

***How We Got to Now: Six Innovations That Made
the Modern World***
by Steven Johnson

Summary

In this illustrated volume, Steven Johnson explores the history of innovation over centuries, tracing facets of modern life (refrigeration, clocks, and eyeglass lenses, to name a few) from their creation by hobbyists, amateurs, and entrepreneurs to their unintended historical consequences. Filled with surprising stories of accidental genius and brilliant mistakes - from the French publisher who invented the phonograph before Edison but forgot to include playback, to the Hollywood movie star who helped invent the technology behind Wi-Fi and Bluetooth - [How We Got to Now](#) investigates the secret history behind the everyday objects of contemporary life.

In his trademark style, Johnson examines unexpected connections between seemingly unrelated fields: how the invention of air-conditioning enabled the largest migration of human beings in the history of the species - to cities such as Dubai or Phoenix, which would otherwise be virtually uninhabitable; how pendulum clocks helped trigger the industrial revolution; and how clean water made it possible to manufacture computer chips. Accompanied by a major six-part television series on PBS, *How We Got to Now* is the story of collaborative networks building the modern world, written in the provocative, informative, and engaging style that has earned Johnson fans around the globe.

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Discussion Questions

1. Steven Johnson explains that the history he is writing is: "... worth telling in part because it allows us to see a world we generally take for granted with fresh eyes." (P.8) How did his discussion of six innovations that made the modern world differ from what you learned in school? Did it give you a fresh perspective?
2. Which of the six innovations discussed (glass, cold, sound, clean, time or light) most surprised you? Were you impressed with how much has changed because of these innovations in just the last 200 years? Which one most interested you? Do you anticipate even faster changes in the future?
3. "...these innovations have set in motion a much wider array of changes in society than you might reasonably expect." (P.8) Why does he use the "hummingbird's wing" as a metaphor for describing this wider array of changes? Will learning about these changes from the past help us predict the effects of future innovations?
4. Can you identify some modern innovations that may impact your life in the future? Can you anticipate some of these impacts? Consider for example: self-driving cars, gene therapy or modification, the use of drones,? How do we encourage innovation? What factors may limit, delay or even stop innovation?

5. "The dream of recording the human voice entered the adjacent possible only after two key developments: one from physics, the other from anatomy." (P.90) What is the "adjacent possible" and how do we have access to it?
6. "The time travelers are unusually adept at 'intercrossing' different fields of expertise. That's the beauty of the hobbyist: it's generally easier to mix different intellectual fields when you have a whole array of them littering your study or your garage." (P.253) How are "time travelers" different from other innovators? Does Steven Johnson think any of us could be innovators or contribute time traveler ideas?
7. Steven Johnson tells us that Edison's greatest achievement "may have been the way he figured out how to make teams creative." (P.212) What are some characteristics of creative teams? Can you describe someone who could be a productive member of a creative team?
8. Steven Johnson stresses that "we need a value system to decide which strains of innovation to encourage and which benefits aren't worth the tangential costs." (P.8) But he also states, up front, that: "This book is resolutely agnostic on these questions of value." Did he recount some instances where value judgments were lax? How can we evaluate the opportunities that innovation places before us?