Descartes handed over to the philosophical tradition a puzzle concerning infinity that is at least partly original compared to those that have bedevilled philosophical and mathematical thought since antiquity: from where can we derive the idea of an ongoing infinity, given that all our experience can only be finite? As is well known, Descartes proposed an extra-experiential origin of such an idea. Later, Locke proposed an attempt at an empirical foundation for the idea of infinity, but his solution does not seem sufficient to explain the presence of the idea of the actual infinite in our minds. In the present contribution, by taking up Lockean reflections in a Husserlian key, and integrating it with a non-supersensible reading of the Kantian sublime, we offer a foundation of the idea of the actual infinite within ‘natural’ experience. Such a foundation succeeds in adhering to the principle that nothing can be asserted in phenomenology that does not show itself within the limits of consciousness.