

M.C. Escher and the Crystallographers

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Forty-five years ago, a relatively unknown Dutch graphic artist, M.C. Escher, gave a standing-room-only lecture to the Fifth International Congress of the IUCr in Cambridge, England. There was an accompanying exhibit of his work that amazed the crystallographers. His pioneering work in exploring colour symmetry was a rare instance of an artist investigating a field before “official crystallography even thought about [it].”[1] Escher's quest to understand periodic tilings (which he called ‘regular divisions of the plane’) was stimulated in 1935 by two articles in *Zeitschrift für Kristallographie*; roughly 20 years later crystallographers (notably, Caroline MacGillavry and J.D.H. and Gabrielle Donnay) sought him out to learn from his work. In 1960, Escher's book *The Graphic Work of M.C. Escher* contained a crystallographer's explanation of symmetry and symmetry groups. In 1965, the IUCr published [1] for which MacGillavry had collaborated with Escher.

We discuss how Escher's quest to understand the subject of coloured periodic tilings differed from that of the crystallographers', and how even today, some of his original investigations are worthy of further scientific inquiry.

[1] MacGillavry C.H., *Symmetry Aspects of M.C. Escher's Periodic Drawings*, IUCr, Utrecht, 1965. [2] Schattschneider D., *M.C. Escher: Visions of Symmetry*, Freeman W.H., New York, 1990, Harry Abrams, New York, 2004.

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