

## CATECHISM OF A SCIENTIST.

Sir Oliver J. Lodge, LL.D., F.R.S., principal of the University of Birmingham, has issued the text of a catechism, which is designed for the use of teachers interested in the education of the young. The object sought after is the harmonizing of religion and the theories of evolution. The text of the catechism has been cabled to the New York Sun. In the preface Sir Oliver says:

"From the viewpoint of a teacher and a trainer of teachers the following clauses have been drafted by me as affording a partially scientific basis for future religious education:

"Question—What are you?

"Answer—A being, alive, conscious upon this earth, my ancestors having ascended by gradual processes from the lower forms of animal life and with struggle and suffering become man.

"Question—What then is meant by the fall of man?

"Answer—At a certain stage of development man became conscious of the difference between right and wrong so that thereafter when his actions fell below a normal standard of conduct he felt ashamed and sinful. Nevertheless the possibility of the fall marks a rise in the scale of existence, as creatures below this level are irresponsible, feel no shame, suffer no remorse and are said to have no conscience.

"Question—What is the distinctive character of manhood?

"Answer—That he has responsibility for his acts, having acquired the power of choosing between good and evil with freedom to obey one motive rather than another.

"Question—What is the duty of man?

"Answer—To assist his fellows, to develop his own higher self, to strive toward good in every way open to his powers, and generally to seek to know the laws of nature and obey the will of God, in whose service alone can be found that harmonious exercise of the faculties which is synonymous with perfect freedom.

"Question—What is meant by good and evil?

"Answer—Good is that which promotes development and is in harmony with the will of God. It is akin to health, beauty, and happiness. Evil is that which retards and frustrates development and injures some part of the universe and is akin to disease, ugliness and misery.

"Question—How does a man know good from evil?

"Answer—His own nature, when uncorrupted, is sufficiently in tune with the universe to enable him to be well aware of what is pleasing and displeasing to the guiding spirit of which he himself should be a real, effective portion.

"Question—How comes it that evil exists?

"Answer—Acts and thoughts are evil when they are below the normal standard attained by humanity. The possibility of evil is a necessary consequence of the rise in the scale of moral existence, just as an organism whose normal temperature is far above absolute zero is necessarily liable to a damaging, deadly cold, but the cold is not in itself a positive or created thing.

"Question—What is sin?

"Answer—Sin is the deliberate, willful act of a free agent who sees better but chooses worse and thereby acts injuriously to himself and others. The root of sin is selfishness, whereby needless trouble and pain are inflicted on others. It is akin to moral suicide.

"Question—Are there beings lower in the scale of existence than man?

"Answer—Multitudes. In every part of the earth where life is possible we find it developed. Life exists in every variety of animal, in the earth, the air and the sea, and in every species of plants.

"Question—Are there beings higher in the scale of existence than man?

"Answer—Man is the highest of the dwellers of the planet Earth, but the earth is only one of many planets warmed by the sun. The sun is only one of a myriad of similar suns which are so distant that we hardly see them, and group indiscriminately as stars. We may be sure that in some of the innumerable worlds circulating about distant suns there must be beings far higher in the scale of existence than ourselves. Indeed we have no knowledge which enables us to assert the absence of intelligence anywhere.

"Question—What caused and what maintains existence?

"Answer—Of our own knowledge we are unable to realize the meaning of its origination and maintenance. All we can accomplish in the physical world is to move things about by means of our bodily organisms and then leave them to act on each other. But we conceive that there must be some intelligence supreme over the whole process of evolution or else things could not be as organized and as beautiful as they are.

"Question—Is man helped in the struggle upward?

"Answer—Man did not bring himself into existence nor can he unaided maintain his existence or achieve anything whatever. There is certainly a power in the universe vastly beyond our comprehension. We trust and believe it to be a good, loving power, able and willing to help us and all creatures, to guide us wisely

without detriment to our incipient freedom. This loving kindness surrounds us every moment. In it we live and have our real being. It is the mainspring of love, joy, and beauty. We call it the grace of God. It sustains and enriches all worlds. It may take a multiplicity of forms, but its essence and higher meaning is especially revealed to the dwellers on the earth in the form of the divinely human, perfect life of Jesus Christ, through whose spirit and living influence man may hope to rise to heights at present inaccessible.

"Question—How may we become informed of things too high for our own knowledge?

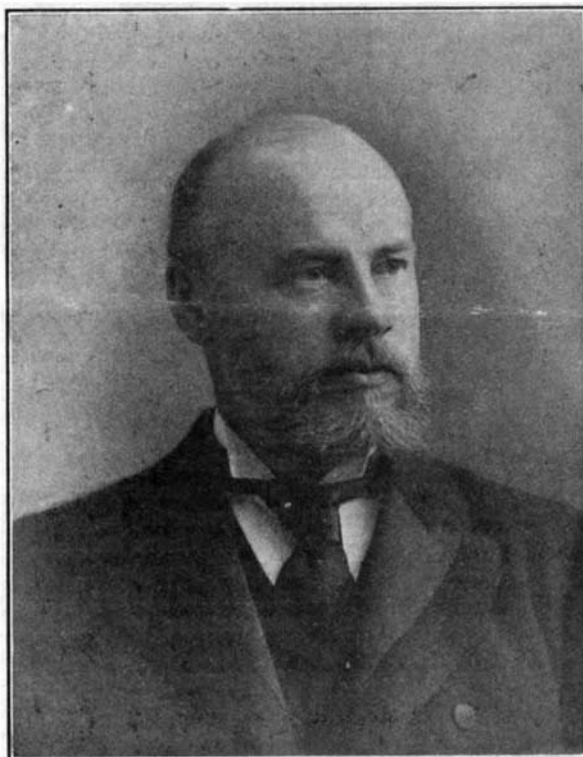
"Answer—We should strive to learn from the great teachers, prophets, poets, and saints of the human race whose writings have been opened to us by education. Especially should we learn how to interpret and understand the Bible, which the nation holds in such high honor.

"Question—What then do you reverently believe can be deduced from a study of the records and traditions of the past in the light of the present?

"Answer—I believe in one infinite, eternal Being, a guiding, loving Father, in whom all things consist. I believe the divine nature is especially revealed to man in Jesus Christ, who lived, taught, and suffered in Palestine 1,900 years ago and has since been worshiped by the Christian Church as the immortal Son of God and Saviour of the world. I believe the Holy Spirit is ever ready to help us along the way to goodness and truth, that prayer is the means of the communion of man and God and it is our privilege by faithful service to enter life eternal, the communion of saints and the peace of God.

"Question—What do you mean by life eternal?

"Answer—Whereas our terrestrial existence is temporary, real existence continues without ceasing in either higher or lower form according to our use of the opportunities and means of grace and that the



DR. WILLIAM HENRY WELCH.

fullness of life which is ultimately attainable represents a state of perfection at present inconceivable to us.

"Question—What is the significance of the communion of saints?

"Answer—Higher and holier beings must possess in fuller fruition those privileges of communion which are already foreshadowed by our own faculties, language, sympathy and mutual aid, and just as we find our power of friendly help not altogether limited to our own order of being so I conceive the existence of a mighty fellowship of love service.

"Question—What do you understand by prayer?

"Answer—That when our spirits are attuned to the spirit of righteousness our hopes and aspirations exert an influence far beyond their conscious range and in the true sense bring us into communion with our Heavenly Father. This power of filial petition is called prayer. We are encouraged to ask for anything we need. As children we ask our parents in a spirit of trust and submission and we may strengthen our faith in the efficacy of prayer by pleading the example and merits of the Lord Jesus and rehearse the prayer taught by Christ—'Our Father, who art in Heaven.'

"Question—What is meant by the kingdom of Heaven?

"Answer—The kingdom of Heaven is the most essential feature of Christianity. It signifies the harmonious condition or state in which the divine will is perfectly obeyed. It represents the highest state of existence, individual and social, which we can conceive. Our whole efforts should directly and indirectly make

ready its way in our hearts and our lives and in the lives of others. It is the ideal state of society toward which reformers are striving. It is the ideal of conscious existence toward said aim."

## WILLIAM HENRY WELCH.

BY MARCUS BENJAMIN, PH.D.

First in 1887, then in 1900, and now for a third time in its history, the American Association for the Advancement of Science will meet in the great metropolis of New York. Langley, distinguished for his researches in astrophysics, presided over the meeting in 1887; Woodward, famous among physicists, was the presiding officer in 1900; and at the present meeting one who has gained eminence in pathology, and indeed the foremost among his contemporaries, will direct the deliberations of the scientists who have gathered this week in Columbia University.

William Henry Welch, son of William Wickham Welch and Emeline Collin Welch, was born in Norfolk, Conn., on April 8, 1850. He prepared for Yale, where he graduated in 1870. Among his classmates was Edward S. Dana, like him a leader in science. His college class numbered 113, and of these ten elected to study medicine, among whom was Welch. And so he came to Columbia and matriculated in her medical department, more generally known as the College of Physicians and Surgeons, receiving his degree in 1875. Three years were then devoted to study abroad, and he listened to the masters in his specialty at the universities of Strasburg, Leipsic, Breslau, and Berlin.

In 1878 he returned to New York city, and accepted an appointment as demonstrator of anatomy in Bellevue Hospital Medical College, becoming soon after also professor of pathological anatomy in this institution, which chair he continued to fill until 1884, when he was elected to the professorship of pathology in Johns Hopkins University, which he still retains. Five years later, when the Johns Hopkins Hospital was opened, he naturally became its pathologist, a place in which he has added fame to the institution as well as gaining reputation for himself. Increasing responsibilities have come to him as the years have advanced, and recently he has been made dean of the medical schools.

It is not necessary to summarize his researches in a brief outline sketch of his career, but they were embodied in numerous valuable papers, especially in pathological and histological subjects, contributed to medical journals both at home and abroad. Of his more extended writings, mention may be made of the sections on pathology and pathological anatomy in the fifth and later editions of Flint's "Theory and Practice of Medicine," of the chapters on organic diseases of the stomach in Pepper's "System of Medicine," and of the chapter on general considerations concerning the biology in bacteria, infection, and immunity in the same author's "Text Book of the Theory and Practice of Medicine." He has also contributed to Dennis's "System of Surgery," Allbut's "System of Medicine," and to "A Textbook of Medicine by American Teachers." The Cartwright lectures were delivered by him, and these he published in 1888 under the title of "General Pathology of Fever." His valuable contributions to his chosen specialty have not failed to receive recognition. In 1894 the University of Pennsylvania gave him the honorary degree of M.D. Western Reserve in 1894, Yale in 1896, Harvard in 1900, Toronto in 1903, and Columbia in 1904 welcomed him into the ranks of their alumni by conferring upon him the degree of Doctor of Laws. His other honors include membership in the Philadelphia College of Physicians, the Pathological Societies of Philadelphia and of London, the American Academy of Arts and Sciences, and the National Academy of Sciences, in which body he has served with repeated elections as a member of council.

His recognized ability as an administrator has likewise received conspicuous recognition, and notable among the honorary appointments that he has been called upon to accept is that of trustee of the Carnegie Institution in Washington, to which he was elected in 1905 and re-elected in 1906. During 1891-2 he was president of the medical and surgical faculty of the State of Maryland. He has been president of the State Board of Health of Maryland, and in 1897 presided over the Congress of American Physicians and Surgeons.

Dr. Welch became a member of the American Association at the Boston meeting in 1898, and was made a fellow two years later. He manifested his interest in the organization by aiding in the formation in 1902 of a section on Physiology and Experimental Medicine, of which he was chairman in 1902, and again in 1903.

The long-established practice of alternating the selection of a president from the representatives of the natural and physical sciences has slowly yielded in recent years to the better policy of recognizing the most eminent man of science in the United States as the most desirable person to fill the presidency of the American Association for the Advancement of Science, and this opinion found its expression at the last meeting in the choice of William Henry Welch, America's most famous pathologist.