

## 1

## Algorithms Intrigue, Algorithms Disturb

Algorithms have become an essential component of our professional lives and social interactions, in health care, transportation, commerce, industry. Algorithms are transforming the natural sciences, social sciences, and the humanities, and in doing so, enrich our knowledge. They allow technology to continually push beyond the limits of the possible.

Some algorithms, such as telephone operating systems, data management systems, or search engines, are huge things involving the contributions of thousands of people. They are sometimes compared to cathedrals, in that they share the same ambition, and the same folly.

With algorithms, it appears that *Homo sapiens* have finally created a tool equal to their aspirations.

However, there is also a worrisome side to these algorithms. The profession of mail carrier is disappearing? Algorithms are destroying jobs. An insurance company compensates the victim of an accident? A cynical algorithm computes the amount of the compensation. The stock market takes a dive? Trading algorithms are responsible for the crash. Laws restrict civil liberties? Government algorithms are spying on us. Algorithms beat humans at chess and at Go? Intelligent algorithms will soon govern us.

Why do we blame algorithms for our woes? Because they push us out of our comfort zone? Without a doubt. But also

because we often agree to use them, not understanding what they really are and how they work. Our dreams and our fears are the consequences of this ignorance. We fear algorithms because we see them as mysterious beings, endowed with supernatural powers, even evil intentions.

To free ourselves from this magical thinking, to separate legitimate hopes from childish fantasies, justified fears from unfounded anxieties, we invite the reader on a journey through the world of algorithms during the course of which we will encounter some of the challenges facing us in the age of algorithms: the transformation of work, the disappearance of property, and the protection of privacy, to name a few.

Algorithms can lead to the best or the worst outcome, but we must never forget that they do not, in themselves, have intention. They have been designed by human beings. They are what we want them to be.

Cambridge University Press  
978-1-108-48457-2 — The Age of Algorithms  
Serge Abiteboul , Gilles Dowek , Translated by K-Rae Nelson  
Excerpt  
[More Information](#)

---

- *Hello, Robot. Tell me what an algorithm is.*
- *OK, but I'll also need to talk about the relationship between algorithms, computers, and programs.*
- *I know. When we have found an algorithm, we write it in the form of a program and then we just ask a computer to work for us.*
- *Exactly.*
- *So everything is possible with algorithms?*
- *No. But that may be what makes them even more intriguing.*