

Life Code: The Most Disruptive Technology?

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I don't think there's any adventure that humans have been on that is as important, as transcendent, as the ability to read Life Code.

My name is Juan Enriquez. I'm a genetic engineer and futurist.

The greatest single generator of wealth over the last 40 years, the digital revolution, has been the transition from ABC's into 1's and 0's. I'm telling you today, the single biggest driver of change, of growth, of industries in the future, is going to be this transition to also writing in Life Code.

We're beginning to understand how DNA, this spiral staircase, takes 4 chemicals, which is ATCG, and orders them so that you make lifeforms. You make cows, you make sheep, you make oranges. Now if you change a couple of those little letters, then that orange becomes a lemon tree, or it becomes a grapefruit tree. And now what we're beginning to do is program lifeforms to make stuff that we want.

So you can change the DNA code in a cell and say, I would like this cell to make plastics, I would like this cell to make food for humans. Or maybe you program that to make vaccines, or to make chemicals, or to make energy.

And all of that is happening and it's happening very quickly as lifecode begins to move across the economy.



We're starting to interchange the digital code and life code. ATCG instead of 1-0-1-0. The net effect of that is you create a field called bioinformatics, which means, anything you can store in a computer you can store in a bacteria, or you can store in a lifeform. And because life is so efficient at storing and transmitting information, you can make billions of copies of it. This software makes its own hardware, so it reproduces. And because it operates on such a nano scale, you could design computers that could float on a speck of dust that would be as powerful as your laptop.

Very soon you're going to be able to see Life Code filling the global cloud. A whole series of business, not just medical businesses, are interested in Life Code because it's the greatest single database that humans have ever built.

The cost of sequencing the human genome originally was 3 billion dollars, and soon it will be in the hundreds of dollars. It will be far easier to read write Life Code, and that's going to change every business on earth. And it's probably going to lead to some of the biggest businesses on earth. It enables those companies to make things in a different way, to scale things in a different way. You're going to be able to see growing proteins, you're going to be able to see growing fibers, growing oils. It changes who's making what where in fundamental ways. The places that read and write Life Code are going to become the centers of the global economic system.

So how we make things, where we make things, has already changed, but it's now going to go on steroids. What are you going to do with this extraordinary power? Whether we use it to reduce the footprint of agriculture, whether we use it to double the human lifespan again, whether we use it build the first trillion dollar companies... those are the questions that we're going to be wrestling with and our kids are going to be wrestling with, and it's just an incredibly exciting adventure.

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