The End of Privacy

From big data to ubiquitous Internet connections, technology empowers researchers and the public—but makes traditional notions of privacy obsolete

By Martin Enserink and Gilbert Chin
At birth, your data trail began. You were given a name, your height and weight were recorded, and probably a few pictures were taken. A few years later, you were enrolled in day care, you received your first birthday party invitation, and you were recorded in a census. Today, you have a Social Security or national ID number, bank accounts and credit cards, and a smart phone that always knows where you are. Perhaps you post family pictures on Facebook; tweet about politics; and reveal your changing interests, worries, and desires in thousands of Google searches. Sometimes you share data intentionally, with friends, strangers, companies, and governments. But vast amounts of information about you are collected with only perfunctory consent—or none at all. Soon, your entire genome may be sequenced and shared by researchers around the world along with your medical records, flying cameras may hover over your neighborhood, and sophisticated software may recognize your face as you enter a store or an airport.

For scientists, the vast amounts of data that people shed every day offer great new opportunities but new dilemmas as well. New computational techniques can identify people or trace their behavior by combining just a few snippets of data. There are ways to protect the private information hidden in big data files, but they limit what scientists can learn; a balance must be struck. Some medical researchers acknowledge that keeping patient data private is becoming almost impossible; instead, they’re testing new ways to gain patients’ trust and collaboration. Meanwhile, how we think and feel about privacy isn’t static. Already, younger people reveal much more about their lives on the Web than older people do, and our preferences about what we want to keep private can change depending on the context, the moment, or how we’re nudged. Privacy as we have known it is ending, and we’re only beginning to fathom the consequences.

This special issue was also edited by Brad Wible and Barbara Jasny.