Morphogenesis and morphing 200 years after Gauss



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The history behind Gauss's Disquisitiones circa superficies curvas

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The publication of Disquisitiones circa superficies curvas (1828) is widely regarded as marking the beginning of modern differential geometry. Although important results in the geometry of curves and surfaces had already been achieved during the 18th century, Gauss's contribution inaugurated an entirely new phase in the development of the discipline.

The composition of the Disquisitiones was the result of a long process of reflection and successive revisions that occupied Gauss—albeit intermittently—for well over a decade. Despite its brevity, the work stands out for the deliberateness of the techniques employed and the meticulous care with which they are presented.

My contribution aims to explore the intellectual journey that led Gauss to the final drafting of this work, with particular attention to the discovery of the Theorema Egregium and the first version of its proof, which was completed exactly 200 years ago (1825).

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