

Vibrant Technologies

Maria Bezaitis

Technology¹ has changed the world slowly and in very important ways. Because our everyday lives are so tied up with technological stuff, it is no longer possible for us to think about any single technology (e.g., device, internet, software) as a thing that is completely outside of ourselves. The fact that technologies now make our lives happen in so many small and big ways means that we need to treat them a lot more like close relations, that is, organisms that are, for better or for worse, wholly caught up with who we are, what we are, what we do, and how we live. We need to infuse our technologies with vibrancy².

Vibrant technologies have agency. They are non-compliant actors. They are motile, dynamic, and able to participate with people and other technologies. A vibrant technology is not a wholly automated robot; not Hal 9000 of Stanley Kubrick's *2001: Space Odyssey*, nor is it IBM's Watson, the Jeopardy winner (2011). Resistant to being shaped by other people or events, Hal and Watson are both *anti-social*, optimized for intent to control, to compete and win. As technologies that participate *with us*, we might think of vibrant technologies as peers, not tools. Just as our ways of being social in the world are intertwined with whom and with what we are surrounded by, the agency of vibrant technologies depends on assemblages that include other people, other objects, other technologies.

To illustrate a particular embodiment of a vibrant technology, let me tell a short story about my colleague and his pets. In response to a request for applications that illustrate the best instantiations of *context awareness*, a colleague of mine offered the following: "Dog knew when it was time to play, when we were tired and resting, when we needed consolation. Dog was aware of changes in the local environment before we were: deer or bear in yard, a stranger approaching the house. Dog was also good at cleaning up after us: food dropped on floor miraculously gone." My colleague suggested that his cat was "similar, but not as reliable." The cat does know when it is time to sleep, and is quite good at alerting us to strangers (especially other cats) roaming free through the yard. However, whereas the dog seems to be alerting us, the cat seems to be engaging entirely in conversation with the intruder. It is only after the intruder leaves that the cat remembers we are there."

My colleague concluded by saying, "While both dog and cat exhibit signs of attachment to us, the dog is the superior context-aware app as compared to cat." For the purposes of this chapter, I want to suggest that dog embodies the current state of context-aware computing, a state which is, in the definition I will offer here, not so vibrant. Instead, I propose that we consider the possibility that cat, with its self-centered nature and yet dialogic relation to people, its dynamism which does not place people at the center of its universe, represents the future of context-aware computing. The cat, unlike the more person-centered dog, participates in assemblages, or webs of forces and agencies that include people

¹ Any reference to "technology" or "technologies" is deliberately broad and includes devices, internet, data, software, wireless communications, networks, machines, pets.

² I have borrowed the term from Jane Bennett's *Vibrant Matter* (2010) and am seeking to extend her vitalist materialist argument to technologies. Bennett, a political theorist, brings attention to the fact that agency does not belong exclusively to humans and that non-human forces actively participate in events. Far from acting alone, according to Bennett people are enmeshed in webs of forces that enable certain kinds of outcomes.

and other vitalities, including the weather, other animals, spatial arrangements, institutions, objects and appliances. The cat is a vibrant technology.

The word vibrant refers on the one hand to a kind of physical movement, specifically vibration or the rapid, rhythmical movement to and from. However, vibrancy also emphasizes vitality, or the capacity to live. We might say that a technology that is vibrant is one that can initiate its own movement and generate its own energy, physical and not. A vibrant technology is a source of *aliveness*. To relate this briefly to the discussion of pets, to the extent that dog's vitality seems so tightly intertwined with owner's preferences, cat is more vibrant than dog. Is cat more accurate than dog? Does cat perform better than dog? No, rarely does cat do either of these things. But cat is always directed by an intention that emerges from, (re)encounters and is redirected by the intentions of others. What results is at times expected and on other occasions utterly serendipitous. Cat surprises. Cat interrupts. Cat comes and goes. Cat acts in good faith and it does not live for others, it lives with others.

As part of a web of agencies that includes people, domestic environments, and the weather, cat *produces* context with people. Here, context emerges through active participation and the ability to move from one thing to the next, to create paths with others, with information, and with a range of stimuli.³ Indeed, everyday interactions between people, between people and environments or objects are meaningful not because someone, some place, or some thing is acting on our behalf. Everyday interactions, positive or negative, are meaningful simply because they happen, because we have participated in them, because we make sense of them, and because often we are changed in this process.

The fact of our participation, and our ability to make sense given access to a range of inputs, ensures our own sense of aliveness in the world; it ensures our ability to produce context. Indeed, context is not a thing that we have. Context is not the by-product of our physical movement and interactions in the world; it is not the data extracted to reveal where we are, who we are with, what we like or dislike, all physiognomic traits of an experience that may occasionally act as our proxy. Context is a kind of vitality. Technologies conceived as participants in everyday acts of meaning-making have the ability to produce context with us (not for us); context that shapes how those technologies evolve and grow, and, in turn, how people evolve and grow. These technologies are vibrant. And through experiences with vibrant technologies we too remain vibrant.

The term *vibrant* is powerful because it forces attention to the issue of how technologies do things with people, not for people. Importantly, the term vibrant pulls attentions away from the question of what people want from technologies, a limiting question to ask when we are attempting to set the stage for future innovation⁴. Vibrancy asks us to consider the possibility that, along with people, technologies can be vital, that they have some kind of agency which can generate their own movement, and that technologies are participants in life with people, institutions, events, and other things. These energetic,

³ I want to acknowledge my colleagues Professors Tom Boellstorff and Bill Maurer for an excellent collaboration on this topic. The impetus for this argument for *vibrancy* emerges in part from a multi-month engagement with Tom and Bill on the future of context.

⁴ It is the strong opinion of this author that people never know what they want from new technologies. Other than to help refine features, or work on issues of ergonomics, what people need should not drive innovation. Innovation should emerge from points of view about how the world might work if we could just make the right stuff.

motile things can effect change and in doing so, enable us to live more fully in the world. Without vibrancy, technologies are dead.

What is a vibrant thing?

One of the challenges before us is to understand what agency means in the context of vibrant technologies. Is agency about automation? Does agency assume self-interest in the ways that we understand humans to embody self-interest? Do technologies, in particular data, suggest through their material structures and in the energies that they produce any different views of agency? These questions require more research. In the meantime, a few characteristics emerge as starting points for designing agency, and thus vibrancy, into future technologies. Keeping in mind the overarching framework of vibrant technologies as those that can act, enable participation, and effect change, here are three key facets that might usefully shape the kind of agency vibrant technologies produce: affect, willfulness, assemblage.

1. Affect

The focus on affect emerges from the fact that first and foremost, technologies have proximate relations to each other.⁵ They run into each other, connect, clash, and occasionally integrate. To date, the artificial intelligence community has conceived of affect in computing in a way that relies on anthropomorphism. In this way, we have seen evidence of robots that are happy or sad and can even emulate human emotions and rudimentary gestures.

However, technologies have a material basis of their own, whether physical or digital. Those materials have properties that result in unique energies and capacities: attractions and repulsions, vibrations, oscillations, friction and static. How do we start to pull from the inherent traits of these material bases (*i.e.*, of code, electrons, physical materials) to develop a means with which to understand how technologies feel each other? What would it mean for a technology to feel another, to make connections not as a function of mechanics or cognition, but through affect?

2. Willfulness

Technologies that are willful can choose an option among many options. They have motive. They can insert themselves in our choices, intervene, or interrupt. They change and so enable us to change our minds and to realize that we may not know exactly what we want. Willfulness is not the same as filtering. Filtering proposes to constrain a set of options through preferences. Instead, vibrant technologies that are willful are able to challenge and confront, to leave in search of data, other interactions, more insight, and return to engage with us. Technologies that are willful prompt detours and interventions, allow us to remain open to chance, and to the prospect that set paths may change.

Willfulness equips technologies with intent and with the ability to get people and other technologies to (re)consider a course of action. Vibrant technologies may even espouse character, beliefs, and aspirations. These traits provide the basis from which to form assemblages that bring together people who identify with these values and access the contrastive undercurrents that keep an assemblage active, dynamic, and in check. So a disposition or aspiration focused on sustainability doesn't just seek out the same. Rather, it is motivated to find deviation, disruption, the detours that may enhance current

⁵ Steven Shaviro in "Universe of Things" talk about aesthetics as providing another means to understand objects: "When I feel a thing when it affects me, or changes me. And what thus affects me is not just certain qualities of the thing, but its total and irreducible existence (page 9)."

interests, focal points, and activities. How do we design technologies not just with the intent to do something but with the means to contextualize this intent in beliefs and aspirations?

3. *Assemblage*

Vibrant technologies act within a web, or an assemblage, that includes multiple agencies. The agency of a vibrant technology depends on other agencies. These agencies may be human, cultural, political, and technological and each of these has its own terms for how it wants to be social. Vibrant technologies rely on their own sources of action, energy, and information to form and evolve. To do this they might keep track of themselves, seek out relevant others, run into things, repel, modify, anonymize, or reveal. By working through (and with) other people, objects, technologies, vibrant technologies shape individuals, communities and the ways in which people are social. How do we design ways for technologies to find each other and create their own clans? How do we design self-organizing architectures?

Why Vibrancy?

Ultimately, the three overlapping facets described above—affect, willfulness, assemblage—all operate under a general rubric of mobility, meaning movement as doing and enabling on-going change. Vibrant technologies are fundamentally mobile not because they physically move, but because they produce feelings, they have dispositions, they generate energy, they forge paths, they enable participation (of one technology with other technologies, with people, with events).

Vibrancy isn't just powerful; it is good. Vibrancy is good for us because we are social creatures and because relationships are central to what we are as a species. We feel valued when we are desired. We feel relevant when we have something to give. If all of this is true, then we need to extend these profound, defining tendencies to technologies as well; to be desired by technologies, to be engaged by technologies, to be rejected by them. Vibrancy is good for us as people because it forces us to respect and to engage capacities that are not simply human and to treat them relationally. Vibrancy is good for our business because it potentially ensures a central role for performance and processing power as persistent values in technological experiences by directing those values away from hardware and towards data, for example: to the services that shape data, to the technologies that will account for how data interacts with data and with devices, to the programming languages and architectures that will support all of the above.

Our businesses need to change not simply to enable data-based experiences, but to deal with the shift towards vibrancy as the central ethos of the next-generation of computing. This means marketing and brands that reach out to people and to technologies; that are set to respond and interact with collectives of people and technologies. This means products that focus on data and what it takes to invigorate, power, harness, proliferate, access, release data. This means services that act as the infrastructure for shaping data-capabilities and other material and digital sources of technological vibrancy. On this trajectory to vibrancy, we need new notions of trust, privacy, security all of which assume that people are not the only affected party and that data, too, has trust, security and privacy needs, aspirations, practices.

Technologies that *do with* people and relate with people, are social peers and not simply processor entities. In this major and crucial shift, these vibrant technologies give people a better shot at “doing” both individually and collectively.