

The Real World of Technology, Ursula Franklin

Excerpts from Chapter 1

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I start from the premise that we are living in a very difficult, very interesting time, a time in which a major historical period is coming to a convoluted end. I think we live in a time in which the social and political upheaval is as great or greater than it was at the time of the Reformation. And so I would like to do a bit of orienteering and map-making so the discourse in which we all have to engage can be conducted in a common language.

As I see it, technology has built the house in which we all live. The house is continually being extended and remodelled. More and more of human life takes place within its walls, so that today there is hardly any human activity that does not occur within this house. All are affected by the design of the house, by the division of its space, by the location of its doors and walls. Compared to people in earlier times, we rarely have a chance to live outside this house. And the house is still changing; it is still being built as well as being demolished. In these lectures, I would like to take you through the house, starting with the foundation and then examining with you the walls that have been put up or taken down, the storeys and turrets that have been added, the flow of people through the house — who can come in, who can go into particular spaces. In the past, I have often spoken about the social impact of technology in terms of apprehension and foreboding, but this is not my purpose here. My interest is in contributing to clarity. I want to know as much as possible about the house that technology has built, about its secret passages and about its trapdoors. And I would also like to look at technology in the way C.B. Macpherson looked at democracy — in terms of the real world. Technology, like democracy, includes ideas and practices; it includes myths and various models of reality. And like democracy, technology changes the social and individual relationships between

us. It has forced us to examine and redefine our notions of power and of accountability.

In this lecture, I would like to talk about technology as practice, about the organization of work and of people, and I would like to look at some models that underlie our thinking and discussions about technology. Before going any further, I should like to say what, in my approach, technology is not. Technology is not the sum of the artifacts, of the wheels and gears, of the rails and electronic transmitters. Technology is a system. It entails far more than its individual material components. Technology involves organization, procedures, symbols, new words, equations, and, most of all, a mindset.

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There exists a vast literature on all aspects of technology.² Recently, people have become particularly interested in technology's social impact. I myself am overawed by the way in which technology has acted to reorder and restructure social relations, not only affecting the relations between social groups, but also the relations between nations and individuals, and between all of us and our environment. To a new generation, many of these changed relationships appear so normal, so inevitable, that they are taken as given and are not questioned. Yet one can establish clear historical trends. In order to understand the real world of technology and cope with it, we need to have some knowledge of the past, as well as to give some thought to the future.

Altogether there seems to be a very drastic change in what it means today to be human—what it means to be a woman, a child, a man; to be rich or poor; to be an insider or an outsider—compared with what all this meant in the past. My father was born just before the turn of the century, and many of his approaches to life could be understood from knowing that he was a German intellectual, a member of an old family of a particular social class, coming from a particular region of the country. On the other hand, you would know very little about my son's approach to life and his values and attitudes by knowing that he is a photographer, born in the late 1950s in Toronto. Technology has muddled or even destroyed the traditional social compass.

It is my conviction that nothing short of a global reformation of major social forces and of the social contract can end this historical period of profound and violent transformations, and give a manner of security to the world and to its citizens. Such a development will require the redefinition of rights and responsibilities, and the setting of limits to power and control. There have to be completely different criteria for what is permissible and what is not. Central to any new order that can shape and direct technology and human destiny will be a renewed emphasis on the concept of justice. The viability of technology, like democracy, depends in the end on the practice of justice and on the enforcement of limits to power.

Let me begin now, like any good academic, with definitions. To define technology in a global sense is really quite fraught with difficulties; the best minds among philosophers, historians, social scientists, and engineers have attempted to do it.³ I will not compete with them. Rather, I would like to define, as we work through this, technology in its various aspects within the context in which they occur and within the context in which I discuss them. Like democracy, technology is a multifaceted entity. It includes activities as well as a body of knowledge, structures as well as the act of structuring. Our language itself is poorly suited to describe the complexity of technological interactions. The interconnectedness of many of those processes, the fact that they are so complexly interrelated, defies our normal push-me-pullyou, cause-and-consequence metaphors. How does one speak about something that is both fish and water, means as well as end? That's why I think it is better to examine limited settings where one puts technology.

As a beginning let's look at technology as practice. Kenneth Boulding, the author of *The Image* and many other influential books in the social sciences,⁴ suggested that one might think of technology as ways of doing something. He pointed out that there is a technology of prayer as well as of ploughing; there are technologies to control fear as well as to control flood.

Looking at technology as practice, indeed as formalized practice, has some quite interesting consequences. One is that it links technology directly to culture, because culture, after all, is a set of socially accepted practices and values. Well

laid down and agreed upon practices also define the practitioners as a group of people who have something in common because of the way they are doing things. Out of this notion of unifying practice springs the historical definition of “us” and “them”. I think it is important to realize that the experience of common practice is one of the ways in which people define themselves as groups and set themselves apart from others. “Around here, that’s how we do things,” a group will say, and this is their way of self-identification, because “others” may do the same thing differently. A different way of doing something, a different tool for the same task, separates the outsider from the insider.

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The historical process of defining a group by their agreed practice and by their tools is a powerful one. It not only reinforces geographic or ethnic distributions, it also affects the gendering of work. When certain technologies and tools are predominantly used by men, then maleness becomes part of the definition of those technologies. It is for these deep-rooted reasons that it is so very difficult for women to enter what are now called “non-traditional” jobs. If engineers are male and maleness is part of engineering, then it’s tough for men to accept women into the profession. The apparent ease with which women acquire the knowledge necessary to practise only seems to increase the perceived threat to the male practitioners. And so year after year, engineering faculties go through initiation procedures that are crude, sexist, and obscene in order to establish that the profession is male, even if some of the practitioners are not.

The common practice that a particular technology represents, in addition to leading to an identification with culture and gender, can also lead to the “right” of the practitioners to an exclusive practice of the technology. This is how the professions were born; clergy, doctors, lawyers, engineers, and social workers all claimed the exclusive right to certain tools and to certain technologies.

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It becomes so easy and seemingly objective to define the content by the way something is being done or prescribed to be done. Teaching, for instance, is now a clearly circumscribed activity that takes place in a particular location and is conducted by particularly trained or ordained practitioners, and whatever

somebody may teach you in working together with you, it isn't the kind of learning for which you ever get a credit. I think it's important to realize that technology defined as practice shows us the deep cultural link of technology, and it saves us from thinking that technology is the icing on the cake.

Technology is part of the cake itself.

Let's distinguish the two ways in which technology has developed. In the first place there are work-related technologies. Work-related technologies make the actual practice easier. Take, for instance, the substitution of electric typewriters for mechanical ones; this is indeed a work-related technological improvement. Secondly, there are control-related technologies, those developments that do not primarily address the process of work with the aim of making it easier, but try to increase control over the operation. Think of a word processor. A freestanding word processor is indeed work-related technology. But link those word processors into a work station—that is, into a system—and the technology becomes control-related. Now workers can be timed, assignments can be broken up, and the interaction between the operators can be monitored. Most modern technological changes involve control and thus new control-related applications have increased much faster than work-related ones.⁵

From the Pope

The 2 Stories

7. In order to answer these questions and discern how to navigate responsibly the era of AI, I would like to bring to mind two scenes from the Bible: the construction of the Tower of Babel and the rebuilding of the walls of Jerusalem. The story of Babel appears in the Book of Genesis, at the origins of humanity, immediately after the genealogies of Noah's sons. After settling in a plain in the

land of Shinar, the people decided to build a city and a tower "with its top in the heavens". Fearing being scattered across the earth, they sought to guarantee stability and power for themselves, and above all to "make a name" for themselves. It was an impressive feat: a single language, a single technology, a single direction. However, the project concealed a profound danger. It was a project conceived without reference to God, supported by a uniformity that eliminated diversity and that chose homogenization over communion. When a city is built on pride and the claim to self-sufficiency, communication breaks down, languages are confused and people no longer understand each other. The result is not unity, but dispersion. Babel thus reveals the limits of any effort that, however grandiose, arises from self-affirmation, sacrifices human dignity for efficiency and aspires to reach heaven without God's blessing.

8. The Book of Nehemiah, in turn, opens at a time of great vulnerability in the history of ancient Israel. After the Babylonian exile, a portion of the people returned to Jerusalem, but the city was still in ruins, the walls collapsed and the gates burned. Nehemiah, a Jew in the service of the Persian King Artaxerxes, received news of the disastrous state of his ancestral city. Before taking action, he fasted, prayed and interceded for the people. He then asked the king for permission to return to Jerusalem and, upon arriving, examined the destroyed areas in silence. He did not impose solutions from above. He convened the families, assigned each of them a section of the wall to rebuild, listened to their concerns, coordinated their efforts and addressed any opposition. The narrative shows how the city is reborn, not through the initiative of one man, but through the shared responsibility of all: men, women, priests, artisans, heads of households and young people all play a part. It is an undertaking with God at the center, which rebuilds relationships before rebuilding with stones. Thus, ancient Jerusalem rediscovers a common language — not one of uniformity, but one of communion, namely the harmony that arises when all persons assume their own role and recognize that their strength comes from the Lord.

9. In light of these two images, the Holy Spirit challenges us today regarding our relationship with technology and the ongoing digital revolution. Scientific discoveries are talents entrusted to humanity so that they may bear fruit. Technology has the power to heal, connect, educate and protect our common home; but it can also divide, exclude and generate new forms of injustice. In the abstract, technology in and of itself is not a solution to humanity's problems, just as it is not inherently evil. In practice, however, technology is never neutral, because it takes on the characteristics of those who devise, finance, regulate and use it. Therefore, the primary choice is not between a "yes" or "no" to technology, but rather between constructing Babel or rebuilding Jerusalem; between a power that claims to dominate the heavens and a people who work together in the presence of God to rebuild the walls of fraternal coexistence.

10. We must, then, avoid the "Babel syndrome," namely the idolatry of profit that sacrifices the weak, a uniformity that neutralizes differences, and the pretense that a single language — even a digital one — can translate everything, including the mystery of the person, into data and performance. The risk of dehumanization — of building a future that excludes God and reduces the other to a means — is an ancient and ever-new temptation that today takes on a technical guise. Instead, let us choose the "way of Nehemiah," which highlights the importance of working together to make the City of God a safe place for returning exiles. Rebuilding today means recognizing that, precisely from the plurality of voices and visions which, even though they sometimes remind us of the confusion caused by the diversity of spoken languages, a bright possibility emerges.

12. Secondly, building for the common good means accepting the limits and weakness of humanity without considering them an error to be corrected.

Today, the human desire for fullness of life is at risk of being misled by deceitful goals, such as the prospect of a technology that promises to free us from all weakness, and models of wellbeing that leave behind entire populations. All too often, we place our hope in unlimited "upgrades," in forms of progress that exacerbate inequalities, and in immediate solutions incapable of healing people's wounds. As a result, while some pursue the illusion of unlimited self-assertion, many are deprived of basic necessities. The Church reminds us, with a firm yet humble voice, that true fulfilment is not achieved by eliminating weakness but through harmonious growth. It is found where freedom and responsibility are intertwined with mutual care and true solidarity, and where progress is measured by the dignity of each person and the good of all peoples.

13. Thirdly, building a world in which everyone can flourish requires shared responsibility and courage. No one can singlehandedly bear the weight of the challenges the world is facing, just as no one is so weak that they cannot play their part, for "power is made perfect in weakness". All are given their own section of the wall: scientists and researchers, entrepreneurs and workers, educators and legislators, civil society, popular movements and faith communities. This is the logic of subsidiarity, which values the cooperation between generations, peoples, disciplines and cultures as the best way for fostering stability, prosperity and peace. We should not be intimidated by tensions or differences because they can become creative forces when guided by shared responsibility.

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in earlier times, we rarely have a chance to live outside this house. And the house is still changing; it is still being built as well as being demolished. In these lectures, I would like to take you through the house, starting with the foundation and then examining with you the walls that have been put up or taken down, the storeys and turrets that have been added, the flow of people through the house — who can come in, who can go into particular spaces.