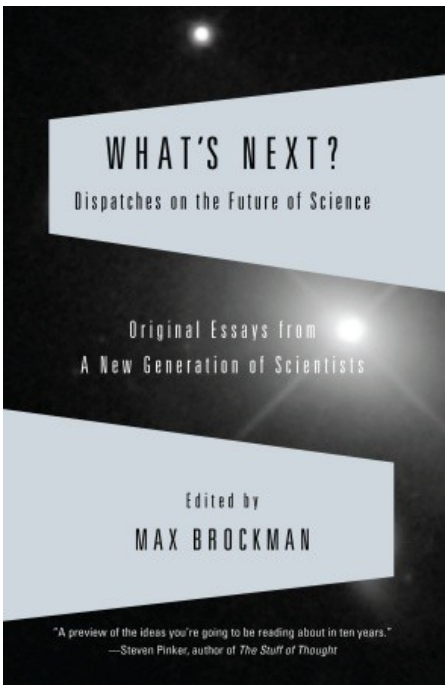


# What's Next?: Dispatches on the Future of Science

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**What's Next?: Dispatches on the Future of Science** Max Brockman (Editor)
Will climate change force a massive human migration to the Northern Rim?

How does our sense of morality arise from the structure of the brain?

What does the latest research in language acquisition tells us about the role of culture in the way we think?

What does current neurological research tell us about the nature of time?

This wide-ranging collection of never-before-published essays offers the very latest insights into the daunting scientific questions of our time. Its contributors—some of the most brilliant young scientists working today—provide not only an introduction to their cutting-edge research, but discuss the social, ethical, and philosophical ramifications of their work. With essays covering fields as diverse as astrophysics, paleoanthropology, climatology, and neuroscience, **What's Next?** is a lucid and informed guide to the new frontiers of science.

## What's Next?: Dispatches on the Future of Science Details

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# From Reader Review What's Next?: Dispatches on the Future of Science for online ebook

### Al Bità says

I tend to agree with the comments made by David Giltinan (click on the book cover to check out his extensive review). Despite the fact that I like this type of book to keep up to date with various developments, this turned out to be a disappointment.

Indeed, the subjects are interesting, as is the apparent emphasis on neurological research (the essay on memory enhancement/erasure was particularly chilly...) but the fact that each researcher's literary style differed substantially (in my opinion) gives the book an overall uneven approach. However, the most difficult aspect of just about all of the entries is that the authors naturally rely on the jargon of their particular discipline to talk about their specific line of research — this makes it hard to know exactly what is being talked about if you are not familiar with that jargon...

One can't help feeling that this book is merely the first level of input: what is now needed is a good editor to digest the information, then write about each area in a way accessible to us mere mortals outside the disciplines involved...

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### David says

The title of this book is quite deceiving; the essays do not cover the gamut of science research, as two-thirds deal with neuroscience. Most areas of science are not even mentioned. Also, most of the essays are not about the future of science, but instead are about recent (and not-so-recent) findings in science.

Nevertheless, this is a fun, fascinating book. I particularly enjoyed the essay on the influence of language on human thinking. People with different native languages really do think differently about the world. I also appreciate the essay on how the brain re-interprets the timing of sensory inputs. The brain messes around with our concept of simultaneity, to agree with our intuition about causality.

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### Alex Telander says

For anyone who wonders what the near future holds and what exactly are all those scientists doing with the grants and tax dollar funding they receive, What’s Next? is a book with some answers. Featuring eighteen original essays that have never been published from some of today’s best scientists, What’s Next? will insight a curiosity in the reader on advances and research that is being made in the many fields of science.

While a little patience and perhaps some scientific background is recommended, as these scientists are not authors of multiple books and tend to get very detailed and complex in their essays, readers will find news and answers in the fields if neurological research, behavior, how humans think, the nature of time, and where our idea of morality possibly arises from. Global warming is addressed in a most interesting essay that analyzes a warming world where the Northern Rim becomes further habitable, but leaves readers with the question of how many people will want to move into the undeveloped heartland of Russia?

What’s Next? is a collection of some very interesting and insightful essays that give readers news and information on some areas of research and science that may not be readily available to them through magazines or newspapers, or perhaps are only available through expensive science journals. Perhaps a book to truly show “your tax dollars at work.”

For more reviews, check out the BookBanter site.

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### Jeffrey says

Max Brockman has assembled a very interesting collection of essays from up-and-coming thought leaders in a variety of scientific areas. One essay that caught my eye is the one by Matthew Lieberman called â€œWhat Makes Ideas Sticky?â€• It is not only an interesting discussion on how the human brain gets affected (or infected) by memes but also theories about this very subject that are sticky and difficult to dislodge from the scientific community. He suggests that the language of some big ideas tend to structurally and functionally match the human brains symbolic processing capability, thus they are difficult not to believe. Cartesian dualism anyone?

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### Ryan says

If this collection of essays is representative of where science is headed in the next decade or two, we can look forward to better understanding of human cognition, social/behavorial psychology, evolutionary biology, and climate change, not to mention more overlap between these fields. But IS it a representative collection? -- I was a little disappointed that the book didn't address obvious hot topics in more technological areas, such as particle physics, green energy, nanotechnology, or artificial intelligence.

Regardless of their focus, though, I found the issues that these piece examine generally interesting. Does the language we speak affect how we think? How are viruses necessary? Why is that wolves and chimpanzees can't follow a pointing finger, but dogs can? (Because that sort of human social awareness has been bred into dogs.) Why is it that you can see another person's eyes flick, but not your own? How does the brain organize sense data arriving at different times?

Some of the authors are better writers than others, so the level of clarity and compellingness varies, but, together, they provide a good snapshot of some of science's advancing fronts. Even fields the book doesn't cover will probably be influenced by progress in the ones it does.

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### Upom says

What will the big scientific revelations of the coming decade? Although no one can say for certain, "What's Next" provide a small glimpse of what's to come. Filled with essays by some of the world's top young scientists, the book explores topics as diverse as neuroscience, dark matter, climate change, human evolution, and biological enhancement. The writers presented a variety of neat ideas. Among the most interesting ideas I read were:

1. The brain is well-equipped for human beings to understand

and follow other people. Special neurons called mirror neurons actually are actually designed to allow us to feel what other people feel, and do what they do (this is why you wince in pain when you see someone else get hurt).
2. The parts of our brain that allow us to understand other people's minds are actually processing all the time, which may explain why humans anthropomorphize everything.
3. Ideas may be popular because the structure of our brains allow us to better accept these ideas.
4. Ethical dilemmas may actually be the result of differences in activation of two different neural circuits in our brain.
5. The aboriginal Kuuk Thaayorre have a language based on the cardinal directions of a map. The Aboriginese also have 16 genders in their language, including a gender especially for "woman, fire, and dangerous things."
6. The brain actually delays information processing in order to make events appear simultaneous. The reason we also feel time speeds up as we age is because our brain condenses more information as precepts- precepts we didn't have as children, when our brains stored memories in "uncompressed" formats.
7. Friendliness may have been the reason our complex brains evolved.
8. There might be such thing as good viruses.
9. We may have driven our closest ancestors, the Neanderthals, into extinction.

The essays contained an assortment of writing styles, but all were fairly accessible and interesting. Some of the essays could be of particular use to technical scientists, particularly Nick Bostrom's essay on criteria for determining whether various biological enhancement's could be useful to people, as well as Gavin Schmidt's essay on the factors that prevent science from being destroyed by continuous specialization.

The book did have some minor problems. The book could have been improved with a little more topic diversity as the book had a relatively large proportion of neuroscience essays. Essays on molecular biology, chemistry, disease, or even mathematics would have been most welcome. Stephon Alexander's essay on dark energy was a also a bit murky to grasp without a second reading. However, the book ultimately did a great job of presenting cutting-edge science and inspiring universal wonder.

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### Katherine Collins says

This is a great book for filling small patches of time with thought-provoking content – quick, readable essays by some of the most cutting-edge scientists in the world. It’s as if you were at a big egg-headed cocktail party. Why are social insects social? Do humans really have an innate moral sense? What is dark energy anyway? (no, it’s not espresso) – it’s all in there! Note – much of this content is also available on edge.org, one of Honeybee’s favorite websites.

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### Andrew says

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Here are the

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### Nelson Rosario says

I thoroughly enjoyed this collection of essays on future trends in science. If you want to dig your teeth into how your brain is tricking you for your own good, how the climate is likely FUBARed, and why we are so social and empathetic then this is the book for you.

Do not, under any circumstances, miss the Brain Time essay. You're welcome.

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### Shinynickel says

Off this review:

What’s Next: Dispatches on the Future of Science
Edited by Max Brockman (Vintage)
This tightly curated batch of original essays, edited by Edge Foundation, Inc.’s Max Brockman, introduces readers to 18 young scientists whose work is actively shaping our future. Each entry introduces a piece of leading-edge research, delving into everything from experimental manipulations of time perception and the role of mirror neurons in ethics to the ways that climate change may affect our migration patterns. Though some subjects feel too familiar, essays like the one by theoretical physicist Sean Carroll on asymmetry in the cosmos take on some of the most mind-scrambling and exciting questions in science.

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### Josephine says

I added this anthology to my "to read list" after hearing a fascinating article on NPR about Lera Boroditsky's essay, "How Does Our Language Shape the Way We Think?"

Boroditsky, who teaches psychology at Stanford University, discusses how the latest research in language acquisition tells us about the role of culture in the way we think. (To be released 05/09.)

Listen or read the NPR article here: http://bit.ly/3YE7c3

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### Wayne Saxe says

A great book that covers a wide variety of subjects focusing on the current trends in science. Short essay length chapters, each written by a 'younger' scientist on topics ranging from physics, biology, cognitive

science and collaboration across scientific fields. A few of the essays are really terrific and the book as a whole is worth a read.

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### Annette Abbott says

I love reading articles on the edge.org especially the answers to the annual question. Max Brockman is the son of edge.org founder, John Brockman, and is following in his fathers footsteps by publishing cutting edge science by up-coming scientists. Most of the essays are about neuroscience and evolutionary biology. It would have been nice to have the topics spread out across other disciplines - thus, 4 stars instead of 5. If you like Steven Pinker, you'll love this.

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### David says

This collection was a disappointment. On the cover blurb Daniel Gilbert ("Stumbling on happiness") invites us to "find out what the best minds of the new generation are thinking before the Nobel Committee does". Let's be clear upfront - this book is not going to help you to do that. Fair enough - this wouldn't be the first book that fails to live up to its jacket-cover hype.

To understand why it doesn't, it is useful to consider Max Brockman's credentials: "Max Brockman is a literary agent at Brockman Inc., which represents Jared Diamond, Nassem Taleb, Richard Dawkins, and Steven Pinker, among others". So Max is well-connected, but he is not a scientist. And it shows. This is an odd collection of pieces, with an unclear selection criterion, but one which yields oddly unsatisfactory results. With fully two thirds of the eighteen articles in the collection devoted to some aspect of neuroscience (one article deals with climate change, two with cosmology, three with evolutionary biology), the generality implied by the title "Dispatches on the Future of Science" is seen to be a gross over-reach.

If we adjust expectations accordingly and simply judge the book as a collection of essays on ground-breaking topics in recent neuroscientific research, results are mixed, at best. My ratings of the various chapters follows. (My background is that of someone with some knowledge of biology and enough curiosity on these matters to make me a regular reader of "New Scientist" magazine, and the NYT weekly Science Times section)

Christian Keysers: Mirror Neurons: are we Ethical by Nature?
A well-written coherent account, but recent developments suggest it is already outdated.

Nick Bostrom : How to Enhance Human Beings
An almost wilfully obtuse discussion of the important question "to what extent can therapeutic interventions be expected to overcome Mother Nature", that is, why should we expect any proposed intervention to "do better than" evolution? Bostrom's discussion is meandering, unfocused, and unhelpful.

Sarah-Jayne Blakemore: Development of the Social Brain in Adolescence
Imaging shows that the brain continues to develop through adolescence. Yawn. Surely the surprise would be only if imaging didn't show this.

Jason P. Mitchell : Watching Minds Interact

Imaging shows that there are specific areas of the brain dedicated to social interactions. Big yawn. Does this come as a surprise to anybody?

Matthew D. Lieberman : What makes big ideas sticky?
A clear, thought-provoking discussion of the thesis that "Big Ideas are influential and enduring because they fit with the structure and function of the human brain".

Joshua D. Greene : Fruit flies of the moral mind.
A discussion of the organization of the human brain along moral and cognitive dimensions that is at best, adequate, and certainly breaks no new ground.

Lera Boroditsky : How does our language shape the way we think?
This was, for me, the best essay in the book - a fascinating and lucid account of work by the author and colleagues that addresses the extent to which language shapes thought (the Sapir-Whorf hypothesis).

Sam Cooke : Memory Enhancement, Memory Erasure.
This "review" of the process of memory formation was incoherent, ignored important research on the placement of "false memory" and had a Huxleyan focus on possible pharmaceutical intervention that was downright creepy.

Deena Skolnick Weisberg : The Vital Importance of Imagination.
In a remarkable statement of the obvious, Dr Weisberg tells us that our ability to entertain "what if?" questions is central to what makes us human. Someone should alert the media!

David M. Eagleman : Brain Time
On a first reading, it seems as if David Eagleman has some fresh insights to offer on how the brain perceives time. A closer reading reveals the essay to be nothing more than a tease.

Vanessa Woods & Brian Hare : Out of Our Minds. How did Homo sapiens come down from the trees and why did no one follow?
The title poses an interesting question, to which the authors come nowhere near to providing an answer. Their musings about bonobos, chimps, dogs, and domesticated silver foxes nonetheless make for interesting reading.

Gavin Schmidt : Why hasn't specialization led to the balkanization of science?
Schmidt's discussion was interesting and to the point - this was one of the few chapters in the book where I wished for greater detail (the others being those by Matthew Lieberman and Lera Boroditsky).

Given that only three of the pieces on neuroscience were of top quality, I'd have to give the benefit of the doubt to the two pieces on cosmology to justify a third star for this decidedly odd collection. As I personally found them incomprehensible from start to finish, I just can't justify that third star.

If you are looking for a thought-provoking collection of essays on recent scientific progress, give this one a miss and try the infinitely superior collection by Jerome Groopman instead:

http://www.goodreads.com/review/show/....

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### Bojan Tunguz says

The latest developments in science are the source of enduring fascination, by both the insiders and outsiders of the scientific community. Even more fascinating are the speculations about what may lay just around the corner, within next few years or decades of scientific research. The future always tends to be more exciting than even the most amazing advances of today. In that respect, this book is a very good overview of the status of some of the most advanced current research and the directions in which it is headed. It is written by many young but well established experts in the field, and they are the best guide to all the upcoming developments. Their presentation of their own work is well geared towards a general reader, and overall they tell some very interesting and compelling stories. If you are at all interested in science, this will be an engaging read. However, it is not always clear if some of the predictions that are offered here are based on solid scientific understanding of where that particular field is headed, or are they more of a wishful thinking at the author's part. Another thing that I don't like about this book is the lack of diversity among the chosen scientific topics. Most of the chapters are dedicated to one of the three main themes: fundamental Physics, human mind and behavior, or climate change. The reader will thus get a rather skewed and unbalanced view of the kinds of research that are done these days.

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