This second, digital economy isn't producing anything tangible. It's not making my bed in a hotel, or bringing me orange juice in the morning. But it is running an awful lot of the economy.

Now this second, digital economy isn't producing anything tangible. It's not making my bed in a hotel, or bringing me orange juice in the morning. But it is running an awful lot of the economy. It's helping architects design buildings, it's tracking sales and inventory, getting goods from here to there, executing trades and banking operations, controlling manufacturing equipment, making design calculations, billing clients, navigating aircraft, helping diagnose patients, and guiding laparoscopic surgeries. Such operations grow slowly and take time to form. In any deep transformation, industries do not so much adopt the new body of technology as *encounter* it, and as they do so they create new ways to profit from its possibilities.

The deep transformation I am describing is happening not just in the United States but in all advanced economies, especially in Europe and Japan. And its revolutionary scale can only be grasped if we go beyond my aspen metaphor to another analogy.

A neural system for the economy

Recall that in the digital conversations I was describing, something that occurs in the physical economy is sensed by the second economy—which then gives back an appropriate response. A truck passes its load through an RFID sensor or you check in at the airport, a lot of recomputation takes place, and appropriate physical actions are triggered.

There's a parallel in this with how biologists think of intelligence. I'm not talking about human intelligence or anything that would qualify as conscious intelligence. Biologists tell us that an organism is intelligent if it senses something, changes its internal state, and reacts appropriately. If you put an E. coli bacterium into an uneven concentration of glucose, it does the appropriate thing by swimming toward where the glucose is more concentrated. Biologists would call this intel-