Engineering the future: Do we know what we're doing?

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I assume many of my readers are either engineers or interested in engineering and its effects on society, so what I am about to say may surprise you. It is simply this: Engineers are playing a role in American society that may end American society as we have known it up to now. Let me explain.
George Friedman runs a consulting company in Austin called Stratfor, which keeps an eye on geopolitical trends and charges what are no doubt hefty fees to corporate clients for doing so. Something—possibly altruism—moved him to write a piece for the Austin American-Statesman that offers his considered opinion (for free) on a subject of interest to all Americans: the future of American society.

His argument hinges on two numbers: the percentage of U. S. gross national product (GNP) going to wages, presumably to lower- and middle-class wage earners; and the percentage of GNP going to corporate profits after taxes. Statisticians have been keeping tabs on these numbers since 1947, shortly after World War II. Both of these numbers are currently at extreme levels, smashing all records since the collecting of these statistics began. But they are going in opposite directions: the fraction of GNP going to corporate profits is now the highest it's ever been since 1947—about 11%—and the portion of GNP going to wages is the lowest it's ever been.

Rather than taking a simple cheap shot at excess profits, Friedman sees in these numbers support for a contention that corporate America is becoming a victim of its own success. In 1947, lifetime employment of wage-earners working for large corporations was the norm, and over that lifetime the average hourly worker with only a high-school education could expect to get married, buy a house, a couple of cars, have some kids, and maybe put one or two of the kids through college. And that is pretty much what happened. Today, by contrast, a person starting out even with an advanced college degree can expect during one's career to work for many companies, most of which will get bought out, restructured, or moved offshore at some point, and even engineers with good starting salaries will be fortunate to be

continuously employed without large gaps in employment or having to do extensive retraining at several points.

The cause of job instability and rapid change is the streamlining that corporate America underwent in the 1980s, when foreign competition wrought havoc with the old-style gray-flannel-suit world of lifetime employment. The new-model corporation emerged leaner, meaner, and more efficient, if you measure efficiency (productivity, really) by the return on investment in capital and labor. Engineers made these productivity gains possible with all the technology, communications systems, and automation improvements that have come online in the last several decades.

But the labor involved in a typical firm today is vastly different than the labor of sixty years ago. In 1947, a healthy young man with a tenth-grade education and good hand-eye coordination could get one of those lifetime jobs I mentioned earlier. Today, to earn the money that would make that 1947 lifestyle possible (upgraded to 2013, of course), he would have to compete with "symbolic manipulators" (in George Gill's phrase) who hold Ph. Ds and still have to change jobs every few years to get a raise. That is simply not possible.

Not only is the high-school dropout of today unable to get a decent job; he can't afford many of the things that today's economy makes. That drying up of the domestic market is what Mr. Friedman sees as the really ominous cloud on the horizon. Already, many U. S. companies are finding that their growth markets are mainly overseas. We assume that this is because domestic markets are simply saturated, but maybe they are actually shrinking because the less-employed U. S. workers can't afford to buy the things that the corporations make. The result? Millions of young people who can't get a decent job, can't afford stable relationships and the other promises of the American dream, and who may turn America into something closer to one of those countries where mobs of unemployed young men create continual civil unrest.

Mr. Friedman poses no solution in his article. But another writer poses something that, while not exactly a solution, is a clearer diagnosis of the problem. In *The Ways of Judgment*, Oliver O'Donovan talks about a different kind of "communication" than the one that engineers are used to discussing. Way back in the 17th century, the word used to mean "anything good that two or more people have in common." Communication meant not just talk, but trade, education, the town or country where people live together, institutions of all kinds—in short, the whole social fabric of benevolent interaction among human beings.

The essence of this meaning of the word "communication," O'Donovan says, is work. By "work," he means "every human activity that enhances the material of communication, developing its social meaning, converting material goods into spiritual forces by the alchemy of communication."

To O'Donovan, just as "work is the essence of social communication, unemployment is the paradigm of social breakdown." O'Donovan means by unemployment not simply being out of a job, but not having a job that makes the world a better

place. Mr. Friedman's underlying basis for his discussion is GNP—in other words, the economy—as it is for most politicians these days. But every discussion that starts by assuming economics is the highest good, mistakes a means (money) for an end. That end, in O'Donovan's view, is not making money, but social communication, the fruitful interaction of people who have something in common.

We may be facing a future in which the coming generation increasingly cannot find work that allows them an adequate means of social communication. A big factor in this problem is the deterioration of the family structure, which is both a cause and an effect of economic changes. The family is probably the most vital and intimate form of social communication of all. Any nation which neglects the preservation and encouragement of the family will sooner or later end up running on fumes, because mentally and physically healthy, disciplined, competent workers capable of long-range planning do not simply grow on trees. They typically come from healthy families, and the fewer of those there are, the fewer upstanding citizens we will have to work with in the future.
I have no grand plans or solutions that will give enough meaningful, remunerative work to enough people that we in America can continue to hope for a better future for most, if not all, of our children. But if we find a way to do this, I have a feeling it will be the kind of thing that happens not with a government program, or a clever academic insight, but by changing one soul at a time.

Sources: George Friedman's article "Crisis that afflicts middle class threatens root of U. S. power" appeared in the Feb. 17, 2013 print edition of the *Austin American-Statesman*. The quotations from Oliver O'Donovan's book *The Way of Judgment* (Eerdmans, 2005) appear on pp. 250-251.

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