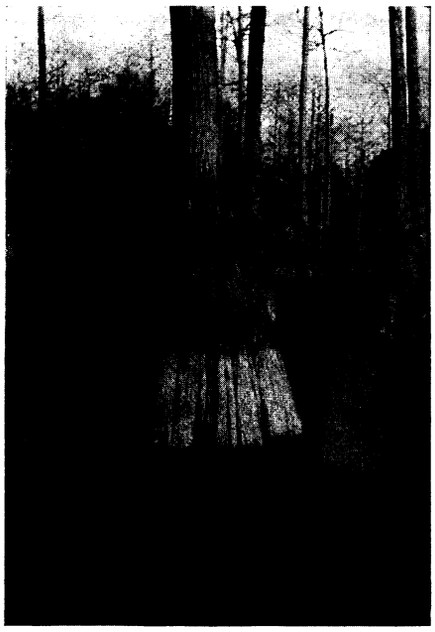

FORMED BY COOPERATION

normal during recently droughty summers. The trees growing in this lake, which date back to before the great earthquake subsidence, have formed typical buttresses far up their trunks, which were left hanging high and dry by the lowering of the lake level. He terms this type "bell buttresses."

Cypress "knees," conical spongy-wooded upgrowths on the trees' roots, are formed as the buttresses are formed, only where air and water work together, the two botanists state. Botanists hitherto have considered knees as organs of aeration. Prof. Kurz and Dr. Demaree, on the contrary, consider these outgrowths as responses to air and water. They never appear on the roots of dry-land cypresses, and never on cypress roots immersed permanently in deep water.

Science News Letter, March 10, 1934

PHOTOGRAPHY

On The Front Cover

A HIGH SPEED photograph of what happens when a hammer and a pane of glass meet is reproduced on the front cover of this week's SCIENCE NEWS LETTER.

This picture was made by Prof. Harold E. Edgerton and Kenneth J. Germeshausen of the Massachusetts Institute of Technology at an exposure of 1/100,000 of a second. The camera caught the scene at the moment of impact when the fragments of glass were about to separate.

Science News Letter, March 10, 1934

HISTORY OF SCIENCE

Civilization Lived With Arabs During Misnamed 'Dark Ages'

Historians of Middle Centuries Said to Have Ignored Arabic Records of Progress in Science and Culture

THE "DARK AGES," modern historians' convenient device for sweeping their own ignorance of the past under the bed, never really existed. Between the sixth and tenth centuries A. D., western Europe may have suffered a recession of the Roman culture, which it had in any case never enjoyed for very long; under the trampling feet of barbarian invasion the torch of Rome itself may have been almost extinguished; but in the lands around the eastern end of the Mediterranean, which are the real original home of our somewhat misnamed "Western" civilization, the light of culture never even burned low. From its brilliance in the hands of the Byzantine Greeks it passed to even greater brilliance in the hands of Arabic culture that built itself around the unifying conquests of the followers of Mohammed.

This is the thesis advanced by Dr. George Sarton, historian of science and research associate of the Carnegie Institution of Washington.

The trouble with the "orthodox" historians of the Middle Ages, Dr. Sarton points out, is that though they may be good Latinists they cannot read Arabic; and it was in Arabic that almost all progress in science and culture were recorded, and continuity with the past maintained, from the time of Mohammed until the middle of the eleventh century.

This does not mean that the brilliant civilization of the Moslem empire, which stretched from central India to the then "wild and woolly West" of Spain, was exclusively the work of the Arab conquerors. On the contrary, when they first launched into their career as world masters, Dr. Sarton says, they were not much better off culturally than our western Indian tribes. But they were remarkably apt pupils, learned with miraculous rapidity the lessons which Byzantine Greek civilization could teach, and in two centuries rose to as high an intellectual level as any people has ever reached.

At the same time, the culture they established proved itself adaptable and absorptive toward the educated minds among the many races the Arabs ruled. Among the learned men identified with the Arabic culture of that long period there were at least as many Christians and Jews as there were Arabs. Their adaptations of Greek learning and their extensions of science carried them to primacy in such fields as astronomy, mathematics, medicine, physics and chemistry.

They influenced cultures outside their own. The greatest of Jewish philosophers, Moses Maimonides, wrote not in Hebrew but in Arabic; and Arabic influences are now acknowledged to have been strong in the development of St. Thomas Aquinas, founder of scholasticism, which was the bridge between medieval and modern thinking.

The cultural chain therefore is complete and unbroken, Dr. Sarton points out: from the Greek to the Arabic culture, and from that to the high European civilization of the later Middle Ages and modern times.

Science News Letter, March 10, 1934

PHYSICS

Institute of Physics Dedicated to Einstein

DEDICATION of the new Einstein Institute of Physics at the Hebrew University of Palestine took place Tuesday, March 6, in the presence of a gathering which included high officials of the Palestine government, noted scientists, and friends of the University.

Research in the new Institute will be divided between the purely scientific and the more directly applied aspects of physics. An important part of the program will be work on the analysis of light, or spectroscopy. At the same time, a laboratory for the testing of building materials and other commodities is to be placed in commission, and is expected to have an important influence on the Palestine reconstruction program.

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