

## ***How does it feel? Philosophy in the Data City***

***Alison Powell – London School of Economics and Political Science***

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The practice of everyday urban life has the potential to generate enormous amounts of data. These data both fit into a variety of systems of control, and provide the opportunity to improve urban life for individuals. Urban data is a mediation of all kinds of activities: movement, transaction, pollution, location. To illustrate: transport systems rely on passenger and traffic data to centrally monitor and control the flows of people, vehicles and goods as well as to inform passengers when the bus or train is due to arrive. Mobile phone companies collect location data about call and web browsing data from the people who use them. Air quality monitors read particles in the air; CCTV cameras record vast amounts of visual information, credit cards record purchases, energy meters record, in real time, the use of electricity; crimes are mapped by police forces and presented to the public. These data are retained and calculated by government and corporate entities, or combined, analysed, repackaged and sold. New data analysis techniques as well as new data generating media (including the sensor technology that comprises the 'Internet of Things') extend the range of ways that data is produced as well as the number of ways it is understood, and thus the importance of accountability and governance of that data.

Over a century ago, Heidegger developed his phenomenology of technology. One of his central concerns was with the process of calculation, which he thought was of concern because of how it suggested a departure from the world of experience. Heidegger's concern about calculation seems germane for exploring the experience of data generation and calculation as features of everyday life. But despite an interest in the role of algorithms as part of individualized relationships with technology, and especially to the potential significance of 'calculation' as a realm of experience, we are not always thinking very deeply about how this data experience *feels*.

This lecture is focused on a single but unfolding question: the question of how data feels, in everyday life in the city. I will start out by reflecting on what phenomenological approaches can provide to interdisciplinary work on technology. I focus particularly on the intersectional approach to phenomenology that Sara Ahmed develops in her book *Queer Phenomenology*. I do think that there are a few features of the internet of things that have particular interest for this question of how things feel. When we think about what it is that we are feeling, we get a couple of answers: the first one is about what we are not feeling. Data collection is unconscious, pervasive, and when based on sensors, not meant to be perceived. Second, we are feeling the effects of what Sandvig is calling 'corrupt personalization'. Mostly what we are feeling is creepiness, a consequence of unconscious data collection where value is contingent and indeterminate. Creepiness feels creepy – but more than that, it is a feeling that is just tolerable enough to proscribe any consistent or determined political action. I argue that the dynamic of data creepiness, while related to the dynamic of surveillance, is actually not the same thing from a phenomenological point of view (nor indeed from a political economic point of view). The lecture concludes with an attempt to figure out how to develop an internet of things that contributes to what the pragmatist philosophers might conceive of as 'a good life'. This 'good life' is predicated on meaningful engagements with objects, and its existence holds out the promise that there might be some other way of being, and some other way of feeling, in relationship with the internet of things.

**Orientations: Phenomenology and bodies, objects, selves.**

Wilson's introduction to phenomenology notes that its aim is to "study how human phenomena are experienced in consciousness, in cognitive and perceptual acts, as well as how they may be valued or appreciated aesthetically. Phenomenology seeks to understand how persons construct meaning, and a key concept is intersubjectivity." I am going to trace this intersubjectivity first through Heidegger's classic arguments about the phenomenology of technology and then through

Ahmed's more radical positioning. Phenomenologists of media and technology are interested in the experience of the world vis a vis technology. Heidegger argues that there are actually two aspects of our relationship with technology, one which is instrumental and one anthropological:

- technology is a means to an end
- technology is a human activity

The first way of thinking about technology is an instrumental one. Can my toaster warm up crumpets until they are crispy on the outside and warm enough to melt butter? We often think of this a 'what technology does' where **technology is a device, a thing, an object.**

The second one is about **technology as a practice.** Sometimes philosophers use the greek word **techne** to specifically refer to this aspect of technology. This second mode is the mode of being with technology, something creative or even artistic. Within this distinction lies two separate ways of conceiving of how to technologies can be available to us: as 'ready to hand' or 'present at hand.

Basically, an object that is ready to hand is one that we can use without theorizing: we can just employ a hammer to pound nails or a toaster to make toast without thinking about what, essentially, they are. But once I've started the process of taking apart my toaster, it becomes 'present at hand' – an object that we do not normally encounter. It is something that we then have to come to terms with. The unusual quality of present to hand-ness is sort of 'scientific' compared with the comprehension of something ready to hand.

In particular Heidegger associates the phenomenological experience of technology to modern science, specifically associating the calculation modes of modern physics with the ontological experience of placing things into 'standing reserve'. The problem with this standing reserve, for Heidegger, is that it prevents an exploration

of how technology might be thought about or explored through everyday practice. Instead, the tendency is to put aside a technology and think only about the function it might perform and thus the 'ends' to which it might be put.

### **Building and breaking technologies**

Our relationships with objects may not always be as straightforward as we conceive them to be: as Ahmed notes, "objects do not only do what we intend them to do". Only when something breaks do we get access to its properties. This is where the philosophy of hacker culture, and the philosophy of open source, come in. The idea of breaking something to understand better how it works, or how it comes to be, is a central tenet of hacker culture. There are various ways that things are un-ready-to-hand (ie, broken, obstructing, etc, and for Heidegger (as well as for most hackers) that broken and non-functioning state actually provides an invitation to understand what the thing itself actually means. Playing at taking apart my toaster is, in my opinion, one of the ways I can start to explore and examine what role it plays and what it might mean to me. In doing this investigation I get to start exploring the technology not just as a tool but as a practice, and I get to investigate ways to reinvent it.

The feeling of being able to change something is often associated with empowerment, but the creation of 'hackable' technologies is often in tension with the creation of 'usable' technologies.

One of the responsibilities of designers is to make technologies as ready to hand as possible – to make things that we might consider to be 'intuitive' or 'elegant' because their function is immediately evident and because they are easy to use. Philosophically, this is a kind of transparency – because the thing's meaning is immediately evident, leaving us somehow freed up to think better thoughts because, for example, we don't have to work out how our word processor operates and we can type down those thoughts really quite fast. Or perhaps we will have better government because we won't have to go through all the mess of getting together in person now that we have an internet network that will help us do it. Of course, the

issue with this ready-to-hand-ness is that it can enroll us in relationships that have consequences that provoke all kinds of ambivalent feelings, that themselves are at the root of ambivalent politics.

### **Expanded phenomenology?**

This is where our phenomenal experience under conditions of late capitalism and in the throes of the complexity we now experience differs from the phenomenal experience of Husserl and Heidegger. In discussing the internet of things we need to accept that the feeling of these technologies also has to do with how they are built and thus how they are socially constructed. These technologies are not just constructed relationally among selves, they mediate and deliver information that in turn constructs experience. They are meaning-making machines, and part of an apparatus of what Jodi Dean describes as 'communicative capitalism.' the political economy of the contemporary mass communication society is driven by an ideology of openness and anti-hegemony – where secrecy becomes an object of economic value and social desire. No amount of telling secrets will satisfy the desire for revelation, which makes privacy both desirable and threatening. Indeed, what Dean's work really implies is that the politics of publicity has exhausted itself. In the age of the IoT and distributed sensing systems, both the things that you do intentionally as part of an attempt to gain publicity, AS WELL AS EVERYTHING ELSE, continue to contribute to a set of conceptual and material infrastructures that perpetuate the desire for revelation and the necessity for revelation. In the IoT context, the benefits of unconscious and indeterminate data collection are things like energy reduction, responsive interior environments (and, in a world with uncertain environmental outcomes, perhaps also exterior environments), seamless communication and easier transactions. In other words, a greater intensification of the commodification of communication, and a departure from sense making in favor of what Thrift (2014) calls a 'flat ontology: in which various things exist without being reducible to objects. This is a situation in which communication is extensive, since much information is flowing in many direction, but in which none of it presumes constructed meaning. It is an intensification of the dynamic that Dean (2006)

identified as the circulation of messages that are reduced to their medium – that is, messages that are produced and circulated but which have no political resonance, and which, because of their production and circulation, foreclose the possibility of political action. The principle of communicative capitalism also explains how personalized, data-generating media enroll individuals and their communicative habits into capitalist logics, allowing corporate entities to profit from the information quasi-willingly shared by individuals.

In this way, the data world presumes a different “normal” experience of the world – one that is characterized by information readily available and information offered. Digital networks ‘will always be around – in the air and the walls – providing an ever-ready information template overlaid on the “real” world we navigate ... What we can expect, then, are networks of miniaturized, wirelessly interconnected, sensing, processing, and actuating computing elements kneaded into the physical world’ (Kang and Cuff 2005, 94, 99). Thrift argues that this ‘normal’ experience resists phenomenology. He argues that the emergent data world rejects phenomenology because, following actor-network theory, the relational quality of entities at various scales breaks down the sense of there being one person constructing relationships with particular objects. This line of thinking identifies not only the potential for the production of data to satisfy desires for participation (as Dean puts it) but through the eventual valorization of that data elsewhere, but actually by positing a world where not just human politics but human perception is no longer the main reference point. Thrift writes of ‘sentient cities’ where entities including sensors possess capacity for awareness – not equal to human intelligence (and certainly not akin to consciousness) but nevertheless, sentient. These non humans connect with each other and send, receive, and interpret and respond to information and change. They do so without participation of human consciousness. However, feeling bodies are conscious, and as objects collect more intimate information, they are linked with us in ever more intimate ways. This means that politics of sensors is indeed based within an ethics – a phenomenal ethics – of feeling. How a sensing world feels is also,

and importantly, different depending on what kind of feeling body you have (female, male, 'ethnic,' 'able,' 'queer,' 'straight,' 'good,' or 'bad'), and where that body is positioned in relation to structures of power (be they economic or political).

This is why I'm suggesting both that the question of *how it feels* is an essential one to consider in the era of the internet of things, but also that the study of the feeling needs a different approach than the highly individualistic one pursued by its original proponents. The notion that the body of a European man in contact with objects in his own particular space can be taken to represent all of experience is nearly laughable. Instead, it's possible to take inspiration from Ahmed's use of phenomenology to ask questions about how various types of (queer, straight) bodies are poisoned in relation to others, and also how stories of objects, bodies, and their relationships constitute ways of thinking about or knowing the world. Ahmed's work is important because it puts phenomenology in interdisciplinary conversation and also because it assumes that the feelings we feel are also to do with the ways that we are placed, pushed, constrained, invited, shifted or made to attend to some things and not others. Media and communication scholars have always attended to the ways that these pushes, pulls and negotiations configure messages, audiences and ideas. In the IoT age, they also impact the body. The connection between the two of them is the result of some of the particular features of the contemporary information experience: latent or unconscious data collection, the possibility of 'corrupt personalization' and the resulting feeling of 'creepiness'.

### **What is it we are feeling?**

There are some new things about the IoT world. First, the scale and latency of data collection, which happens largely without conscious agreement on the part of the person sharing data. Second, the indeterminate use of this data and the complex

flows in which data are recombined away from our bodies and our own experience. This leads to a form of 'corrupt personalization' that produces traumatic misinterpretations of ourselves and leads to what Habermas refers to as the 'colonization of the lifeworld.' The result of these two features combines to produce the paradox of creepiness, where data collection feels wrong, but in which the ability to protest or react is constrained.

***Indeterminate information, latent data collection.***

In the IoT world, numerous objects collect data and relay it to other objects or entities. Let us consider two stories of the everyday experiences of this latent data collection and its indeterminacy, in order to foreground the affective and political consequences.

1. I carry a smooth rectangle in my pocket, an elegant, intuitive object. It is also an object which, according to media and government reports, collects information about me and my habits, but I don't know how it does that. All I know is that I don't really have control of that information and that it can easily be connected with other information that I also don't know about. This is the first particular aspect of the phenomenal world of the internet of things. For the first time, our encounters with objects include objects composed exclusively of information. As a material, information has an indeterminate quality – it is differentially positioned or differentially valuable depending on who has it and what other information they also might possess.

In a practical sense, this means that information about where my smart phone is located is useful to me provided I have the knowledge to read a map, or possibly also in the case that I combine it with other information from another source, perhaps information about restaurant types I have searched for on my phone, in order to generate an apparently useful recommendation. My encounter with this information object, which takes the form, perhaps, of a small red blob on a beige-backgrounded map, with a pictorial icon within it. At the same time that I am encountering this possibly useful informational object (itself becoming part of the creation of habits



unique to a wealthy and privileged person who visits restaurants) the information about my location AND about my previous restaurant searches have been sent off to large databases elsewhere, to follow different kinds of paths before being related and correlated, in enormous quantity, with information from other sources. This indeterminate path of my information, and the way that its value is contingent on other kinds of information produced in ways that I can not know, is not fully unique in the IoT space, but intensified through the amount of information produced. The familiarity and comfort of the informational objects that I encounter myself causes me to feel that they are useful, or at least benign, and to generate anxiety as I think of eliminating them, although I have a notion that the information required to make my object comforting and up to the minute also has another life being used by others, in ways I cannot imagine. This bargain which is not a bargain comes about because once I checked a box saying “terms and conditions, I agree” even though I did not click the link. I felt like I could not refuse and anyway agreeing or not, someone will always collect information from me.

2. David Sedaris recently published an essay in *The New Yorker* magazine about his relationship with his FitBit biometric monitor. The essay captures the phenomenal quality of this relationship. Strapped on his wrist, the monitor tingles when it senses he has taken a certain number of steps. He writes, “the tingle feels so good, not just as a sensation but as a mark of accomplishment”. In the essay, he describes how the tingle and its recording of his steps push him to take ever more steps so that day by day he extends his rambles around the countryside where he lives, collecting rubbish from the roads, encountering animals and sometimes, in a fit of desire to achieve another level of thousands of steps, walking through the dark night. Sedaris’ essay is funny, but also mostly desperate. He describes himself, flat-footed and laden with bags of garbage, shuffling obsessively nowhere in particular, desperate to receive the information that he’d taken the next significant level of steps. As such, he captures the feeling of intimate relation with the devices that carry and communicate otherwise ambient information, and the orientations that they invite us to make towards presentation of measured and measurable information as accomplishment. Equally, Sedaris’ piece describes (well enough to make us laugh)

considerable feelings of distress and unease that are provoked but also soothed by the FitBit. Sedaris is honest about the ambivalent feelings provoked in his own body, but it is impossible to know how the relationship with the tingling reporter feels within the many different kinds of bodies who are now powerfully interlinked.

The promise of *knowing* is behind the embrace of informational objects. This ideal of knowing is why the ambivalent feelings do not cause us to abandon our informational objects: they present us with the capacity to know something, to sense something, that we would have been unable to do before.

One issue with the contemporary collection of data is that it is even less contested than the mass surveillance that we are now all aware is consistently being undertaken. Josee van Dijk refers to this valorization of data by both corporate entities and researchers seeking to understand human behavior as a “secular belief” that prevents these practices from being curbed. She writes, “datafication as a legitimate means to *access, understand* and *monitor* people’s behavior is becoming a leading principle, not just among techno-adepts but also among scholars who see datafication as a revolutionary research opportunity to investigate human conduct” (p. 198). The desire to pursue data collection is related to Heidegger’s insight about calculation: the principle of datafication is related to the notion that increases in quantification are linked with increases in efficiency, or quality, or any of the other aspects of things that can actually be quantified and rationalized.

### **Corrupt personalization**

The desire for knowing and its enrolling in calculative processes can lead to perverse outcomes. Christian Sandvig describes one of them as ‘corrupt personalization’ which he defines as “the process by which **your attention is drawn to interests that are not your own.**” (2014). This is the result of media content organized by of algorithms. This creates differential availability of different media content, which is based on information generated by individuals and processed by media companies. But because of the commercial drive behind most media platforms, the ideal of

personalization based on previously shared information (implicit in my mapping example above) becomes directed to commercial ends. Sandvig describes the following three problems:

1. **Things that are not necessarily commercial become commercial** because of the organization of the system. (Merton called this "*pseudo-gemeinschaft*," Habermas called it "colonization of the lifeworld.")
2. **Money is used as a proxy for "best"** and it does not work. That is, those with the most money to spend can prevail over those with the most useful information. The creation of a salable audience takes priority over your authentic interests. (Smythe called this the "audience commodity," it is Baker's "market filter.")
3. Over time, if people are offered things that are not aligned with their interests often enough, **they can be taught what to want**. That is, they may come to wrongly believe that these are their authentic interests, and it may be difficult to see the world any other way. (Similar to Chomsky and Herman's [not Lippman's] arguments about "manufacturing consent.")

As the IoT framework extends, especially in cities, we can identify existing or likely extension of corrupt personalization: curated location specific information not actually based on real interests, optimized travel data that suggests ways of moving through the city that generate more value for the commercial entities who provide travel; and health services offered based on risk calculations and not the well being of individuals. The phenomenon of corrupt personalization also draws attention to asymmetries in producing information. Under conditions of persistent data gathering, some information may be more valuable than others; if it is associated for example with a person who has high purchasing power (for example, a parent or wealthy person), and other information may identify someone of low status (for example, a lack of GPS tracking indicating a 'non smart phone' and only limited information trails that can easily be monetized). Although corrupt personalization is primarily an

abuse of economic power, it is a telling example of how differentials in data power influence how we feel.

### **Creepiness**

Corrupt personalization is problematic because it colonizes the lifeworld. When the power imbalance impacts the everyday experience of people, that colonization is also felt. And it feels creepy.

This is the point at which our phenomenological approach touches on issues of power. Recently there has been a lot of attention to Facebook's study where thousands of people had their news feeds manipulated to represent either more positive or more negative emotions. This is something that the company does every day: manipulating data to generate feeling. The commentary on the study by its authors and quoted by Tufekci is revealing:

Fourth, it's worth keeping in mind that there's nothing intrinsically evil about the idea that large corporations might be trying to manipulate your experience and behavior. Everybody you interact with—including every one of your friends, family, and colleagues—is constantly trying to manipulate your behavior in various ways. ... So the meaningful question is not whether people are trying to manipulate your experience and behavior, but whether they're trying to manipulate you in a way that aligns with or contradicts your own best interests. (Cited in Tufekci, 2014)

The admission that something feels creepy is partly a response to a perceived power differential between the entity being creepy and the person subjected to creepiness. The subject of the creepy interaction doesn't feel that there is anything that can be done. This dynamic of differential power is part of what surveillance researchers highlight as the main problem with surveillance society. This dynamic is still in play, but it has actually become more complicated because of the fact that information is

of indeterminate value: although some information is retained by a surveilling entity, the datafication of life also means that we are collecting large amounts of sensor information about ourselves, or using previously collected information in ways that we perceive as valuable. What has not changed is the influence of power differentials. This includes the power to influence feelings and behavior. Tufekci argues that data processing companies are already computing data as a means to influence behavior, and that in contrast to the mass-media paradigm of audience segmentation, unconscious data collection and large-scale data processing creates opportunities for those in power to “carry out highly effective, opaque and unaccountable campaigns of persuasion and social engineering in political, civic and commercial spheres” (2014 p. 1).

These everyday encounters are points of contact between humans and technologies, but they are harder to figure than the traditional phenomenological contact that Husserl and Heidegger outlined when they described in detail their relation to a table or a jar. As evidenced by the phenomenal stories I’ve just told, they feel strange but they also feel useful. At the very least they propose different forms of recombination of relationships between people, objects and information.

To conclude the discussion I’m going to provide some more phenomenal and political examples that come out of the experience of data in cities. I’m deliberately also trying to focus these in terms of the possibility to re-engage the logic of data collection and *how it feels* from a different perspective (say, a hacker’s perspective) and whether this addresses the imbalances of power that manifest in corrupt personalization and creepiness.

### ***Alternative Frameworks for Information Objects***

The potential disconnect between system and experience, phenomenology and political economy, can be overcome by examining on the ground agents’ strategies for building *alternative* frameworks for the creation and use of information objects.

This raises an interesting question: does it feel differently depending on who and how has created an information object? If the problematic aspect of creepiness is the unknowable response to the power differential it embeds, then perhaps a citizen-created information object will embed a different power relationship, and feel less creepy? This is an empirical question that we will not discuss in detail here, but let us take a few examples from the data city to work through the issues of indeterminacy and alternatives, in order to create a framework for future research in this area.

First, an example of data indeterminacy: the commuter application Urban Engines acts as a data intermediary and also promises 'optimization' of data for both governments and individuals. The idea is that each individual commuter would agree to have their commuting measured through a GPS enabled application, and in exchange they would be able to be notified of ways to better optimize (ie, reduce) their commuting time. The application "provides rewards for small changes to commuting times that reduce congestion." Aggregate analytics based on the data of many commuters are provided to cities, and there is the possibility of 'micro-targeting' commuters to encourage specific types of behavior. More than Sedaris' FitBit, this kind of informational object seems designed to persuade, to change behavior, and also to generate financial benefit for the Urban Engines and the transport operators of the city. This is of course not a neutral power relationship, even when the individual benefits.

Second, a question about data creation and creepiness: does it feel better when the system you are using is designed from below? While Urban Engines collects data to sell it both to city governments and to individuals, other information objects are built from 'open data' that is meant to be information collected from the public, using public funds. One of these is the Cyclestreets application, which is based on an open source mapping platform and which includes information shared with the application by cyclists themselves. The application provides route planning suggestions based on trips taken by other cyclists, and allows the opportunity to

contribute to the application. Does this feel different? Or, because it's based on the same kind of logic, does it feel the same?

Similarly, NGOs like Mapping for Change have supported individuals and community groups in gathering environmental data (like air quality and noise) as a means of engaging with gaps and flaws in official data. These actions intervene in efforts to use such environmental data within top-down governance processes. As Gabrys (2014) identifies, such citizen science efforts must be enfolded and imagined in processes of environmental governance or 'biopolitics 2.0'. These examples illustrate two ways that an alternative economics of information might employ calculation of multiple data sources or generation of alternative sources to illustrate or critique power relations, although they also illustrate the ambiguity of accountability within these processes.

### **Conclusion: the Good Life among Information objects**

The pragmatist philosophers of the 20<sup>th</sup> century established some very clear ideas about the 'good life' as experienced in relation to technologies. These valorize particular ways of being in the world and proposing mindful engagement with technologies in ways that provoke feelings of connection and belonging. Following Heidegger, Borgmann is critical of engagement with things that are only ready-to-hand: he considers this as a 'device paradigm' that reduces experience to function. Countering the 'device paradigm' Borgmann suggests that we might focus practices around particular things. These 'focal practices' could be anchored in doing something meaningful to anchor technology around oneself.

If much of everyday media lives are now composed of production of data rather than consumption of information, how might we wish to consider a 'focal practice' of individual communication technology use? We might want to think of such a practice in both ontological and epistemological terms.

### Some Further Questions

Is it possible to derive data that would express how it feels to inhabit a certain place? Its smell, feel, texture or emotional register? Who gets to produce such data? To calculate it? And under what conditions? What implications does this have for privacy and security in the city? For food security? Inequality? Community relations? All of these aspects of civic experience can be understood as political in some way. Feenberg advances a perspective on “technological citizenship” that attempts to valorize small-scale politics, or what he calls *micro politics*. He writes,

Micro-politics is distinguished from such large scale interventions as elections and revolutions that aim at state power. It may lack long term organization and is often focused on a single issue and sometimes a single location.

Nevertheless, the effects of micro-politics are not trivial.

Democratic interventions are translated into new regulations, new designs, even in some cases the abandonment of technologies.

They give rise to new technical codes both for particular types of artifacts and for whole technological domains. (Feenberg, 2011, NP)

In future, citizen built smart cities are more likely to involve the production, use and governance of data flows, rather than the politics of access to communication that characterized some of the interest in community wireless networks. However, some of the same questions about the architecture of governance remain, including questions about the extent to which control of data is distributed (including how much it rests with the individual) and the extent to which collection, processing or use of data is undertaken in the interests of citizens (including individuals or communities of practice) or whether these actions are undertaken in the interests of other entities who serve to benefit politically or economically.

Some citizen science projects, including those hosted by Mapping For Change, have involved citizens in building their own air quality monitors and air quality data maps, calling into question official government data. Sensor technologies could also provide other alternative data streams that illustrate alternative mappings of data



cities, for example GPS data collected by bicycle journeys (Behrendt), or maps illustrating available gardening allotments (Vis). Could this be expanded towards other ways of creatively and productively imagining and representing the city, the community, and the self? Might this even imply a resistance to or revindication of the exploitation of personal data?

Based on the problems I have identified here, that lie at the juncture between the phenomenal world of feeling and the constructed world of power, issues of unfairness, exploitation or limited knowledge of the movement of data influence the way people experience these in their bodies and themselves. And I think that this is significant, because under conditions of communicative capitalism it is not always clear how to remove oneself from a dynamic of communicating without meaning. Political options are not easily visible. Thus we must attend to the feelings of creepiness, and try and govern to mitigate them. To do so we can return to the notion of a good life that is achieved in balance with technology, but attempt to extend that good life to all.