

AN INTERVIEW WITH FRANCIS FUKUYAMA

Joseph E. Davis

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You are best known for your writing on liberal democracy and the nature of politics, but your recent book, *The Great Disruption*, dealt in part with information technology, and your new book, *Our Posthuman Future*, deals with biotechnology. How is your concern with liberal democracy and political institutions connected to your concern with new technologies?

The issue that I've been thinking about for some time has to do with this whole question of how technology impacts politics. It actually started with a study group on the information revolution and world politics that I started seven or eight years ago, and it gradually broadened because the sponsor really liked it and said, "why don't you look at

other issues in science,” one of which was biotechnology. The more I started thinking about biotechnology and reading about it, the more it seemed to me that this was the more consequential of the two ongoing technology revolutions. So that was one origin of my interest.

Compared to information technology, the impact of biotechnology on politics is potentially quite different. It has become a cliché at this point to say that the IT revolution has been good for democracy, but I think, like a lot of clichés, it’s got something to it. IT tends to spread out power rather than concentrate it, and it gives ordinary people access to valuable information. But what would happen if you had a real cognitive neuroscience, for example, that understood the biological bases of behavior and gave you tools for manipulating it? That would make possible certain forms of social engineering that by the end of the 20th century we had thought were pretty much dead. I guess that’s the central concern that animates this current book. In a certain sense, liberal democracy emerged preeminent at the end of the 20th century because of the failure of the more utopian types of social revolutionary programs to actually shape human behavior and re-engineer societies in a way that the planners had hoped for. It could be that with better understanding of the brain we could see new political possibilities arise.

There’s also a broader context for this interest that speaks more to my earlier book *The Great Disruption*. It’s been fascinating to me as a social scientist watching the development of the life sciences over the past generation or so because we’ve moved from this extreme of social constructionism in our views of how human behavior is shaped to one that has restored some real substance to the idea of human nature. This is a development that I think a lot of people in different parts of the academy haven’t really taken on board, and that was a key interest I had in writing *The Great Disruption*.

I want to come back to the question of human nature, but let me first ask about a couple of issues that always seem to come up when concerns are expressed about biotechnology. The first is the issue of inevitability. There’s a lot of comment on the economic forces driving the advance of biotechnology. The claim is made that these technologies can’t be stopped or effectively regulated. What do you say to that?

People are probably thinking about different things when they talk about inevitability. In terms of the simple accumulation of human knowledge and the basic science, I think it's probably right that most of that is unstoppable. But in terms of technological applications and particularly with regard to developments that involve choices of where society decides to put its money, it's simply not the case that things are unstoppable. We regulate all sorts of activities in biomedicine, not just drugs, but also the way we do research, and so forth. We regulate nuclear weapons and hazardous materials, and we regulate industries very heavily to prevent various kinds of environmental damage. If you pose the question not whether technology can be stopped but whether technology can be directed and channeled and in some cases slowed down, I think there's plenty of precedence for that.

Attitudes toward technology tend to come and go in cycles. The most recent cycle concerned information technology, which produces relatively little social harm. In this area, it has been much more common to think that progress is inevitable and unstoppable and illegitimate to stop, even if you could. But consider the difference in the European and American reactions to genetically modified foods. I don't think there's a deep cultural difference between the U.S. and Europe. It's a question of who has had the more recent experience with regulatory failure. The British had mad cow disease (BSE), and the French had the tainted blood scandal and a few other problems that haven't occurred in the United States. If you look back 25 years or so, the regulatory climate was reversed. American environmental regulations were much more stringent than that of Europe, and the Europeans at that point were kind of clucking about how the United States was hobbling itself economically by imposing all these restrictions. The reason, I think, is because we had Love Canal and Three Mile Island. Today, it's the Europeans who have had the more recent experience with regulatory failure, and I think that's really what affects people's view of the possibility of guiding and limiting technology. The idea of inevitability is not an eternal verity.

A second issue that comes up a lot when concerns are being expressed about potential negative outcomes of biotechnology is that one is

either being alarmist or confusing science with science fiction. I wonder if you'd comment on that because surely some issues of regulation in this area have to do with being able to make prudential judgments about what outcomes might look like.

First of all, for the most part in my book, I was talking about developments that are already on the way. I said I thought that germline engineering would be the most consequential, but such engineering is probably further down the road than most people think. Anyway, my argument doesn't rest on the possibility of doing that. We're already, for example, in the midst of a revolution in neuropharmacology. I think that over the next ten years we're going to see a lot of developments in that area that will allow us to modify behavior in virtually all the ways that we expect from genetic engineering. It won't be as consequential because it doesn't involve the germline. It's not inheritable, and it's reversible to a large extent just the way any other drug therapy is. But it really does raise all the same questions of therapy versus enhancement uses and on what grounds we want people to compete. In fact, there was recently an article in *The Washington Post* about Modafinil, which is a new drug that allows people to basically defeat the sleep impulse. With the drug, you can now stay awake for 40 hours at a stretch. There's going to be a whole succession of such developments.

It's true that you don't want, in the short term, regulations that anticipate something that may never happen, but many of the core issues are here today. Do we want, for instance, to give parents unlimited freedom of choice in selecting the genetic characteristics of their children? We already have preimplantation genetic screening, and before long we will have screening available not just for therapeutic purposes but also for what amount to enhancement purposes. These are near-term issues, and in fact other countries have already written regulations to control enhancement uses of genetic screening.

All I'm proposing is that we have a society-wide discussion about when and how to do this kind of regulation. Obviously it's going to take some time to think this through and then come to any kind of agreement about it, but it's not too early to have the conversation.

What resources do we have for evaluating these new technologies? We have the field of bioethics. Are the standard approaches there insufficient?

Yes, I would say so. I keep getting in trouble for making over-broad assertions about bioethicists, and so I want to be careful about generalizations. There are some very serious people in bioethics. Having said that, I also think that there are many professional bioethicists who have in effect been captured by the community that they're trying to oversee or regulate. For a variety of complex reasons, they have tended to narrow the ethics discussion to either a utilitarian calculus or simply the maximization of individual autonomy. Especially among the newer generation of bioethicists, it's harder to find people who raise more substantive kinds of moral concerns. In a sense the whole field of bioethics was created with the help of the scientific community in order to put some boundaries around the potential restrictions or regulations that might impede the activities the scientists wanted to engage in. It's time to broaden the conversation so that not just bioethicists but a broader range of ethicists are involved.

Perhaps other people as well?

Certainly theologians and politicians. These are matters that cannot simply be left up to experts.

Let's talk about the question of human nature and human dignity. What is your view of human nature? And can we have a view of human nature that is not in some way grounded in religious beliefs?

I think we can. In cognitive neuroscience and evolutionary biology, for instance, human nature is used quite commonly in ways that have, of course, nothing to do with religion. These fields suggest elements of human nature. There are certain cognitive functions whose specific content is cultural but whose general structure is genetically programmed. Thus, facial recognition, the ability to respond to certain emotional signals, the way that language is learned, the way that social interaction is learned, all of these things I would say are actually components of human nature.

But there is no simple answer to this question because human beings are extraordinarily complex creatures. One of the recurring problems in discussions of human nature is the tendency to reduce human nature to one or another of its components. The neo-Kantians emphasized moral choice; in the more modern version the emphasis is on the capacity to express preferences. Other people have argued for other aspects, such as reason or language. My view is that human nature is all of these plus some. For me, a key feature is the range of emotional responses that give people the ability to respond to each other in social situations. In fact, I think these responses are at the core of what most people commonsensically understand to be their human nature. But it's not any one of these features by itself because all are in fact components of the complete human being.

How is this understanding of human nature connected to, or the grounds for, a conception of human dignity?

I think a conception of human nature has to be the reasoning behind most thinking about human dignity. Unless we have a specific nature that distinguishes us from other kinds of creatures or other parts of the natural world, then there's no grounds for special treatment. I take seriously the dignity of human persons because they possess some combination of reason, the capacity for moral choice and moral behavior, the ability to socially interact, language, and the like. All of these are specific to human beings as a species and explain why human beings can have political rights and other kinds of creatures cannot.

Yet not everything on your list is unique to humans. Wouldn't an animal rights advocate agree on the genetic capacities we have but then argue that a lot of these are shared with other species?

For the animal rights position to have any coherence at all, it has to make distinctions between a species' typical characteristics and the level of dignity that we accord it. I think the core of the moral impulse behind the movement is the recognition that non-human creatures can suffer. Some animals may also have consciousness and even some rudimentary moral qualities, but that's not as central as the idea that they can suffer and anticipate suffering; that's what gives them a certain

measure of rights. I think that's a perfectly acceptable argument. However, we also have to allow that non-human animals don't share other species-typical characteristics with humans, like the ability to communicate in human language and to make human social and moral choices. These would disqualify chimpanzees, for instance, from voting, even though they do have a rudimentary type of language, our genomes overlap by 97%, and so forth. If we go further down the complexity scale, we get to creatures that don't have central nervous systems, don't have consciousness, and can't feel pain. It makes no sense to argue that creatures like that have rights of any sort. The animal rights position, it seems to me, in fact lacks a theory that links the respect with which we treat different natural organisms to their specific characteristics as a species. If we make that link, then I think there are grounds for according humans a unique dignity.

You argued in both your recent book and in Congressional testimony last year that one of the reasons why reproductive cloning should be banned is because it is "highly unnatural." Does knowledge of human nature, our innately given capacities, give us enough direction to make clear judgments about what is natural with respect to particular biotechnologies or their applications?

The links between specific judgments and this broad view of human nature are very complex and will be quite controversial, but I think that the links still exist. For example, I think there are certain forms of family organization that are clearly grounded in nature and that on the whole provide for the healthiest kinds of family situations. A type of reproduction, therefore, that short-circuits or bypasses that form has, all other things being equal, got problems. Now, not everything that has a problem necessarily has to be banned or has to be the subject of legislation or regulation, but I do think that human nature gives us some grounds for making judgments, including judgments about risk.

If cloning would be unnatural, then wouldn't that be true of something like in vitro fertilization (IVF) as well? Mixing sperm and egg in a petri dish is certainly a far cry from the natural method of conception.

Not necessarily. The aspects of nature that I'm most concerned about have to do with child welfare and the social relations that would exist within families that are produced by these different technologies. That for me is the more essential issue, and IVF doesn't really affect that terribly directly.

I'd like to push this issue a little bit, because before IVF became a routine way of conceiving children, critics argued that it would be dehumanizing precisely because it was unnatural. Of course, many critics were making a deontological argument about dehumanization rather than a necessarily consequentialist one, but if we do just focus on outcomes in individual cases, I don't know of anyone making the argument that IVF has been directly dehumanizing for those involved.

I guess my argument about cloning was really consequentialist in terms of the family dynamics that would be produced, and I would not argue that it's dehumanizing purely because it's unnatural. I wouldn't have made that argument in the case of IVF, and I wouldn't make it in the case of cloning. While I doubt many people will be interested in cloning themselves, I do think it could lead to some fairly unhealthy situations, and I try to outline some of these in my book. Nature points us toward certain family forms and that gives us some guidance. It still leaves us with some potentially complicated calculations of potential harms.

Let's turn to the distinction between therapy and enhancement. You make the argument—as, of course, do many others—that what might be acceptable for therapeutic purposes, taking Prozac for instance, should not be allowed for merely enhancement purposes or entertainment purposes. Yet this distinction is not always easy to draw, and some of the new biotechnologies may make it harder still. Can we draw the line such that it provides clarity for distinguishing between appropriate and inappropriate uses of technology?

I recognize that there's a big gray area in a lot of medical technologies, and it's not just the genetic ones. Drugs are a good example. Ritalin is a classic case where the distinction between therapy and enhancement is almost impossible to define in any theoretical way. But just because there is always a gray area or sometimes a larger gray area is not a rea-

son for invalidating the basic distinction. At the ends of the spectrum, there are things that are clearly enhancements, and there are things that are clearly therapeutic. Using a genetic technology to help someone with cystic fibrosis, which is a genetically linked disorder, is therapeutic, while taking a kid who would normally be a certain height and then boosting his height using some genetic technique would clearly be an enhancement. We have to argue these distinctions on a case-by-case basis, and some of these distinctions will be very difficult ones to make.

I argue in my book that making a distinction between therapy and enhancement is actually something that is easier to do in practice than it is theoretically and that regulatory institutions make such distinctions all the time. They do so in the case of Ritalin, for example. We've banned steroids for some uses, and we control steroids in others. A lot of times it's not really clear on what theoretical basis the therapy/enhancement distinction is being made, but as a practical matter there are regulatory institutions that make it.

You're in favor of a ban on reproductive cloning, but am I right that you do not think outright bans are a useful model for dealing with problematic developments?

That's right. I think regulation is really what we need. I'm in favor of the cloning ban, in part, because I think, for tactical purposes, it's important to show that the political community actually can draw the line somewhere. In general, though, Congress should not be in the business of legislating broad bans on technology. We need, as we have in other areas, a delegation of regulatory authority under some broad set of guidelines. The detailed decisions can then be made by the regulatory agency.

Incidentally, regulation does not have to involve any direct prohibition. For example, it's perfectly possible to enforce a preference for therapeutic uses of a technology over enhancement ones simply by manipulating the cost/safety parameter. If someone wanted to propose germline engineering of an otherwise normal child, you could raise the safety requirements to a much higher point than if someone wanted to use the same kind of genetic technology for treatment of a child with a

genetic disease. We wouldn't actually ban the former, but we'd make it much more expensive and difficult to do. That's one possible approach to enforcing the distinction that doesn't involve bans at all. It simply allocates the incentives for pursuing different uses of technologies in favor of one over the other.

Are you optimistic that there exists the political will to introduce these types of regulation and create new regulatory agencies?

I don't know. I honestly don't know about that. The situation is certainly different in different societies. I just returned from three weeks in Europe, and the differences between countries are really striking. Germany is always criticized for being much too liberal on these matters, and yet they have banned virtually everything that is under consideration in my book. Britain, by contrast, is quite different. Then you get countries like Holland, which I don't really understand. They're very permissive on gay marriage and prostitution and a lot of other things, but then they completely ban all of these genetic modification technologies. So the answer depends on each society, and I honestly don't know what the prospects of doing this kind of regulation are in this country.

In the cloning and the stem cell debates, an alliance emerged between religious conservatives and environmental liberals, on the one side, and liberal democrats and the biotech companies, on the other. Given their larger differences, these groups' alliances seem temporary and perhaps limited to the specific issues at hand. Surely creating new regulatory institutions will require coalition building. Is there a natural constituency that might emerge around these issues?

Well, it's possible. This is all so new that people haven't really defined their positions on a lot of it. In Europe there has emerged an anti-GMO (genetically modified organisms) coalition that aligns the environmentalists and other parts of the left with religious conservatives, so in a way that's already happened there. The U.S. is different. On the one hand, the American environmental movement is less anti-corporate and anti-American than in Europe. On the other hand, we've got more principled libertarians, more technology enthusiasts, and more

anti-abortion social conservatives. I guess the short answer is I don't know what's going to happen. It's a very new set of political alignments, though I can see the potential for some of them growing and strengthening over time.

To return to your earlier point about the regulatory climate, do you think it will take some accidents?

That's very possible. If you look at the history of regulation in this country as well as in other countries, it's almost always the case that they follow on some big screw up or accident, like a Thalidomide scandal. It may be that nobody is going to have the political will to do any of this until something like that happens.

In your congressional testimony on the cloning ban, you expressed a concern that if legislatures don't act, the court system might later be drawn in. Why would that be problematic?

Making legislation through the courts is terrible public policy, and *Roe v. Wade* is the classic case. If we wanted to legalize abortion, then state legislatures, which were moving in this direction anyway, or perhaps the U.S. Congress should have changed the law. For it to happen through the courts, through the creation of a previously unrecognized right, is not a good way to make public policy, and it's added a level of controversy to the whole abortion debate that I think was not really necessary. We could, in theory, replay this scenario if somehow a court found that we have a hitherto undiscovered right to clone ourselves or to genetically modify ourselves. Perhaps we have such a right, but if so, it ought to be created legislatively rather than through the court system. In light of the criticism that the Supreme Court took for *Roe v. Wade*, I suspect they would be disinclined to wade into such waters, particularly if legislatures express some clear judgments.

Opponents of regulation have argued that regulations on biotechnology would be ineffective because attempts to control the technology by, say, the United States, could easily be avoided. The companies, scientists, and so on could just move their operations to another jurisdiction. How do you respond to that criticism?

I think it all depends on what we're worried about. If it is a really hot technology that promises lots of economic benefits, that's one thing; if it's potentially extremely dangerous, like nuclear weapons, that's another. In the latter case, if you have only one instance of getting around the regulation, we're all cooked. But for the kinds of things that I'm talking about regulating, violations are probably far less consequential.

My sense is that the idea that there'll be all this jurisdiction shopping or jurisdictional arbitrage is overblown. I suspect, for example, that stem cell researchers at Stanford or MIT or other centers of genetic research in the United States would really think twice about leaving for, say, Singapore with their families solely to work in a more favorable regulatory climate. There are a lot of other reasons for wanting to be in the U.S., for wanting to be at a Stanford. Admittedly, in some cases relocations may happen if the technology is really promising, and there's a lot of money behind it, but that's not necessarily going to be the case.

In other instances of regulation, such as with cloning, I don't think it matters at all what happens in other jurisdictions. Would it really matter to us if the Chinese legalized cloning? I doubt if their policy would compel us to change ours.

You're a member of the President's Council on Bioethics. What do you hope that the Council will achieve?

At our first Council meeting I said that my hope was that the Council would leave an institutional legacy by dealing precisely with regulatory institutions. Our influence would be very limited, I felt, if we didn't move beyond abstract questions of ethics. One of the possible ways out of the impasse over cloning legislation, for example, would be to create a body like the Human Fertilisation and Embryology Agency in Britain that would regulate embryo experimentation. I think we are probably going to take that up as part of our broader considerations, so I hope that will be one of the outcomes.