

The Seduction of Curves

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Abstract

The Seduction of Curves: The Lines of Beauty That Connect Mathematics, Art and the Nude, published by Princeton University Press in 2017, points out the surprisingly rich set of connections that exist between stability theory and life drawing. The links are made via the mathematics of catastrophe theory developed in the 1970's by the French mathematician and Fields Medallist René Thom. Catastrophe theory provides a natural language for the description of curved shape, and yet it is not widely known. Given the prevalence of curved forms throughout science and art, the book shows how knowledge of this language can enrich the appreciation of existing artworks, from the Renaissance works of Michelangelo through to the modernism of David Hockney, Henry Moore and Anish Kapoor. There is particular focus on the works of Naum Gabo and the later works of Salvador Dali. It is also shown how the increased awareness and understanding of curved form can lead to new insights into the processes of perception and even of aesthetics, and can open new avenues for artistic exploration and creativity, as evidenced by Allan's sculpture, *The Swallowtail Pavilion* in Jo Thompson's gold-medal winning Wedgwood Garden at the 2018 Chelsea Flower Show.

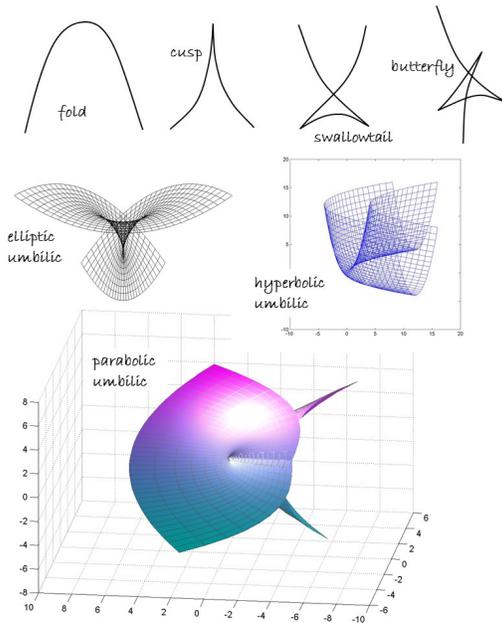


Figure 1: *The seven elementary catastrophes of René Thom.*

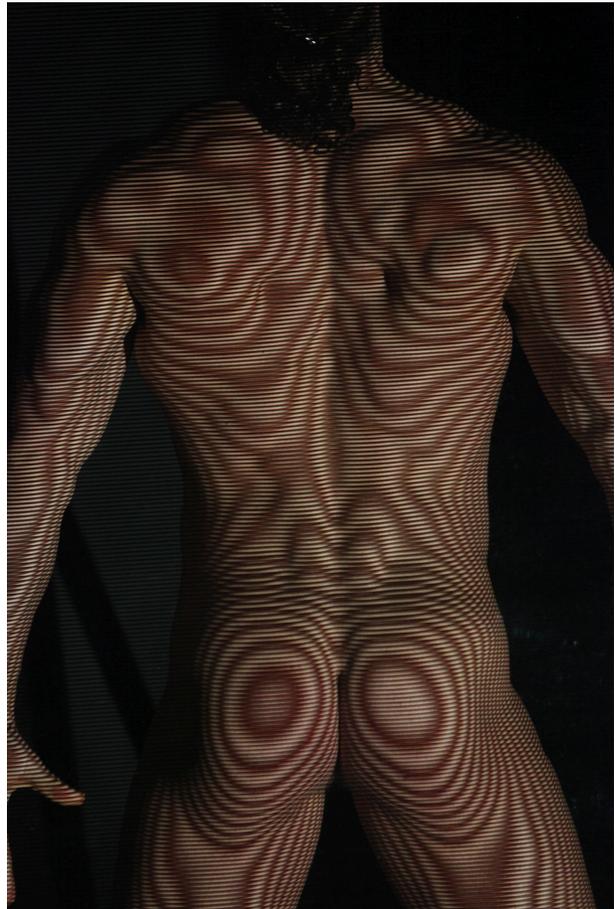


Figure 2: *Moiré Interferometry shows the elliptic and hyperbolic regions of the human form. (Model: Joel Hicks, Photo: Helena Weightman)*