought, we must formulate it in words. As Noiré says, Man does not speak because he thinks, but he thinks (i. e., he has acquired the faculty of thinking) because he speaks.

If these propositions are sound, we shall at once be able to judge of the enormous significance of language, and also the imperative need of cultivating in education the use of right language.

The sentiment and principles incorporated in speech contribute not a little to mould right thinking, for both intellect and character.

* * *

While generally we must learn to master our own language, English, we must be acquainted with its roots, and we must know not only its vocabulary and grammar, its philological, etymological and logical methods, the machinery of its rationality, but also, so far as that be feasible, the spirit of the people who fashioned our language and that is deposited in the proverbs and pithy quotations of their literature.

Languages are most easily acquired by committing to memory proverbs, poetical quotations, famous sentences of history or literature, and other typical passages which reflect the spirit of the people. Such significant sayings, culled with discretion from literature, can as easily be used for the explanation of grammatical and syntactical rules as the silly sentences of our current text-books, which are mostly words without sense and interest. If the student of a language knows by heart these gems of thought which incorporate the national spirit and are typical of the people themselves, his philological instruction will become easier by an increased interest in the subject matter, and the study of a language will thereby serve a higher purpose.

Our present method of teaching the classical languages is pedantic and stultifying. It seems to be calculated to make the pupils disgusted with the subject even before they become acquainted with it. Our educators should bear in mind that it is easier to learn whole sentences than single words and actual quotations from the classics than abstract grammatical rules. We are naturally interested in the spirit of another people. Let therefore our pupils first become

acquainted with the wise saws of a foreign language and in learning them by heart let us call upon grammar and syntax as a help to explain the forms. Grammar and syntax are needed, but our pupils must first feel the need of them; for then they will welcome their usefulness and take an interest in rules. But always the concrete reality of the living language should precede the abstract generalization of its construction.

ON THE FOUNDATION AND TECHNIC OF ARITHMETIC.*

BY GEORGE BRUCE HALSTED.

MENSURATION.

NEVER forget that no exact measurement is ever possible, that no theorem of arithmetic, algebra, or geometry could ever be proved by measurement, that measure could never have been the basis or foundation or origin of number.

But the approximate measurements of life are important, and the best current arithmetics give great space to mensuration.

Geometry.

Geometry is an ideal construct.

Of course the point and the straight are to be assumed as elements, without definition. They are equally immeasurable, the straight in Euclidean geometry being infinite. What we first measure and the standard with which we measure it are both *sects*. A sect is a piece of a straight between two points, the end points of the sect. The sides of a triangle are sects.

A *ray* is one of the parts into which a straight is divided by a point on it.

An *angle* is the figure consisting of two coincidental rays. Their common origin is its vertex. The rays are its sides.

When two straights cross so that the four angles made are congruent, each is called a *right angle*.

One ninetieth of a right angle is a *degree* (1°).

A *circle* is a line on a plane, equidistant from a point of the plane (the center). A sect from center to circle is its radius.

An *arc* is a piece of a circle. If less than a semi-circle it is a minor arc.

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

One quarter of a circle is a *quadrant*.

One ninetieth of a quadrant is called a *degree of arc*.

A sect joining the end points of an arc is its *chord*.

A straight with one, and only one, point in common with the circle is a *tangent*.

Length of a Sect.

To measure a sect is to find the number L (its length) when the sect is conceived as $Lu+r$, where u is the standard sect and r a sect less than u . In science, u is the centimeter.

Thus the length, L , of the diagonal of a square centimeter, true to three places of decimals, is 1.414.

Since there are different standard sects in use, it is customary to name u with the L . Here 1.414 cm.

Knowing the length of a sect, from our knowledge of the number and the standard sect it multiplies we get knowledge of the measured sect, and can always approximately construct it.

Length of the Circle.

We assume that with every arc is connected one, and only one, sect not less than the chord, and, if the arc be minor, not greater than the sum of the sects on the tangents from the extremities of the arc to their intersection, and such that if the arc be cut into two arcs, this sect is the sum of their sects. The length of this sect we call the *length of the arc*.

If r be the length of its radius, the length of the semicircle is πr . Archimedes expressed π approximately as $3+1/7$.

True to two places of decimals, $\pi = 3.14$ or 3.1416 true to four places.

The approximation $\pi = 3+1/7$ is true to three significant figures. But since $\pi = 3.1416 = 3+1/7 - 1/800$, a second approximation, true to five significant figures, can be obtained by a correction of the first.

Again $\pi = 3.1416 = (3+1/7)(1-.0004)$, which gives the advantage that in a product of factors including π , the value $3+1/7$ can be used and the product corrected by subtracting four thousandths of itself.

The circle with the standard sect for radius is called the *unit circle*. The length of the arc of unit circle intercepted by an angle with vertex at center is called the *size* of the angle.

The angle whose size is 1, the length of the standard sect, is called a *radian*.

A radian intercepts on any circle an arc whose length is the length of that circle's radius.

The number of radians in an angle at the center intercepting an arc of length L on circle of radius length r , is L/r . $180^\circ = \pi r$.

An arc with the radii to its endpoints is called a *sector*.

Area.

The area of a *triangle* is half the product of the length of either of its sides (the base) by the length of the corresponding altitude, the perpendicular upon the straight of that side from the opposite vertex.

A figure which can be cut into triangles is a *polygon*, whose area is the sum of theirs. Its *perimeter* is the sum of its sides.

Area of Circle. In area, an inscribed regular polygon (one whose sides are equal chords) of $2n$ sides equals a triangle with altitude the circle's radius r and base the perimeter of an inscribed regular polygon of n sides.

A circumscribed regular polygon (one with sides on tangents) of n sides equals a triangle with altitude r and base the polygon's perimeter.

There is one, and only one, triangle intermediate between the series of inscribed regular polygons and the series of circumscribed regular polygons, namely that with altitude r and base equal in length to the circle. This triangle's area, $rc/2 = r^2\pi$, is the *area of the circle*, $r^2\pi$.

From analogous considerations, the *area of a sector* is the product of the length of its arc by the length of half its radius.

Volume.

A *tetrahedron* is the figure constituted by four noncoplanar points, their sects and triangles.

The four points are called its *summits*, the six sects its *edges*, the four triangles its *faces*.

Every summit is said to be *opposite* to the face made by the other three; every edge opposite to that made by the two remaining summits.

A *polyhedron* is the figure formed by n plane polygons such that each side is common to two. The polygons are called its *faces*; their sects its *edges*; their vertices its *summits*.

One-third the product of the area of a face by the length of the perpendicular to it from the opposite vertex is the *volume of the tetrahedron*.

The *volume of a polyhedron* is the sum of the volumes of any set of tetrahedra into which it is cut.

A *prismatoid* is a polyhedron with no summits other than the vertices of two parallel faces.

The altitude of a prismatoid is the perpendicular from top to base.

A number of different prismatoids thus have the same base, top, and altitude.

If both base and top of a prismatoid are sects, it is a tetrahedron.

A *section* of a prismatoid is the polygon determined by a plane perpendicular to the altitude.

To find the *volume of any prismatoid*. Rule: Multiply one-fourth its altitude by the sum of the base and three times a section at two-thirds the altitude from the base.

Halsted's Formula: $V = (a/4)(B+3S)$.

All the solids of ordinary mensuration, and very many others heretofore treated only by the higher mathematics, are nothing but prismatoids or covered by Halsted's Formula.

A *pyramid* is a prismatoid with a point as top. Hence its volume is $aB/3$.

A circular *cone* is a pyramid with circular base.

A *prism* is a prismatoid with all lateral faces parallelograms. Hence the volume of any prism = aB .

A circular *cylinder* is a prism with circular base.

A *right prism* is one whose lateral edges are perpendicular to its base.

A *parallelopiped* is a prism whose base and top are parallelograms.

A *cuboid* is a parallelopiped whose six faces are rectangles.

A *cube* is a cuboid whose six faces are squares.

Hence the volume of any cuboid is the product of its length, breadth and thickness.

The cube whose edge is the standard sect has for volume 1.

Therefore the volume of any polyhedron tells how oft it contains the cube on the standard sect, called the unit cube.

Such units, like the unit square, though traditional, are unnecessary.

A *sphere* is a surface equidistant from a point (the center).

A sect from the center to sphere is its radius.

A *spherical segment* is the piece of a sphere between two parallel planes.

If a sphere be tangent to the parallel planes containing opposite edges of a tetrahedron, and sections made in the sphere and tetrahedron by one plane parallel to these are of equal area, so are sections made by any parallel plane. Hence the volume of a sphere is given by Halsted's Formula.

$$V = (a/4)(B+3S) = (3/4)aS.$$

But $a = 2r$ and $S = (2/3)r\pi(4/3)r$.

So Vol. sphere = $(4/3)\pi r^3$.

Hence also the volume of a spherical segment is given by Halsted's Formula.

Area of sphere = $4\pi r^2$.

The area of a sphere is quadruple the area of its great circle.

As examples of solids which might now be introduced into elementary arithmetic, since they are covered by Halsted's Formula, may be mentioned: oblate spheroid, prolate spheroid, ellipsoid, paraboloid of revolution, hyperboloid of revolution, elliptic hyperboloid, and their segments or frustums made by planes perpendicular to their axes, all solids uniformly twisted, like the square-threaded screw, etc.

ORDER.

In the counting of a primitive group, any element is considered equivalent to any other. But in the use even of the primitive counting apparatus, the fingers, appeared another and extraordinarily important character, order.

The savage in counting systematically begins his count with the little finger of the left hand, thence proceeding toward the thumb, which is fifth in the count. When number-words come to serve as extended counting apparatus, order is a salient characteristic.

By one-to-one adjunction of these numerals the individuals of a collection are given a factitious order.

When the order is emphasized the number-names are modified, becoming first, second, third, fourth, etc., and are called ordinal numbers or ordinals, but this designation is now applied also to the ordinary forms, one, two, three, etc., when order is made their fundamental characteristic.

DEPICTION.

If we can so correlate each element of the set A with a definite element of the set B that two different elements of A are never correlated with the same element of B, the element of A is consid-

ered as depicted or pictured or imaged by the correlated element of B, its picture or image.

Such a correlation we call a *depiction* of the set A upon the set B. The elements of A are called the *originals*.

An assemblage contained entirely in another is called a component of the latter.

A *proper component* or *proper part* of an assemblage is an aggregate made by omitting some element of the assemblage.

INFINITE.

An assemblage is called *infinite* if it can be depicted upon some proper part of itself, or distinctly imaged, element for element, by a constituent portion, a proper component of itself. Otherwise it is *finite*.

Stand between two mirrors and face one of them. Your image in the one faced will be repeated by the other. If this replica could be separately reflected in the first, this reflection imaged by itself in the second, this image pictured as distinct in the first, this in turn depicted in the second, and so on forever, this set would be infinite, for it is depicted upon the proper part of it made by omitting you. It is *ordered*. You may be called 1, your image 2, its image 3, and so on.

Sense.

A relation has what mathematicians call *sense*, if, when A has it to B, then B has to A a relation different, but only in being correlatively opposite. Thus "greater than" is a sensed relation. "Greater than" and "less than" are different relations, but differ only in sense.

Any number of numbers, all individually given, form a finite set. If numbers be potentially given through a given operand and a given operation, law, of successive education, they are still said to form a set. If the law educes the numbers one by one in definite succession, they have an *order*, taking on the order inherent in time or in logical or causal succession.

A set in order is a *series*.

Analysis of Order.

Intrinsic order depends fundamentally upon relations having sense, and, for three terms, upon a relation and its opposite in sense attaching to a given term.

The unsymmetrical sensed relation which determines the fixed order of sequence may be thought of as a logic-relation, that an

element shall involve a logically sequential element creatively or as representative. An individual or element 1 has its shadow 2, which in turn has its shadow 3, and so on.

Linear order is established by an unsymmetrical relation for one sense of which we may use the word "precede," for the opposite sense "follow."

The ordering relation may be envisaged as an operation, a transformation, which performed upon a preceding gives the one next succeeding it; turns 1 into 2, and 2 into 3, and so on.

If we have applicable to a given individual an operation which turns it into a new individual to which in turn the operation is applicable with like result, and so on without cease, we have a recurrent operation which recreates the condition for its ongoing. If in such a set we have one and only one term not so created from any other, a first term, and if every term is different from all others, we have a commencing but unending ordered series. The number series, 1, 2, 3, and so on, may be thought of as the outcome of a recurrent operation, that of the ever repeated adjunction of one more unit. It is a system such that for every element of it there is always one and only one next following. This successor may be thought of as the depiction of its predecessor. Every element is different from all others. Every element is imaged. There is an element which though imaged is itself no image.

Thus the series is depicted without diminution upon a proper part of itself; is infinite, and by constitution endless. It has a first element, but no element following all others, no "last" element.

Any set which can be brought into one-to-one correspondence with some or all of the natural numbers is said to be *countable*, and, if not finite, is called *countably infinite*.

Ordered Set.

A set of elements is said to be in simple order if it has two characteristics:

1o. Every two distinct arbitrarily selected elements, A and B, are always connected by the same unsymmetrical relation, in which relation we know what rôle one plays, so that always one, and only one, say A, comes before B, is source of B, precedes B, is less than B; while B comes after A, is derived from A, follows A, is greater than A.

2o. Of three elements ABC, if A precedes B, and B precedes C, then A precedes C. Thus the moments of time between twelve

and one o'clock, and the points on the sect AB as passed in going from A to B are simply ordered sets.

Finite Ordinal Types.

An arranged finite set of, say, n elements can be brought into one-to-one correspondence with the first n integers.

Such an ordered set has a first and a last element; so has each ordered component.

Inversely an ordered set with a first and a last element, whose every component has a first and a last element, is finite. For let a_1 be the first element. The remaining elements form an ordered component; let a_2 be the first of these elements. In the same way determine a_3 . We must thus reach the last, else were there an ordered component without last element, contrary to hypothesis. These then are the characteristics of the finite ordinal types.

THE NATURAL NUMBER SERIES AS A TYPE OF ORDER.

The characteristic property of a countably infinite set, when arranged in countable order, is that we know of any element a whether, or no, it corresponds to a smaller integer than does the element b . Should a and b correspond to the same integer they would be identical. Thus when arranged in countable order, the order of any countably infinite set is that of the natural numbers. The defining characteristics of this order are that it, as well as each of its ordered components, has a first element, and that every element, except the first, has another immediately preceding it; while there is no last element.

Any simply-ordered set between any pair of whose elements there is always another element is said to be in *close order*.

Well-ordered Sets.

A simply ordered set is said to be "well-ordered" if the set itself, as well as every one of its components, has a first element.

In a well-ordered set its elements so follow one another according to a given law that every element is immediately followed by a completely determined element, if by any. As typical of well-ordered sets we may take first the finite sets of the ordinal numbers: 1st; 1st, 2d; 1st, 2d, 3d; and so on.

As typical of the first transfinite well-ordered set we may take the set of all the ordinal numbers, the ascending order of the natural numbers.

The thousandth even number is immediately followed by the number 2001.

But if a point B is taken on a sect AC, there is no next consecutive point to B determinable.

The way in which an iterative operation develops from an individual operand not only infinity but endless variety unthought of and so waiting to be thought of, lights up the fact that mathematics though deductive is not troubled with the syllogism's tautology but offers ever green fields and pastures new. Thus in the number series is the series of even numbers, in this the set of even even numbers, 4, 8, 12, 16, 20, etc., each a system in which every element of every preceding system of this series of systems can have its own uniquely determined picture, the first term depicting any first term, the second any second, etc.

ORDINAL NUMBER.

Ordinal Number.

Numbers are ordinal as individuals in a well-ordered set or series, and used ordinally when taken to give to any one object its position in an arrangement and thus to individually identify and place it. So its number identifies the automobile.

The ordinal process has also as outcome knowledge of the cardinal; when we have in order ticketed the ninth, we have ticketed nine. Thus the last ordinal used tells the result of the count.

Children's Counting.

The assignment of order to a collection and ascertainment of place in the series made by this putting in order is shown by that use of *count* which occurs in children's games, in their *counting out* or counting to fix who shall be *it*. This counting is the use of a set of words not ever investigated as to multiplicity, but characterized by order. Such is the actually-used set: ana, mana, mona, mike; bahsa, lona, bona, strike; hare, ware, frounce, nack; halico, baliko, we, wo, wy, wak. Applied to an assemblage, it gives order to the assemblage until exhausted, and the last one of the ordered but unnumbered group is *out* or else *it*. How many individual words the ordering group contains is never once thought of. There is successive enumeration without simultaneous apprehension.

Every element has an ordinal significance. No element has any cardinal significance.

E nee, me nee, my nee, mo;
 Crack ah, fee nee, fy nee, fo;
 Amo neu ger, po po tu ger;
 Rick stick, jan jo.

Such a group but indefinitely extensible, having a first but no last term, is the ordinal number series.

Uses of the Ordinal System.

But in our ordinary system of numeral words, with fixed and rote-learned order, each word is used to convey also an exact notion of the multiplicity of individuals in the group whose tagging has used up that and all preceding numerals. Thus each one characterizes a specific group, and so has a cardinal content.

Yet it is upon the ordered system itself that we chiefly rely to get a working hold of the number when beyond the point where we try to have any complete appreciation, as simultaneous, of the collection of natural units involved. Thus it is to the ordinal system that we look for succor and aid in getting grasp and understanding particularly of numbers too great for their component individual units to be at once and together separately picturable. Thus the ideas we get of large numbers come not from any attempt to realize the multiplicity of the discrete manifold, but rather from place in the number-set.

Number in its genesis is independent of quantity, and number-science consists chiefly, perhaps essentially, in relations of one number in the number series to another and to the series.

That a concept is dependent for its existence upon a word or language-symbol is a blunder. The savage has number-concepts beyond words. On the other hand, the modern child gets the words of the ordinal series before the cardinal concepts we attach to them. If a little child says, "Yes, I can count a hundred," it simply means it can repeat the series of number-names in order. Its slips would be skips or repetitions. The ordinal idea has been formed. It is used by the child who recognizes its errors in this ordinal counting. The ordinal idea has been made, has been embodied perhaps in rythmical movements. The child's rudimentary counting set is a sing-song ditty. The number series when learned is perhaps chanted. Just so there is a pleasurable swing in the count by fives.

The use of the terms of the number series as instruments for individual identification appears in the primitive child's game as in the identification of the automobile. Before making or using number, children delight in making series. Succession is one of the earliest made thoughts.

We think in substituted symbols. It is folly to attempt to hold back the child in this substitution. The abstractest number becomes a thing, an objective reality.

Number has not originated in comparison of quantity nor in quantity at all. Number and quantity are wholly independent categories, and the application of number to quantity, as it occurs in measurement, has no deeper motive than one of convenience.

It has often been stressed, that children knowing the number-names, if asked to count objects, pay out the series far faster than the objects; the names far outstrip the things they should mate.

The so-called passion of children for counting is a delight in ordinal tagging, in ordinal depiction with names, with no attempt to carry the luggage of cardinals.

The "which one" is often more primitive and more important than the "how many." The hour of the day is an ordinal in an ordered set. Its interest for us is wholly ordinal. It identifies one element in an ordered set. The strike of the clock is a word. The striking clock has a vocabulary of 12 words. These words are distinguished by the cardinal number of their syllables. But even when recognized by the cardinal number of syllables in its clock-spoken name, the hour is in essence an ordinal.

So the number series as a word-song may well in our children precede any application to objects. Objects are easily over-estimated by those who have never come to the higher consciousness that objects are mind-made, that every perception must partake of the subjective.

Children often apply the number-names to natural individuals as animals might, that is without making any artificial or man-made individual, and so without any cardinal number. Each name depicts a natural individual, but not as component of a unity composed of units. What passes for knowledge of number among animals is only recognition of an individual or an individual form.

Serial depiction under the form of tallying or beats or strokes may precede all thought of cardinal number. Nine out of ten children learn number names merely as words, not from objects or groups.

The typical case is given of the girl who could "count" 100 long before she could recognize a group of six or even of four objects.

The names of the natural numbers are an unending child's ditty, primarily ordinal, but a ditty to whose terms cardinal meanings have also been attached. Ordinally the number name "one" is simply the initial term of this series; any number name is simply a term of this series. The ordinal property it designates is the positional property of an element in a well-ordered set.

The natural scale is the standard for civilized counting. Its symbols in sequence are mated with the elements of an aggregate and the last symbol used gives the outcome of the count, tells the cardinal number of the counted aggregate. The cardinal, n , of a set is that attribute by which when the set's elements are coupled with ordinals, the ordinal n and all ordinals preceding n are used.

The very first step in the teaching of arithmetic should be the child's chanting of the number names in order. Then the first application should be ordinal. Use the numbers as specific tags, conveying at first only order and individual identification. Afterward connect with each group, as *its* name, the last numeral it uses, which thus takes on a cardinal significance.

THE FISH AS TREASURE KEEPER.

BY THE EDITOR.

THE fish plays an important part in the folklore and poetry of almost all nations as treasure keeper or guardian of hoarded wealth, and lost gems or rings are frequently discovered in the stomach or mouth of a fish. The gospel story is well known that when Jesus is expected to pay toll he makes Peter find the needed money in the mouth of a fish. We read (Matt. xvii. 24-27) :

“And when they were come to Capernaum, they that received tribute money came to Peter, and said, Doth not your master pay tribute? He saith, Yes. And when he was come into the house, Jesus prevented him, saying, What thinkest thou, Simon? of whom do the kings of the earth take custom or tribute? of their own children, or of strangers?”

“Peter saith unto him, Of strangers. Jesus saith unto him, Then are the children free. Notwithstanding, lest we should offend them, go thou to the sea, and cast an hook, and take up the fish that first cometh up; and when thou hast opened his mouth, thou shalt find a piece of money: that take, and give unto them for me and thee.”

In comment on this most perplexing story Origen compares the fish to a miser whose only treasure is money;¹ but a little further up he seems to identify this same fish with Christ. The interesting part of Matthew's tale consists in the paganism of the tradition that a coin is discovered in the mouth of the dead for the purpose of paying Charon the ferry toll for the passage over the Styx. It is difficult to say how the story of the fish bringing the toll money slipped into the canon.

In the most beautiful drama of Indian antiquity the heroine Shakuntala loses the ring of identification which King Dushyanta has given her, but in the sixth act a fisher discovers it in the stomach of a fish.

The story of Polykrates as told by Herodotus is well known

¹ Origen's commentary on Matthew xiii. 10, Ed. Bened. III, p. 586.

and has been cast into ballad form by Schiller in his poem "The Ring of Polycrates." Amasis, King of Egypt, hesitates to enter into an alliance with Polycrates, the tyrant of Samos, because the uninterrupted series of his successes bodes a final and terrible downfall. Polycrates, to atone for his ominous good luck, sacrifices a valuable ring which as a rare treasure is very dear to him, but soon afterwards a big fish is caught which the fisherman offers as a present to the ruler of Samos, and in its stomach the ring is found.



PETER FINDING THE TOLL MONEY.

Hereupon King Amasis, the friend of Polycrates, severs their connection so as not to participate in the doom that threatens to crush his ally.

Similar stories may be traced in the folklore of many nations, the most remarkable one of which is preserved in the Edda where the dwarf Andwari in the shape of a fish is the guardian of a treasure of gold. The gods Odin, Hönir and Loki needed the gold to pay a ransom, and so Loki was sent out to deprive Andwari of his

hoard. Loki caught the fish in the water and compelled him to give up his gold. When the latter tried to retain a little gold ring because with the ring he could always replenish his treasure, Loki demanded even that, and now Andwari uttered a curse saying that each owner of the hoard should pay for its possession with his life. And this curse was fulfilled, beginning with Hreidmar to whom the treasure was handed over as a ransom, down to the Niflungs, Sigurd and Högni, who in the German version of the Nibelung saga are called Siegfried and Hagen. Before Hagen dies, however, he sinks the Niflung hoard into the Rhine whence it has never been recovered.

In another story of the Edda, Loki tries to escape the wrath of the gods by assuming the form of a salmon, but is finally caught in a net of his own devising.

In the former story we have an ancient myth which contains traces of a still more primitive belief in a great treasure guarded by a fish. The treasure can be gained, but if we take it all, including the ring that can reproduce the gold, a curse will fall on the greedy owner whereby the very possession of the treasure will bring about his ruin. It is the same idea as when Ilsebill demands the impossible or when a fool kills the goose that lays the golden eggs.

MISCELLANEOUS.

RE-INSTATING A DECAPITATED OFFICIAL.

Friends from China keep the editor supplied concerning the progress of the Celestial Empire. Most of the latest reforms are well known to our readers through the daily press. China is to have a constitution and will enter into the company of modern states.

A recent item of information which has not reached the daily press and is not likely to, is the curious imperial edict which has been promulgated in the *Pekin Gazette*, the official organ of the government.

It refers to the Saint of Timu, one of the Lamaist prelates of Tibet, who made such a great misuse of his power during the late disturbances in that mysterious country that the Chinese officials had to interfere and have him beheaded. Still, the office which he held must be filled again and the wealth he accumulated during his life time is, or ought to be, the property of his church. Naturally there are parties in Tibet representing large interests, and the Chinese government has to avoid friction in order to maintain its almost nominal but pretty well established supremacy in that country.

The Chinese are past masters in diplomacy and can deal with such complicated affairs in a fashion impossible to European governments. We note accordingly that the imperial decree reinstates the executed saint and restores to him his property. To be sure he has been executed, but his soul still lives on, so that all that the Chinese officials have to do is to give his soul permission to reincarnate in the new body. The edict, promulgated in the name of the baby emperor and signed by his uncle the prince regent, refers to a certain *hu-tu-ke-tu*, one of the prelates of Tibet, indicted, condemned and decapitated two years ago. It reads thus:

"We have received a memorial from the Imperial Resident in Tibet, Tien Yu, stating that in the twenty-fifth year of Kuansu the deposed Dalai Lama recommended in a dispatch that the Saint of Timu, A-Wang-Ta-Pu-Chang Cheng-Li-Yao Chieh, who engaged Lama Chan-Tui-Kang-Pa to make an attempt on his (the Dalai Lama's) life by sorcery, be dispossessed of his titles of Saint and Chen Shan Buddha. But according to the joint petitions (received later) from the Lamas of other temples, it appears that the said saint, who was free from bad conduct, was falsely accused, and mercy was asked on his behalf.

"As the circumstances of this case have been thoroughly investigated by Lieu Gu, we sympathize with the Saint of Timu for having been accused without foundation, and it is hereby commanded that his titles of Shan Buddha

and Saint of Timu be restored to him, and that he be entitled to re-embodiment.

"The property and estate in the temple are to be returned to him after an inventory has been taken by the Treasury Department, so as to do him justice and to protect the Church of the Yellow Order.

"The proper Board shall take note of this."

The Hong Kong *Daily Press* quotes from the *Morning Leader* the following comments by Frederick Moore in explanation of such cases:

"There was evidently more to this weird affair than the edict divulged: and I inquired, therefore, of some Chinese friends who know the meanings of things in their peculiar country, and also some Europeans wise in the ways of the Chinese Government.

"I learned that the Saint of Timu was one of those higher dignitaries of the Lama faith who are entitled, like the Dalai and Panshen Lamas, to successive reincarnations. No sooner does his soul depart one human form than it enters another. Hence the curious wording of the edict, which gave no hint of the pressure put upon the hutuketu's soul to depart from the last body it had had the temerity to occupy.

"Now, the ex-Dalai-Lama, the temporal as distinct from the religious head of the Tibetan faith, was evidently much of a rogue, and deserved to be driven out of the country by the Chinese troops because he caused this unfortunate hutuketu of many names to lose his head for no other reason than his failure to fall in with the Dalai's suggestion of sharing his spoils, for the hutuketu was very rich, according to my Chinese friends.

"It is, of course, comprehensible to a Western intellect how a soul can be set free, but to re-establish one in a mortal coil requires some little elucidation.

"For some centuries, and until comparatively recent times, the relatives and persons surrounding each successive Tibetan pontiff contrived by more or less open acts of fraud to indicate after his decease the individual whom it suited them to select as the new incarnation.

"It was in order to obviate proceedings of this kind, which had more than once brought forward persons distasteful and dangerous to the suzerain power, that the Emperor Kien Lung ordained, in 1792, that the succession, both to the august office of Dalai Lama and also that to other spiritual dignities, should be determined in the following manner:

"At the decease of each Dalai Lama—when like all members of the class endowed with the privilege of successive birth, he is said to have 'entered upon the perfection of repose'—inquiries are made by the priesthood with reference to miraculous signs which may have been observed in attendance upon the birth of children at about the period of the Lama's death.

"Particulars of the required kind are always procured, and these are transmitted in proper form to the Chinese authorities at Lhasa. After reports have been made to Peking, a certain number of infants are brought with their parents to the Tibetan capital, where, on an appointed day, their names are inscribed on slips of wood, which, after being carefully sealed, are deposited in a golden urn prescribed by the Emperor Kien Lung.

"The name drawn forth from the urn is hailed amid universal rejoicing as that of the new incarnation, and the Dalai Lama is declared to have 'come forth in re-embodiment.' After a short period the newly acclaimed pontiff, at the age of perhaps two or three years, is solemnly enthroned; and during

his long ensuing minority he remains as a matter of course a puppet in the hands of the Chinese Imperial Resident.

"In the same way the lesser ecclesiastical dignitary, the hutuketu, will be called back to life to receive again his titles and his rich estates.

"Being puzzled about the ex-Dalai-Lama, I inquired of my friends whether he would be deprived of his spirit, and left to walk about the earth a soulless body. For such, it seemed to me, would be his plight if the emperor of China, or rather the regent who acts in the infant emperor's name, should issue an edict placing the Lama's soul elsewhere. But I found that the Chinese and the Buddhist Tibetans intend to be reasonable in this matter. They say that since the ex-Dalai-Lama was not a good man he could not have been the true incarnation; and it is the intention in selecting the new pontiff to find, not an infant of this day, but a full-grown man of the same age as the deposed Dalai into whom the soul of the predecessor must, they allege, have passed."

GREEK LAMPS.

BY ALAN S. HAWKESWORTH.

The Rev. A. H. Sayce, D.D., LL.D., Litt.D.; and D.C.L. of Oxford, has contributed to the *Hilprecht Anniversary Volume* an interesting and valuable paper on "The Origin of the Greek Lamp," in which he shows that the very familiar Greek and Roman "sauce-bowl" lamp is first found pictured upon the "boundary stone" inscriptions of the late Cassite dynasty in Babylonia (1700-1400 B. C.), wherein it is the new symbol for the god Nusku, the earlier lamp symbol of this god being merely the primitive pot of oil with a wick, similar to the early Egyptian lamp. This "sauce-bowl" lamp with spout and handle was entirely unknown, apparently, to the Homeric Greeks, and first occurs among the Hellenes of the late sixth and seventh centuries B. C., while in Egypt it is of still more recent, and Alexandrian date.

In the highlands of Asia Minor, however, excavations have uncovered specimens fully as ancient as the earliest Babylonian examples, and while Dr. Sayce believes that the Hittites and Phrygians borrowed the newly invented lamp from the Cassite Babylonians, yet it is quite within the bounds of probability that the borrowing was in the other direction. Or again, inasmuch as the original home of the Cassite invaders of Babylonia is as yet unknown, and since they might very well have come from Phrygia, or elsewhere in the highlands of Asia Minor, may not this lamp have been one of their importations into Babylonia? Its form certainly implies a bronze, not a clay original, and bronze in turn requires a mountainous country, with metallic veins and lodes—all things foreign to the alluvial mud of Babylonia.

BOOK REVIEWS AND NOTES.

THE PLACE OF PRAYER IN THE MODERN WORLD-VIEW. By *Rev. George Hooper Ferris, D.D.* Pp. 10.

This lecture delivered by Dr. Ferris, the pastor of the First Baptist Church of Philadelphia, Pa., before the Baptist Congress of 1910 in Augusta, Georgia, is a sign of the times in so far as it reflects considerable change of view under the influence of science, accepting a scientific world-conception without surrendering the religious spirit of the church. The following quotations are sufficient to characterize the drift of the author's thought:

"Whatever science may say as to the nature of the All, the need that gives rise to prayer remains. It is as fundamental as the need that gives rise to science. That there is some Power, not ourselves that acts upon our souls, is evident. To liberate this Power in our lives, to make it operative through our actions, is a supreme necessity of our existence. Any effort to attain such an end will inevitably result in prayer. We will pray, not that we may have our desires gratified, but that the desires of God may have free course through us. We will pray, not that the purposes of Providence may be altered to suit our wants, but that our longings may be changed to suit God's purposes.

"There is one kind of prayer that has become impossible. The modern man does not try to bend the will of the Almighty into conformity with his own desires, or his individual wants. The awfulness of universal law rests too heavily upon him. Tennyson has put the case with terrible and pathetic truthfulness:

"O mother, praying God will save
 Thy sailor,—while thy head is bow'd,
 His heavy-shotted hammock-shroud
 Drops in his vast and wandering grave."

"We face the fact with dreadful and irresistible submission that no prayer will change the movements of universal order. The modern man is almost ready to adopt the position of Peter Annet, one of the most radical of the Deists, who declared that praying men are like sailors who have cast anchor on a rock, and who imagine they are pulling the rock to themselves, when they are really pulling themselves to the rock. . . .

"To be sure, no act of life has been more abused. Gross superstitions have mingled with its practices. Vindictive passions have found their way in among the high aspirations and noble impulses. Ecclesiasticism has turned it into merchandise. A foolish faith has treated it as a sort of a divine Charity Board, to give outdoor relief to lazy applicants. But, despite all this, the fact remains that it is the one great power for lifting life above that which is sordid, and surrounding it with the glow of the Eternal. Until some substitute has been found, some better way of filling our acts with immortal significance, some nobler method of keeping us true to the pattern made in the skies, we must continue to pray." κ

An anonymous subscriber in comment on the first line of Professor Cumont's article on "The Transformation of Roman Paganism" in the *March Open Court* asks for information with regard to the "time of the Severi." In reply we will state that the Severi were two Roman emperors of whom Lucius Septimius Severus reigned from 193 to 211 and Alexander Severus from 222 to 235, so that the period of the Severi could practically be said to cover the years from 193 to 235.

We prefer correspondents always to give name and address when making inquiries.

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Mr. J. E. Fries has translated into clear English Johan Gustaf Björklund's last work, "Death and Resurrection, from the Point of View of the Cell Theory," which was written three years before the author's death in 1903. The translator considers this book one of Sweden's most remarkable and interesting contributions to contemporary philosophy.

His theory of death and resurrection is a chain of argument put together by a man of remarkable reasoning powers and keen imagination. It is based partly on this fact: "Science has shown that man's body is renewed several times during life, and that even the bones, placed in the ground, soon 'arise,' through nature's forces themselves, and take part in the universal circulation of matter. In face of all the evidence of this truth, it is impossible to believe in the old doctrine of physical resurrection." He then quotes Granfelt: "The only lasting attribute of the soul during this process is the spiritual body, which assimilates, typically forms, and again secretes the earthly matter. It must be this spiritual body, then, that constitutes the combining element between man's earthly body and his glorified body in the eternal life."

The author's aim now is to show, if possible, that the spiritual body and these living units are necessary for man in a future existence, as here in time. The larger part of the book is given to an instructive and interesting discussion of the scientific grounds upon which materialism and idealism are built. His conclusion is that "life

is not a material force, but has a supernatural origin in a higher, immaterial world."

There is a mystical saying: "As in the microcosm, so in the macrocosm." And truly there is a strange analogy between ourselves and the world about us. We seem to be in many ways replicas of our great mother, the universe. Myth-making poets, describing sunrise or sunset, the passing of a Summer storm, or the changing of the seasons, have told, half unconsciously, some of the deepest secrets of the soul. Attempts to force secrets of this kind from nature are apt to reduce themselves to absurdity, but Björklund seems to have come on one of these deeper analogies. That he has developed it to its inevitable conclusion with the exactness of a mathematical problem one may well doubt, but the theory is highly interesting. Men are gradually changing their ideas of life. We recognize death in too many forms nowadays, not to count it as beneficent. Do we not die every day? Are we not compelled to replenish our lives? It is this death that enables men to

rise on stepping-stones

Of their dead selves to higher things.

THE INDEPENDENT

New York, Feb., 1911.

DEATH AND RESURRECTION: By Johan Gustaf Björklund. *Open Court*, \$1.00.

The translation into English of the views of the Swedish thinker Johan Gustaf Björklund on "Death and Resurrection" will interest many readers because of their basis in the cell-theory; but few will assent to the central and necessary postulate that "biology discovers and proves the existence of that spiritual body which humanity has surmised since prehistoric times."

THE BALTIMORE NEWS

Feb. 7, 1911.

THE NAPOLEON MYTH. By Henry Ridgely Evans. With "The Grand Erratum," by J. B. Pérès, and Introduction by Paul Carus. Illustrated. Boards, 75c net. (3s. 6d. net.)

The dominance and persistence of Bonaparte as a subject and the unremitting way in which he haunts literature is at least interesting, and renders peculiarly significant his words, entered in his diary at St. Helena: "They may chop and suppress, but they will have a difficult time making me disappear altogether." A book unique in its way, entitled "The Napoleon Myth," by Henry Ridgely Evans, gives much interesting evidence that the Napoleonic legend and its impression will endure. "Legend makers 1800 years from now," said Mr. Evans, "will perhaps characterize him as a ruthless vandal from a barbarous island called Corsica, who swept over the civilized world carrying death and destruction. Many will express doubt that he ever lived. He

will appear in the light of a mythical hero, like King Arthur, and those who believe in the reincarnation of the soul upon earth will perhaps endeavor to show that Napoleon was identical with Rameses II., Alexander the Great and Charlemagne. Mr. Evans is the author of "The Old and the New Magic," "Hours With the Ghosts," etc.

THE DETROIT NEWS

Feb. 12, 1911.

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