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Technology and the Constitution

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How do emerging developments in science and technology affect the way we interpret the Constitution? This is, on its face, an enormous question. Technology and science are ever expanding, and there are many different approaches to constitutional jurisprudence. One could fill many volumes in an effort to engage this issue in a serious way. But we can also learn a great deal about the larger subject by asking a more modest question: How does technological innovation affect one particular approach to constitutional interpretation—"originalist textualism," the belief that the text of the Constitution should be construed and applied according to its original meaning?

Certainly, the application of constitutional provisions to new and heretofore unimagined factual circumstances is a difficult task no matter what interpretive approach is employed. But these difficulties are uniquely acute and amplified for originalist textualism because its approach is intrinsically *conservative*.

In using the terms "liberal" and "conservative," I do not intend to denote a political outlook, but a procedural relationship between the jurist and the constitutional text. A "conservative" method of analysis is one in which the jurist's interpretive range of motion is constrained by a strict formal rule (or set of rules) governing constitutional construction. A "liberal" approach is one in which the jurist's discretion is not subject to a strong limiting principle. In practice, with very few exceptions, both liberals and conservatives use the text of the Constitution as their relevant point of departure. But they diverge in the process of ascribing meaning to the various provisions under consideration. Specifically, liberals and conservatives disagree over what *contextual meaning* should obtain for a given constitutional provision (i.e., original or contemporary meaning) and what additional *sources of authority* may properly be invoked to shed light on a given question (i.e., anything from *The Federalist* to "the prevailing values of the community" to current social science research).

Of course, there is no necessary connection between the constitutional approach that is employed, whether liberal or conservative, and the substantive political outcome that follows. For example, one could adopt a liberal approach to constitutional interpretation in the service of a politically conservative substantive outcome. This is precisely what happened in *Lochner v. New York* (1905) and similar cases from the so-called *Lochner* era: the Supreme Court, invoking the

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doctrine of "substantive due process" (a notoriously open-ended principle), invented a right not explicitly provided by the text of the Constitution ("the right to contract") to invalidate a state statute restricting certain labor practices. Even earlier in American history, shortly after the ratification of the Constitution itself, Justice Chase argued in *Calder v. Bull* (1798) that a jurist could properly invoke principles of natural law as an interpretive supplement in constitutional adjudication. This unlimited (and therefore "liberal") approach could very well yield results attractive to political conservatives. Conversely, "conservative" methods of constitutional interpretation can yield results desirable to political liberals. Justice Antonin Scalia, perhaps the most ardent and well-known defender of originalist textualism, concluded in *Texas v. Johnson* (1989) that fidelity to his constitutionally "conservative" approach required the invalidation (on First Amendment grounds) of a state statute that banned the burning of the American flag.

Because of its defining feature—the requirement that constitutional provisions be construed according to their original meaning—originalist textualism is profoundly affected by advances in science and technology. In cases and controversies in which such advances are centrally involved, originalist jurists are required to discern and apply temporally fixed concepts to circumstances and possibilities that could never have been contemplated by the authors of the Constitution. This collision of fixed meaning and novel realities born of technological progress stands to force a "crisis of construction," where fidelity to originalist textualism is greatly complicated or costly, and in some cases yields politically undesirable or untenable results.

This crisis can take at least three forms. First, there are *crises of application*, in which the original meaning of the constitutional provision is clear, but technological advances tempt the jurist to depart from this meaning, since doing so would yield a politically desirable result. Second, there are *crises of premises*, where the original meaning of the clauses in question is once again clear, but where technological developments undermine the factual premises and assumptions that underlie that original meaning, leading to anomalous and unintended political consequences. Finally, there are *crises of meaning*, in which it is unclear whether a particular word or phrase of a given constitutional provision contemplates a new activity or concept that only new technology makes possible.

By examining the nature of these crises, and reflecting on the capacity of originalist textualism to resolve them within its own self-imposed limiting principles, we can perhaps learn something in general about how technological innovation can affect constitutional interpretation. And we can consider whether an originalist approach to the Constitution is still feasible or sensible in an age when judges routinely confront complex questions at the intersection of technology and law.

What is Originalist Textualism?

Before proceeding to a discussion of the three types of "crises of construction," we need a clear understanding of originalist textualism itself. In common legal parlance, one encounters references to "originalism" and "textualism," but seldom are the two combined into one expression. But such combination is necessary to capture the substance and scope of this approach and to avoid possible confusion. Standing alone, neither term is sufficiently precise. "Originalism" is sometimes used to denote the method of constitutional interpretation that requires the jurist to discern and apply the original *intent* of the framers. "Textualism" does not necessarily imply any temporal limitation. Moreover, it is sometimes used to describe that species of analysis in which the jurist limits himself to a strict construction of the text itself, using no other sources of interpretive authority. "Originalist textualism" eschews both of these courses, seeking instead to provide a *reasonable* (as opposed to strict) construction of the clauses of the Constitution, according to their meaning, as originally understood at the time they were enacted. It does not attempt to discern and implement the "intent of the framers," as that intent is in many instances simply unknown or unknowable. And it does not take a strict constructionist approach, which would make the precise wording and phrasing of the Constitution the foremost standard of interpretation, since this seems at odds with the level of abstraction in which the Constitution was written. It is clear, for example, that "speech" for purposes of the First Amendment was not originally understood to be limited to oral communications.

Practitioners of originalist textualism look to *any* evidence that sheds light on the original meaning of the provision under consideration, including the memorialized intentions of the framers themselves. Other sources of evidence might include dictionaries from the relevant time period, contemporaneous commentaries (such as *The Federalist*), and other elements of the historical record.

Proponents of originalist textualism regard the Constitution as intentionally "anti-evolutionary." It provides a static foundation for the structures of government, defines the relationships between and among the various branches and levels of government, and entrenches certain individual rights. It is a bulwark against change, rather than a flexible instrument that responds to change. To advance this view, originalist textualism adopts an extraordinarily conservative limiting principle, fixing the meaning of the text in a temporal framework (i.e., the meaning of the text when it was actually written). Embedded in the very logic of originalist textualism, therefore, are the seeds of the crises of construction, because the world is different today than it was when the Constitution was written. Advances in science and technology make possible what was once unimaginable.

Perhaps it is useful to contrast originalist textualism with the competing liberal approach, which seeks to interpret and apply the provisions of the Constitution according to conventional (rather than original) meaning. The late Justice William Brennan famously said that "the genius of the Constitution rests not in any static meaning it might have had in a world that is dead and gone, but in the adaptability of its great principles to cope with current problems and current needs." Laurence Tribe, a professor at Harvard Law School, echoes this sentiment, noting that the Constitution "invites a collaborative inquiry, involving both the Court and the country, into the contemporary content of freedom, fairness, and fraternity." This approach looks to current values and understanding to give content to the provisions of the constitutional text. It provides a great deal more formal discretion for the jurist to do his interpretive work. Its hallmarks are flexibility and dynamism. And so, it can more easily accommodate the new facts and circumstances wrought by science and technology. But this does not necessarily mean that it provides a better judicial framework for dealing with the dilemmas of technological progress.

Science and technology, for better or worse, are forces for change. Originalist textualism, for better or worse, is a means of preserving an enduring status quo. Inevitably, whenever the two shall meet, there will likely be conflict.

Crises of Application

One very common crisis of interpretation involves cases in which the original meaning of the constitutional provision in question is clear, but remaining faithful to the principles of originalist textualism comes at a political cost. An illustrative example of such a case is *Maryland v. Craig*, decided in 1990. The constitutional provision in question was the "Confrontation Clause" of the Sixth Amendment, which provides that "[I]n all criminal prosecutions, the accused shall enjoy the right … to be confronted with the witnesses against him." The specific case involved a defendant who was convicted of sexual offenses and assault and battery against a six-year-old child. Pursuant to a Maryland statute, the victim was permitted to give her testimony outside the presence of the defendant—it was filmed and broadcast live into the courtroom through the use of a one-way closed circuit television. The closed-circuit technology permitted the six-year-old victim to testify (under oath, subject to cross examination) without having to see her alleged abuser. It is beyond doubt that having to testify in open court would have been a deeply traumatic experience for the young girl, and would likely have precluded her from testifying altogether. Without the child's testimony, a conviction would have been highly improbable.

The question presented before the Supreme Court was whether this procedure comported with the requirements of the Confrontation Clause. Human sympathy and compassion would obviously dictate that the child should be

spared the traumatic experience of testifying in the presence of her alleged abuser. But it is equally clear that the Sixth Amendment was originally understood to require face-to-face confrontation, as a disincentive for false or erroneous accusations of wrongdoing. The guiding principle was that it is emotionally difficult to accuse someone falsely in his or her presence. The advent of closed-circuit video technology created a means of circumventing actual confrontation, while preserving some of its superficial trappings. To Justice Scalia's chagrin, the Supreme Court rejected the original meaning of the clause, and held that the central purpose of the provision could be advanced by the remaining elements of "confrontation" (i.e., the oath, cross-examination, and observation of the child's demeanor).

Adherence to originalist textualism would have required deference to the original meaning of "confrontation"—a face-to-face encounter. The result, of course, would have been subjecting a six-year-old victim of sexual abuse to further emotional trauma, and perhaps precluding conviction of an indicted suspect. Fidelity to originalist textualism in this case carries with it a very serious cost for the benefit of preserving the truth-finding function of this clause of the Sixth Amendment, as originally conceived. While a faithful proponent of originalist textualism might applaud the practical consequence of *Maryland v. Craig*—the conviction of a child molester—he would regard the opinion itself as an interpretive failure.

Crises of Premises

A second interpretive challenge posed by new technologies involves changes in the premises that underlie the original provisions in the Constitution. Certain basic assumptions, which served as the foundation for elements of the constitutional system, can be radically altered with time, bringing into doubt the provisions that rely upon them.

For example, the Constitution is structured to create an equipoise of authority and influence among the various sources of governmental power. Some of this structure was crafted relying on certain factual premises. "Horizontal federalism"—the co-equal relationship among the executive, judicial, and legislative branches of the federal government—was premised on a particular understanding of the metes and bounds of the various zones of authority in which these bodies operate. "Vertical federalism" was crafted to allow a certain measure of power to the federal government, while preserving the sovereign authority of the states. The framers prescribed the circumstances in which state authority was to yield to federal and vice versa, and when jurisdiction was to be concurrent.

Advances in technology, particularly in the areas of transportation and information technology, have in some ways undermined the factual premises relied on by the framers. New technologies have produced a more mobile citizenry with a

more homogeneous popular culture, which tends to minimize regional differences and loyalties. They have also dramatically altered the complexion of "interstate commerce"—one of the chief nexuses of federal jurisdiction provided by Article I, Section 8 of the Constitution. Nowadays, nearly every business enterprise includes substantial elements of interstate commerce. As the prevalence of such elements increases, so too does the authority of the federal government. As a result, one could argue that the original balance of federal and state power has become asymmetrical and distorted.

In *United States v. Kammersell* (1999), a nineteen-year-old man in Riverdale, Utah, used AOL Instant Messenger to send a phony bomb threat to his girlfriend's employer in Ogden, Utah. He did so in the hope that her office would be evacuated, allowing her to join him on a date. What began as a foolish prank ended up as a federal offense. The U.S. Code provides: "Whoever transmits in interstate or foreign commerce any communication containing any threat to kidnap any person or any threat to injure the person of another, shall be fined under this title or imprisoned not more than five years, or both." It turns out that every message (e-mail or otherwise) sent via AOL is routed through an AOL server in Virginia before it reaches its final destination. The bomb threat—sent from one town in Utah to an adjoining town in Utah—actually crossed state lines, triggering the interstate nexus requisite for federal jurisdiction. The defendant argued that the phrase "transmitted in interstate commerce" should be revisited in light of technological advances, and that to abstain from doing so would result in conferring federal jurisdiction over the entire volume of communications—by telephone or Internet—that happen to be routed out of state before reaching their intrastate destination.

Judge Paul J. Kelly, writing for the U.S. Court of Appeals for the Tenth Circuit, followed an originalist textualist approach. He acknowledged the validity of the defendant's observations, but ultimately rejected the defendant's arguments, noting that only Congress has the authority to re-examine the statute in question and limit it accordingly. The Court upheld the original meaning of "interstate commerce," at the expense of dramatically enlarging federal jurisdiction. Rather than departing from the original meaning and adopting a more politically desirable definition, the Court accepted the anomalies of adhering to the law as written, and invited legislative action to prevent negative outcomes in the future.

Crises of Meaning

While crises of application and crises of premises present circumstances in which fidelity to the original meaning of the Constitution, in the face of technological innovation, can lead to anomalous political results, there are instances in which such innovation can call into question the actual substance and scope of the words and phrases of a given constitutional provision. There are times when it is

not at all clear whether a particular word or phrase in the Constitution contemplates a new activity made possible only through the advent of new technologies.

For example, the Fourth Amendment prohibits "unreasonable searches and seizures." Advances in technology have created a great deal of ambiguity about whether various investigative activities can fairly be characterized as a "search" for these purposes. In *Kyllo v. United States* (2001), the defendant argued that the police's warrantless use of thermal imaging technology to gather information regarding the interior of his home (i.e., the presence and use of marijuana "grow lights") constituted an unreasonable search in violation of his constitutional rights. The government responded by arguing that no search was undertaken (much less an unreasonable search), as the officers did not physically trespass into the house, but merely stood lawfully on the street and collected data about heat that was emanating from *the exterior* of the home. Justice Scalia rejected this formalistic argument, holding instead that "obtaining by sense-enhancing technology any information regarding the interior of the home that could not otherwise have been obtained without physical 'intrusion into a constitutionally protected area' constitutes a search—at least where (as here) the technology in question is not in general public use." Justice Scalia made it clear that in reaching this conclusion his principal objective was to "assure [the] preservation of that degree of privacy against the government that existed when the Fourth Amendment was adopted." In this way, Justice Scalia precluded the government from using technology to accomplish what could otherwise have been accomplished only by means of physical intrusion into the defendant's home—conduct that is explicitly prohibited according to the original meaning of the Fourth Amendment.

Justice Scalia noted, however, that there are circumstances in which technology has reduced the realm of personal privacy, even according to principles of originalist textualism. Under the original meaning of the Fourth Amendment, visual observation of areas exposed to public view was not deemed a "search." The advent of technologies "enabling human flight" has greatly expanded the domain of what is exposed to public view (like the interior of a roofless building).

One could imagine other hypothetical circumstances in which it would be unclear whether a particular word or phrase of a constitutional provision plausibly captures a new fact (or set of facts) made possible by advances in technology and science. Take, for instance, the term "person" as used in the Fifth and Fourteenth Amendments. Would a living organism that was conceived by the fusion of embryonic cells from humans and chimpanzees be legally considered a person, according to the original meaning of the Constitution? Would it matter if the new organism were morphologically nearly identical to a human being and capable of language? According to the principles of originalist textualism, the constitutional definition of "person" does not seem to contemplate this new living organism. Judge Robert Bork, when presented with a similar question about

the personhood of unborn humans, responded in the following way: "The unborn are certainly humans and in that sense persons, but they are not 'persons' within the meaning of either the Due Process Clause or the Equal Protection Clause of the Fourteenth Amendment." Following Judge Bork's reasoning, just as the original meaning of the constitutional term "person" does not bear a construction that encompassed the unborn, neither would it bear a construction encompassing a human-animal chimera. The practitioner of originalist textualism would have no option but to invite the legislature to intervene by statute or constitutional amendment to protect the dignity of such a being. The political implications notwithstanding, the judge's hands would be tied.

Restraint and Democracy in Changing Times

Having surveyed the ways in which originalist textualism responds to the challenges of technological progress, what conclusions can we draw about the principles underlying this approach to the law? What can be said of the goods and values that originalist textualism seeks to promote and defend in this context? And what can be observed more broadly about how technology changes the law?

First, it can safely be said that originalist textualism is a doctrine that demands judicial restraint, even in the face of dramatically changing and evolving circumstances made possible by scientific and technological innovations. This is so even where judicial restraint requires enduring undesirable policy results (such as disallowing the use of closed-circuit video for the trial testimony of victims of child abuse); adhering to constitutional provisions originally premised on possibly outdated factual realities (such as holding, on interstate commerce grounds, that the federal government has jurisdiction over nearly all matters involving telecommunications); or conceding that some new activities made possible by technological innovation are beyond the reach of the original meaning of certain constitutional provisions (such as holding that under certain circumstances, aerial surveillance is not a "search" for purposes of the Fourth Amendment, or that certain human-like organisms are not "persons" for purposes of the Fifth and Fourteenth Amendments).

What is behind this commitment to judicial restraint? It seems to originate, in the first instance, from a concern for the legitimacy of judicial power. When the court exercises judicial review and invalidates governmental action, it must do so only pursuant to an authority more permanent than the judge's own conception of "current values" or "what justice requires in light of evolving standards of decency." For judicial action to be legitimate, it must be rooted in the will of the people, which, according to originalist textualism, is the Constitution itself, as understood when it was ratified.

The fundamental value that originalist textualism seeks to advance is a particular conception of self-governance through democratic means, and it is this

value that shapes its legal response to technological change. It bespeaks a faith in democratic processes (rather than constitutional adjudication) as the chief means for addressing the problems of technology. Originalist textualism seeks refuge in the fixed meaning of the Constitution (as originally understood) in order to preserve the structures and functions of government established at its inception. It safeguards against changes in this governmental framework through constitutional interpretation, a sentiment echoed by James Madison in a letter to H. Lee in 1824:

> If the meaning of the text be sought in the changeable meaning of the words composing it, it is evident that the shape and attributes of the government must partake of the changes to which the words and phrases of all living language are constantly subject. What a metamorphosis would be produced in the code of law if all its ancient phraseology were to be taken in a modern sense!

Proponents of originalist textualism regard the legislature as the organ of government with the most legitimate claim to the enactment of public policy; they regard the alteration of the Constitution through unbounded judicial interpretation as a far greater evil than the political anomalies that sometimes result when the Court exercises restraint in the face of public policy dilemmas wrought by technological developments. The willingness to counsel silence in deference to the legislative (or even constitutional amendment) process, when technological innovations create circumstances that clearly call for action, is grounded in a deep-rooted commitment to majoritarian solutions to the hardest questions of American public life.

Of course, legislatures will not always have the fortitude to take on the challenge of bringing the Constitution and the laws into line with changing technologies, and the questions facing judges will grow more complex and more daunting as new technologies emerge. The question is whether the solution to this growing challenge is to empower judges to interpret the Constitution by their own initiative and whim—and therefore to rely on their understanding of the significance and character of new technologies—or whether we do best by insisting that judges interpret the Constitution and the laws as they were written. Such restraint puts pressure on the legislature, which is typically better situated to understand new technologies over time, to be guided by expert knowledge and public opinion, and to ensure that our laws keep pace with changing times. Whether our democratic institutions—especially our legislatures—can adequately adapt to the dilemmas of scientific and technological progress remains an open question, but to proponents of originalist textualism it is clear that the American constitutional system as a whole will deal better with this challenge than the federal judicial branch alone.