

## The sublime in maths and science

In his Critique of Judgement (1790), Kant defines the mathematical sublime as that which is absolutely great. By this he means that the imagination fails to measure the vast dimensions of some object in nature, but the quality of its boundlessness is nevertheless recognised by reason. Thus, the mathematical sublime experience is the result of a mental process -- the sublime does not inhere in the object.

This project will investigate sublime notions in mathematical and scientific practice. For example, comparing the cardinality of sets perhaps presents a sublime encounter: with reference to the natural numbers, the real numbers are innumerable, i.e. natural numbers, as units of imagination's measure, cannot be extrapolated to contain the boundlessness of the real numbers. Nevertheless, reason can appreciate how this infinity "runs loose" (e.g. via Cantor diagonalisation). Kant might have complained that this is too transcendental an example. Therefore, examples could also be sought from the physical sciences, such as singularities and event horizons in black holes. Is the sublime a useful concept in these instances? Does it say anything about the mental process of scientific discovery?

The student is encouraged to bring a philosophical understanding of the sublime (not necessarily restricted to Kant) into contact with examples drawn from maths and science.