Design - Afwillite

Object: Design
Place of origin: Great Britain (drawn)
Date: 1951 (drawn)
Artist/Maker: Crystal Design Project (artist)
Materials and Techniques: Ink on paper
Credit Line: Given by the Council of Industrial Design
Museum number: CIRC.78-1968

Public access description
Sir William Henry Bragg and his son William were awarded the Nobel Prize for Physics in 1915 for the invention of X-ray crystallography. This new science enabled the first drawings of the arrangement of atoms within molecules. It was particularly developed as one of the most significant and exciting branches of science during the late 1940s and put Britain at the cutting edge of international research. In 1946 Dr Helen Megaw, a Crystallographer (Crystallography - a study of the structure of matter) suggested that the patterns made by X-ray crystallography could be used as a fresh source of inspiration for wallpaper and fabric designers. The patterns were considered particularly appropriate for use in textile design because of their repetitive symmetry and natural beauty.

The Festival of Britain held in 1951 provided new opportunities for textile design and manufacture. This drawing of Afwillite, Calcium hydroxide nesosilicate, a naturally occurring mineral, is one of a group of crystal structure drawings that inspired textiles made by the Festival Pattern Group for the event. The idea of patterns inspired by science was perfect for the theme of the Festival which had been planned as a 'combined exhibition of science, technology and industrial design'.

Descriptive line
Design for the 1951 Crystal Design Project for the Festival of Britain

Physical description
Design in blue ink on blue paper of a pattern based upon a cell structure diagram

Dimensions
Height: 55.4 cm, Width: 45.5 cm

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Object history note
Afwillite is a calcium hydroxide nesosilicate mineral. It occurs as glassy, colorless to white prismatic monoclinic crystals. Its Mohs scale rating is 4.5. It occurs as an alteration mineral in contact metamorphism of limestone. It was first described in 1925 for an occurrence in the Dutoitspan Mine, Kimberley, South Africa and was named for Alpheus Fuller Williams (1874-1953), a past official of the De Beers diamond company.

X-ray crystallography involved projecting a narrow beam of X-rays on to crystalline material. Photographs were then taken of the diffracted X-rays, and the resulting lines or spots were used to plot ‘maps’ indicating the relationships between atoms. For the first time ever it enabled scientist to work out the structure of atoms within molecules. Britain was a world leader in the field of crystallography and during the post war period this was one of the most significant and stimulating branches of science.

URL
http://collections.vam.ac.uk/item/O140749/afwillite-design-crystal-design-project/