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Postmodern Epistemology in Daniel Kehlmann's Measuring the World

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ABSTRACT

Daniel Kehlmann's *Measuring the World* (2007) reimagines the lives of Carl Friedrich Gauss and Alexander von Humboldt to explore the nature and limits of human knowledge. This paper examines the novel through the lens of postmodern epistemology, arguing that Kehlmann challenges Enlightenment faith in objective truth, rationality, and scientific certainty. While Gauss seeks to understand the world through mathematics and abstract reasoning, Humboldt attempts to master it through observation, measurement, and empirical investigation. Despite their different approaches, both characters encounter the limitations of their methods, revealing that knowledge is never complete or absolute. The novel further questions the reliability of historical knowledge by blending documented facts with fictional invention, thereby blurring the distinction between history and narrative. The objective of this paper is to analyse how Kehlmann employs postmodern narrative strategies to expose the limitations of scientific, historical, and empirical forms of knowledge. Through this historiographic strategy, Kehlmann demonstrates that the past is always mediated through interpretation and representation. The paper also analyses the role of corporeality in the production of knowledge, showing how physical vulnerability shapes scientific inquiry. By portraying two celebrated scientists as flawed and limited individuals, the novel undermines grand narratives of progress and intellectual mastery.

Keywords: Postmodern Epistemology, Daniel Kehlmann, Knowledge, History, Metafiction.

1. INTRODUCTION

Measuring the World explores the lives of the nineteenth-century scientists Carl Friedrich Gauss and Alexander von Humboldt, two figures who dedicated themselves to understanding the world through reason and measurement. At first glance, the novel appears to celebrate Enlightenment ideals of scientific progress and rational inquiry. However, a closer reading reveals that Kehlmann consistently undermines the belief that reality can be fully known, classified, or explained. Through irony, historical reconstruction, and the portrayal of scientific limitations, the novel presents knowledge as unstable, partial, and contingent. In this sense, the novel could be interpreted as a postmodern exploration of epistemology. Postmodern epistemology challenges the modern assumption that there exists a single, objective truth accessible through reason. Jean-François Lyotard in *The Postmodern Condition: A Report on Knowledge* (1984) asserts this postmodern condition:

Simplifying to the extreme, I define postmodern as incredulity toward metanarratives. This incredulity is undoubtedly a product of progress in the sciences: but that progress in turn presupposes it. To the obsolescence of the metanarrative apparatus of legitimation corresponds, most notably, the crisis of metaphysical philosophy and of the university institution which in the past relied on it. The narrative function is losing its functors, its great hero, its great dangers, its great voyages, its great goal. (Lyotard xxiv)

It questions grand systems of knowledge that claim universal validity. Rather than accepting a unified truth, postmodern thought emphasises plurality, uncertainty, and competing perspectives. Kehlmann's novel reflects this scepticism by exposing the limitations inherent in both mathematical abstraction and empirical observation.

Gauss represents the rational side of Enlightenment epistemology. He believes that the universe is governed by hidden mathematical laws and that human reason can uncover them. Yet Kehlmann portrays him as increasingly aware of the limits of certainty. During his journey to Berlin, Gauss reflects upon chance and probability: "Gauss's conversation turned to chance, the enemy of all knowledge, and the thing he had always wished to overcome. Viewed from up close, one could detect the infinite fineness of the web of causality behind every event" (Kehlmann 8). He further speculates that even the laws of physics may be statistical rather than absolute. Such reflections undermine the traditional scientific belief in fixed and universal truths. The novel repeatedly demonstrates that mathematical genius does not grant complete access to reality. Although Gauss possesses extraordinary intellectual abilities, he remains unable to control the uncertainties of life. Ageing, illness, family conflicts, and emotional frustrations constantly interrupt his pursuit of knowledge. His brilliance therefore coexists with ignorance and limitation. Kehlmann suggests that reason, often celebrated as the highest path to truth, is itself constrained by human experience and circumstance. In this regard, the novel challenges the Enlightenment assumption that reason can provide complete access to truth. Lyotard regards it as "In the first place, scientific knowledge does not represent the totality of knowledge; it has always existed in addition to, and in competition and conflict with, another kind of knowledge, which I will call narrative in the interests of simplicity (its characteristics will be described later)" (7).

In *Measuring the* World, contrary to Gauss, Humboldt represents empirical knowledge. His ambition is to measure, classify, and document every aspect of nature. Throughout the novel he records mountains, rivers, plants, climates, and geographical coordinates with obsessive precision. His conviction is that the world can be understood through systematic observation. Yet Kehlmann ironically portrays this ambition as excessive and ultimately unattainable. The vastness and complexity of nature continually exceed Humboldt's efforts to master it. One revealing episode occurs when Humboldt declares that "A hill whose height remained unknown was an insult to the intelligence" (33). This statement illustrates his faith in measurement as a means of understanding reality. However, the narrative frequently exposes the absurdity of this obsession. No matter how much Humboldt measures, there is always another landscape, another phenomenon, or another mystery awaiting investigation. Knowledge therefore becomes an endless pursuit rather than a final achievement. This distinctive character is recorded by Andera Wulf in Humboldt's biography titled *The Invention of Nature: Alexander von Humboldt's New World* (2015):

Humboldt was assembling the data he needed to make sense of nature as a unified whole. If nature was a web of life, he couldn't look at it just as a botanist, a geologist or a zoologist. He required information about everything and from everywhere, because 'observations from the most disparate regions of the planet must be compared to one another'. (Wulf 105)

Kehlmann further destabilises scientific certainty through the novel's treatment of history. Although the narrative is based on real historical figures and events, it freely blends fact with invention. Numerous anecdotes are exaggerated, fictionalised, or deliberately ambiguous. For instance, the famous story of young Gauss correcting his father's payroll calculations is presented within the narrative only to be questioned later:

Once his father had made an error when he was counting out his monthly pay, and this had made Gauss start to cry. As soon as his father caught the mistake, he immediately fell quiet again. Eugen looked impressed, even though he knew the story wasn't true. His brother Joseph had made it up and spread it around. His father must have heard it recounted so often that he had begun to believe it himself. (8)

This uncertainty demonstrates how historical knowledge is often shaped by narrative construction rather than objective truth. The novel's historiographic nature aligns with Linda Hutcheon's understanding of postmodern historical fiction. Hutcheon argues that historiographic metafiction questions the possibility of objective historical representation while still engaging with historical events. In *A Poetics of Postmodernism: History, Theory, Fiction* (1988), she claims the following:

Historiographic metafiction both underlines its existence as discourse and yet still posits a relation of reference (however problematic) to the historical world, both through its assertion of the social and institutional nature of all enunciative positions and through its grounding in the representational. (Hutcheon 141)

Similarly, by blurring the boundary between documented history and imaginative reconstruction, Kehlmann reveals that historical knowledge is mediated through stories, interpretations, and textual representations rather than direct access to the past.

Another important aspect of the novel's epistemology is its emphasis on the body. Enlightenment thought traditionally privileges the mind over the body, presenting knowledge as a purely intellectual activity. Kehlmann challenges this assumption by showing that scientific inquiry is inseparable from physical existence. Gauss suffers from illness, fatigue, and ageing, while Humboldt repeatedly subjects his body to pain in the name of research. Knowledge emerges not from detached rationality but from embodied experience. Humboldt's self-experiments with electricity provide a striking example. In his attempt to understand galvanic currents, he allows wounds to be cut into his back and conducts painful experiments on himself. The narrative displays it:

He took off his shirt, lay down on the bed, and instructed a servant to attach two cupping glasses to his back. The servant

obeyed, and Humboldt's skin produced two large blisters. And now please cut the blisters open! The servant hesitated, Humboldt had to raise his voice, the servant took up the scalpel. It was so sharp that the cut caused almost no pain. Blood dripped onto the floor. Humboldt ordered a piece of zinc to be laid on one of the wounds. (24)

After enduring intense suffering, he concludes that "a great deal of knowledge escapes" humanity because people fear pain (26). Here, knowledge is not presented as an abstract intellectual achievement but as something acquired through bodily vulnerability and endurance. The body thus becomes both a medium and a limit of scientific understanding. This idea relates to Michel Foucault's assertion in *Discipline and Punish: The Birth of the Prison* (1995): "the body is also directly involved in a political field; power relations have an immediate hold upon it; they invest it, mark it, train it, torture it, force it to carry out tasks, to perform ceremonies, to emit signs" (Foucault 25).

Ultimately, *Measuring the World* presents knowledge not as a stable possession but as an ongoing process marked by uncertainty and limitation. Through Gauss's mathematical scepticism, Humboldt's obsessive empiricism, the novel's blending of history and fiction, and its emphasis on corporeal experience, Kehlmann dismantles the Enlightenment dream of total knowledge. The novel therefore exemplifies a postmodern epistemological vision in which truth remains fragmented, provisional, and endlessly open to reinterpretation. In doing so, Kehlmann transforms the story of two great scientists into a profound meditation on the limits of human understanding.

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