

# Measuring the World

By Daniel Kehlmann

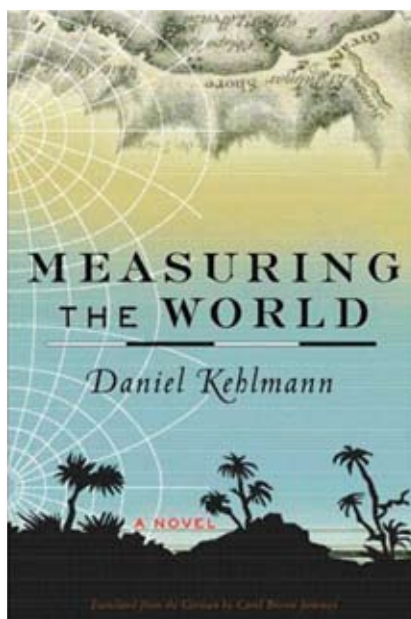
Pantheon, 2006

It sounds like the premise of a parlor game or the sort of dorm-room conjecture one engages in at 2 a.m. after a few beers: If those geniuses of the Enlightenment Alexander von Humboldt and Carl Friedrich Gauss were to meet, what in the world would they talk about?

As it happens, everything from measuring the curve of space and astronomy to magnetic fields, death statistics (the precursor to modern actuarial tables), politics, and art—and much of it at cross purposes. That, at least, is the take of the accomplished young Austrian writer Daniel Kehlmann, who centers his latest novel—a bestseller in Europe when it was published there in 2005—on an actual meeting between the two that occurred at a German scientific congress in Berlin in September 1828.

Though they were both celebrated (and self-centered) polymaths, Humboldt and Gauss seemingly had little else in common. Gauss, born in 1777, was a child savant whose facility with numbers lifted him from humble beginnings as the son of an uneducated gardener to a protected university position as the protégé of the Duke of Brunswick. By the age of 21, he had written *Disquisitiones Arithmeticae*, a seminal text on number theory that, among many things, contained the first proof of the law of quadratic reciprocity. He was brilliant but irascible, a man who would forget to eat in the fever of mathematical discovery but who always had an eye for the pretty ladies.

Humboldt, born in 1769 as the second son of an aristocratic father, left behind a life of relative privilege and connection in Germany (his older brother was the renowned Prussian diplomat Wilhelm von Humboldt) for the rigors of scientific exploration in obscure places. Subjecting himself and his traveling companions to considerable danger and discomfort, he gained fame by mapping much of Central and South America and in obsessively categorizing its flora and fauna. While he's credited with many botanical and geographic discoveries, which he detailed exhaustively



in a 21-volume account of his travels, his obsessive devotion to science left him tone-deaf to the subtleties of most human interaction.

Weaving these two disparate life stories together into a surprisingly pleasing whole, Kehlmann manages to draw connections that point to larger questions about the nature of genius and the limits of human aspiration.

“It was both odd and unjust, said Gauss, a real example of the pitiful arbitrariness of existence, that you were born into a particular time and held prisoner there whether you wanted it or not. It gave you an indecent advantage over the past and made you a

clown vis-à-vis the future.” (Page 4)

Kehlmann’s deadpan narration, of which that passage is typical, is rich and confiding, punctuated equally with sly asides and philosophical profundity. The novel offers a quick education on a world of topics, including early scientific methods, the development of modern mathematics, and the politics of post-Napoleonic Europe, all of it leavened by Kehlmann’s dry wit. No one escapes his sharp eye (including the many famous personages, such as Thomas Jefferson, Immanuel Kant, and Johann Wolfgang von Goethe, who make walk-on appearances in the novel), but this only serves to make them more real. In Kehlmann’s hands, these are not just brilliant dead eminences but individuals who are possessed of all the quirks and graces that make them human.

All these elements are on display, for example, in this short passage describing the triumphant moment when Humboldt and his long-suffering companion and fellow botanist Aime Bonpland become the first Europeans to map the channel between the Orinoco and Amazon rivers:

LINDA MALLON is editor of *Actuarial Update*.

“Artists were too quick to forget their task, which was to depict reality. Artists held deviation to be a strength, but invention confused people, stylization falsified the world.”

“It was almost evening when they reached the mouth of the legendary channel. Swarms of biting flies immediately descended on them. But as the heat dissipated, so did the haze; the sky cleared, and Humboldt could measure the degree of longitude. He worked all night, measuring the angle of the moon as it tracked across the Southern Cross. Then, by way of confirmation, fixing the ghostly spots of Jupiter’s moons in his telescope. Nothing could be relied on, he said to the dog, who was observing him intently. Not the tables, not the instruments, not even the sky. One had to be so precise as to be immune to disorder.

“It was almost dawn when he finished. He clapped his hands, get up everybody, no time to lose! One end of the channel was now pinpointed, and they had to reach the other as quickly as possible.

“Sleepily, Bonpland asked if he was afraid someone might beat him to it, given that it was at the end of the world, and entire centuries had passed without the goddamn river attracting the slightest attention.

“One never knew, said Humboldt.” (p. 108)

For actuaries, the novel carries some bonuses as Kehlmann throws in details on 18th- and 19th-century advances in math, physics, and, as it happens, actuarial science.

“Death statistics, said Gauss. He took a mouthful of tea, made a disgusted face, and set the cup down as far from himself as he could. One thought one controlled one’s own existence. One created things, discovered things, acquired goods, found people one loved more than one’s life, had children, maybe clever, maybe clods, watched the person one loved die, got old, got ill, and then got buried. One thought

one had decided it all oneself. Only mathematics demonstrated that one had always taken the common path.” (Page 187)

It’s hard to imagine what either Humboldt or Gauss would make of this novel. But in depicting a moment of conversational accord between the two great men as Humboldt puts forth his theory on art, Kehlmann makes a guess that, like much of the rest of the novel, is probably close to the truth.

“Artists were too quick to forget their task, which was to depict reality. Artists held deviation to be a strength, but inven-

tion confused people, stylization falsified the world.

“Take stage sets, which didn’t even try to disguise the fact that they were made of cardboard, English paintings with background swimming in an oily soup, novels that wandered off into lying fables because the author tied his fake inventions to the names of real historical personages.

“‘Disgusting,’ said Gauss.” (Page 188)

Don’t let that deter you. Just because Humboldt and Gauss might not have enjoyed measuring the world doesn’t mean you won’t.

## What happens when the country’s top actuarial firm joins the world’s leading financial institution?

### Introducing JPMorgan Compensation and Benefit Strategies.

The creativity, actuarial leadership and analytical prowess of CCA Strategies. The global reach and asset expertise of JPMorgan. The ingredients are unique—the result is profound. As JPMorgan actuaries, we are committed to generating leading ideas in benefits and compensation, and have the resources to put them into motion.

For more information, visit us at [jpmorgan.com/cbs](http://jpmorgan.com/cbs).

JPMorgan 