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Angela G. Vierling-Claassen* (avierlin@lesley.edu), 29 Everett Street, Cambridge, MA 02138. *Models of Surfaces and Abstract Art in the Early 20th Century.*

In the nineteenth century, mathematicians began to produce physical models of surfaces drawn from differential geometry, algebraic geometry, and other areas. Departments of mathematics around the world purchased such models for display and instruction. However, as the first few decades of the 20th century drew to a close, interest in the construction of models disappeared. Models at universities and museums fell into disuse and sat in cases collecting dust, where artists discovered them a short time later.

Two very different artistic movements, the surrealists and the constructivists, discovered these mathematical models at approximately the same time. Constructivist Naum Gabo began to draw direct inspiration from the forms of mathematical models in the early 1930's. Surrealist photographer and painter Man Ray did a series of photographs in 1936 of mathematical models housed at the Poincaré Institute in Paris.

In this talk, we'll discuss the history of this accidental intersection of mathematics and art. We'll also look at some beautiful models of surfaces and works by artists inspired by these models. Finally, we'll examine lessons to be learned from this historical interlude about the place of mathematics in art and art in mathematics. (Received September 12, 2007)