

*Measuring the World* by Daniel Kehlmann, translated from the German by Carol Brown Janeway (Random House)

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“In September 1828, the greatest mathematician in the country left his hometown for the first time in years, to attend the German Scientific Congress in Berlin.”

Thus starts this quirky, wry novel; and the laconic, factual tone of the opening is entirely representative of this most deadpan of scientific comedies. The mathematician in question is Carl Friedrich Gauss (1777-1855), and he is about to meet the great explorer, geographer and mapmaker Alexander von Humboldt (1769-1859).

Somewhat bizarrely, the copyright page of the novel carries the usual disclaimer: “Any resemblance to actual persons, living or dead, or locales is entirely coincidental.” This could be a publisher’s oversight or it could be part of the author’s off-beat humour; it is, at any rate, even less true than such disclaimers usually are.

Gauss and Humboldt are, of course, giants of the German Enlightenment, whose scientific legacy is still with us, and as far as a quick consultation of Google could ascertain, Kehlmann adheres to the main facts of their lives, albeit highly selectively: Humboldt’s travels on the American continents, his charting of the Orinoco, his wide-ranging theories on the distribution of plant habitats according to isotherms; Gauss’s homebound exploration and discoveries in number theory, geometry, astronomy and geodesy.

The two men are radically dissimilar: von Humboldt is aristocratic, refined, withdrawn, a repressed homosexual and an obsessive traveller; Gauss is of humble origins, unsocialised to the point of boorishness, a womaniser and an inveterate homebody. What they have in common is an obsession with precision, with measuring things – or more accurately, as the title has it, measuring the world. The contrast Kehlmann makes most of is the fact that one man has to physically travel the world to measure it, whereas the other can remain at home in a darkened, airtight room and track the minuscule movements of a hanging needle in a galvanometer. “One didn’t need to clamber up mountains or torment oneself in the jungle,” Gauss reflects smugly. “Whoever observed the needle was looking into the interior of the world.”

Humboldt, for his part, taking magnetic measurements in the wastes of the Russian steppes, “thought of Gauss, a sixth of the earth’s circumference away, who was doing the same thing. The poor man had never seen anything of the world.”

The two men would seem to be on parallel courses, destined never to meet – except that it is one of Gauss’s prime discoveries, and one of the novel’s central metaphors, that space is curved and that parallel lines do meet. By novel’s end, Humboldt has an inkling of this: “all of a sudden he could no longer have said which of them had travelled afar and which of them had always stayed at home.”

The personal lives of the men are implied rather than dwelt upon: in their different ways, both men are ruled by their dedication to their scientific calling: in Gauss’s case, to the extent that he gets up from his as yet unconsummated marriage bed to jot down a crucial insight. As for Humboldt, when he eventually publishes an account of his travels, it “disappointed the public: hundreds of pages crammed with measurements, almost nothing personal.”

Only occasionally do we glimpse the suppressions that underlie the rage to knowledge, for instance in the words of Marcus Herz, an early teacher of Humboldt's: "Whenever things were frightening, it was a good idea to measure them."

By that criterion, both these men must have been scared out of their wits by the universe, but in fact both of them are marked by an intrepidity that could easily be mistaken for arrogance, that confidence in intellectual endeavour so characteristic of the Enlightenment.

It has become a commonplace that the Enlightenment, by enthroning reason and underestimating the power of irrationality, blundered into the disasters of ensuing centuries. Kehlmann does not dwell on this, but he does imbue Humboldt with a naïve faith in the power of reason and the essential rationality of the universe. "Life moved up," he proclaims, "through stages of increasing concealment of its organization until it made the leap that one could confidently name as its final achievement: the lightning bolt of reason."

In keeping with this optimistic view of rationality, Humboldt refuses, in Mexico, to believe a worker's account of the sacrifice of twenty thousand Aztecs in one day: "Twenty thousand in one place, in one day, was unthinkable. ... What was more, the world order would not support it. If such a thing ever happened, the universe would come to an end.

The universe, said the worker, didn't give a shit."

Kehlmann comes as close as he ever does to spelling out the relevance of this to modern German history by having Humboldt exclaim: "So much civilization and so much horror ... What a combination! The exact opposite of everything that Germany stood for."

It's a small incident, but for a moment it ruffles the gently satirical surface of this beguiling novel, and brings into sharp focus the ultimate question of what exactly it is that Humboldt and Gauss between them succeed in measuring: the world and beyond, certainly, but perhaps not the uncharted depths of the human psyche, and the potential for horror of what thinks of itself as civilization.