

Into more-than-human worlds: feeling wireless environments on the fringes of our perception

Book Review for *Computational Culture*. Adrian McKenzie, *Wirelessness. Radical Empiricism in Network Cultures*, Cambridge, MA & London, UK: MIT Press, 2011.

Introduction

“In floating such an awkward term as *wirelessness*, I would invite readers to attend mostly to the suffix *ness*. *Ness* seems to me to do a better job than *wireless* of capturing the tendencies, fleeting nuances, and peripheral shades of often barely registered feeling that cannot be easily codified, symbolized, or quantified. As a suffix, *ness* also tends to convey something of a state, condition, or mode of existence (*light-ness, heavi-ness, weak-ness, happi-ness, etc.*)” (5)

This introductory note leaves no doubt as to the ambitious and unusual character of Adrian McKenzie’s new book, *Wirelessness*. We’re embarking on empirical work which seeks to grasp fleeting nuances and which claims that this can throw new light on network cultures. We’d perhaps expect a phenomenological take on this particular state, one that would unveil the experience of the body-mind as it handles wireless connection, or we’d probably envision an introverted approach to this distinct mode of existence, one that would use imagination in order to seize the nuances, but instead we get technical accounts. Technical in a philosophical way, technical in a computational way. *Wirelessness* talks of subjectification and worldhood, of routers and hotspots, without ever getting into the poetic or sentimental straightjacket of the Individual (facing Internet). The book’s perspective is that of impersonal experience. It says something about human experience but also about the router’s, the city’s, the antennae’s as they brush against one another and deflect upon one another. *Wirelessness* is a shared, transversal, condition. This will be shown all throughout the book-review and more particularly in its last and longest part where the multiple worlds of wirelessness are described. First, though, we must speak of the book’s position: where does *Wirelessness* stand in view of more common network analysis? what does the book want to accomplish in bringing on wireless-ness?

Looking at the backdrop of networks

“Much of this book has dwelt on the problem of what remains irreducible to the network and the network society.” (213) *Wirelessness*, indeed, sets the proliferation of daily wi-fi devices such as routers, antennae, memory cards, notebooks, smartphones, local area connectors, chipsets, and others, against quite an ethereal backdrop: the wireless waves and their felt sensations. Saying that the sensations belong to the waves might seem strange at first. Not after reading the book, though. When one considers that the sense of being connected occurs at the edges of our perception, that it disappears or flares up as devices work or don’t work, it becomes geographically and ontologically more correct to say that the sensations belong to the realm of the waves and the de-

vices. We do not become full-blown sentient wireless subjects, as many wi-fi adverts would have it. Wireless connections do not reside at the core of our identity. Rather, they affect and inflect us on the fringes of our being, at the edges of our contemporary condition, where sensations are hardly verbalized, nor even thought of. That is why wireless affects cannot be said to be truly and fully “ours”. They belong to a world of impersonal, technical, experiences which we continually brush against.

To put it more simply: instead of looking at networks, the book investigates networks’ peripheries. Instead of proclaiming the coming age of Network Society, it dives into the realm of wireless outfits - i.e. collective undertakings and assembled equipments - and spins out their experiential tendencies. Wireless cities, to start off with, produce the possibility of ongoing substitution and they emphasize the sense of transition, of running through networks (Chapter 2). Digital signal processing produces the patching of chains and it emphasizes a sense of orientation, of path-making in noisy environments (Chapter 3). Routers produce the coordinates of belonging and they emphasize a sense of boundaries, of opening and closure (Chapter 4). Antennae and node databases produce techno-geographic milieus and they emphasize a sense of emerging connections, of perseverance and growth (Chapter 5). Hotspots - places as well as things and figures which are related - produce the sorting of experiences and they emphasize a sense of shifting embodiment, of changing identity-making (Chapter 6). Finally, development projects produce equivalences and they emphasize a sense of oneness, of traversing the edges of the world (Chapter 7).

Each chapter “tracks a single tendency of wirelessness” (25). The called-for backdrop, wirelessness, is thus made of diverging abstract processes and almost intangible sensations, which come before, after, in between, and overflow the actual networks. “In all the variations in tendency and direction it triggers, wirelessness puts detours and obstacles on the path toward the point where all differences converge and coalesce in pure, total networks.” (6) In other words, the book is an attempt to counter the reductive and stiffening effects of network theory. It opposes the ways in which “network theorizing can deanimate relations” (10) and aims at introducing “less pervasive, less expansive or ubiquitous figures of being with each other” (11). And so it does. *Wirelessness* sets a new scene for analyzing networks and network society. It places the proliferation of wi-fi devices and the rapid growth of connections and available bandwidth amidst the performances of algorithms, of locative devices, of users’ and producers’ experimentations. It focuses on the peripherals and the moving geography of local links, while rescaling the prospective dealings of IT companies, or the initiatives of public institutions, at that same fluctuating level. In sum, such a processual and localizing approach reinvigorates wireless connection and tinges the present with grass-roots potentiality.

Using philosophical techniques

The approach *Wirelessness* adopts has a name: Radical Empiricism. It was introduced by the American Pragmatist philosopher William James at the beginning of the 20th Century. Like other pragmatist undertakings, it is “a method of settling metaphysical disputes in terms of practical differences” (89). It assesses the worth, truth and relevance of an idea by its consequences for

the world to come. It creates an acute awareness of tendencies and potential. More particularly, according to Radical Empiricism (very well explained by the book), the primal stuff of the world is pure experience, pure transition. Rather than staging inner selves and external matter, it posits an unsorted flux of sensations as the starting-point of any investigation. One must then trace how the sensations (unsorted experience) join, disjoin, bundle and coalesce; how they turn more explicit as their entanglement persists; how they cross multi-faceted entities that participate in different fluxes; how they define agency as the quality of any entity hanging on despite strain and obstruction. Experience, then, is non-subjective, more-than-human. Investigation, then, must include all sensations that are involved, even the most imperceptible and impersonal ones. That is why it's called *radical* empiricism - *all* sensations are taken into account - and that is exactly why it suits the analysis of wirelessness:

“Despite their *insignificance and blandness* (or perhaps because of it), wireless networks effervesce on the edges of media change, activating and catalyzing *experiential modifications*.” (3, emphasis added)

Topic and approach coincide. The fabric of the book is double-faced. *Wirelessness* says as much about the experiential tendencies overflowing networks as it does about the philosophical techniques developed by William James. It could quite easily be read as an exploration of either, and it is not always clear which one comes first. That is the beauty of it. Radical Empiricism is effectuated as if it were meant to tackle wirelessness all along. For instance, at the beginning of the book, the process of experiencing wireless cities is described in the exact same terms as the process of thinking of a thing, such as stated by Radical Empiricism. More precisely, in public spaces, trying to connect to a network involves moving through “a series of felt sensations” (50). These range from soft irritation at having to repeat one's entry to heavy frustration for not being able to access any network, from comfortable satisfaction at being able to surf in peace to secretive pleasure of getting into someone else's domain, from annoyance at having to bear pop-ups to sudden surges of excitement at discovering new sites. These sensations show a shifting degree of intimacy and intensity. They connect on a path replete with junction and disjunction. They move at different rates and in various directions. Yet, they co-exist. Being connected is not a homogeneous nor is it a fully possessed experience.

Let's take this a little further. Following the Jamesian take on thinking (of a thing), additional observations can be made. Being connected is site-specific and it is messy. It passes through many intermediaries such as mouses, USB keys, local interfaces, pop-ups, passwords, AirPort lists, reception details, etc. Pure experience is thus axiomatic. It is the starting-point of the investigation, meant to call our attention to the faintest and softest of sensations, but it doesn't foreclose detailed material description. On the contrary: “On any scale we imagine it, wirelessness is not pure flow or pure sensation of transition. It is shot through with temporary termini, with snags and resistances, with circularities and repetitions.” (53) Or as James had it: “(The experience's) purity is only a relative term, meaning the proportional amount of un verbalized sensation which it still embodies.” (53) That's the idea. Following Radical Empiricism, the book can tackle degree and proportionality.

It can involve the solidity of a hacked router as well as faint atmospherical changes. And so it does. *Wirelessness* shows how the urban environment has become tinged with possible connection, how it bears the prospect of getting news, receiving messages, following-up ongoing matters or discovering new ones. As if some fleeting presence were perceived out of the corner of our eyes, i.e. felt but not verbalized. In one word, wireless networks have changed our *bearings*.

Getting a feel for the mismatch

Changed bearings matter to the analysis of networks. They explain why each wireless project, when launched, anticipatively produces “a feeling of changed connection” (44). For wirelessness *does* involve more-to-come. Cities *do* “stream with conjunctions and disjunctions” (41). Wi-fi hype *does* add proportion, direction and intensity to the sensations’ trajectories. To acknowledge the change of bearings is to acknowledge that something is going on. Thus it also allows for better accounts of mismatches and failures. This is shown right from the start, in the first chapters of the book. Wireless city projects are said to be, in many ways, “a bland substitute for the often intense sensory charge of urban environments” (58). Homogenizing grids of free but abandoned hotspots stand in stark contrast with the “low-power, popular practices of wireless network access” (34), as is suggested for Taipei, Taiwan, where people didn’t embrace a State initiative. Later on in the book, when it takes on market forces and ICT development projects, similar mismatches are detected in African cities. As if popular practice overhauled good intentions. But it’s more complicated than that.

IT Corporations, geek activists, NGOs and public/private partnerships develop wireless networks in remote, unconnected, parts of the globe. Whether it is in Eastern Europe or South America, Africa or South-East Asia, wireless development projects are explicitly meant to bring growth and empowerment where there’s none. They aim at increasing participation in Global Civil Society, or at overcoming the infrastructural deficiencies of the South, or at fostering grass-root entrepreneurialism, or at expanding neoliberal markets, and so on. These differences should not be downplayed. Development projects might tackle worthwhile issues. Yet *Wirelessness* shows that there is an overall tendency to *validation*. Projects serve as test-cases for introducing flexible technology. They testify to the worth and relevance of connectivity. In Radical Empirical terms, they are the edges that validate the ways of the core. Each world - here, the wireless one - expands from next to next and at each step, the unfolding rim updates, validates, the meaning of the core. “A world is its traversed edges.” (175) To put it simply: going to Timbuktu amplifies the aura of San Francisco’s networks.

Moreover, *Wirelessness* shows that the edges have their own consistency. African cities receive State initiatives; they are invested in by African IT companies; they already have mobile and satellite connectivity; and so, in fact, they’re becoming “overconnected” (186). Luckily so, one might say, for in the dense overlap of technologically flexible networks, validation slips. In and around African cities such as Kigali, Abuja, Lagos, Addis Ababa, and Porto Novo, wireless networks are growing rapidly. Experimentation with antennae, routers, access points, is altering wireless networks to meet unexpected purposes, such as reconfiguring bonds of reciprocity, or reinforcing

mythological virtuality. “There is a certain pragmatic experimenting and verifying of the possibility of connection that goes on.” (194) Validation is countered by *verification*. Rather well-intended and principled processes aimed at implementing a “core” state of affairs are countered by interested and circuitous processes that attend to their immediate impact on the further possibility for action. Oneness is countered by digression, or, in Jamesian terms, there is *caring* or *not caring* for consequences.

Capitalistic development validates in that it systematically turns matter into economic value regardless of the disempowering consequences. Non-profit development validates in that it systematically absorbs the plurality of kind regardless of the forces that lie therein. So, popular practices and State initiatives (as in Taipei) do not mismatch because one is free and the other is authoritative, neither do local refits and imported innovation (as in African cities) mismatch because one is low-key and the other is cutting-edge, but rather, they differ because they foster opposite forces: either heterogeneity or homogeneity. Projects that don’t carry the incommensurability of worlds, the living forces of ceaseless variation and experimentation, are doomed to turn into machines of disempowerment. They’re likely to repeat “the ideal of isotropic network connectivity” (194) and will hardly be able to resist “general equivalence(s) of power, value, or property” (194). This does not mean that wireless development should be abandoned but rather that it should be made more generic, valid for North and South, and “framed in terms of worldhood, or as creating a form of the world that does not refer to another world” (195). The potential of wirelessness thus lies in this triple acknowledgement: there are multiple worlds, none of which can ground any other, and all of which are branching-out.

Opening up the physical layer

What has all this got to do with waves and sensations? What does the multiplicity of worlds have to do with antennae and routers? One might answer that only wi-fi devices allow hackers or do-it-yourself users to create alternatives, that only such physical and technical meddling can curb wireless networks to unsuspected ends. This is true, but there’s more. Each device has its own agency, its own world-making or worldhood. Philosophically speaking, we’re entering into the book’s Neo-Monadic part¹, which is probably the hardest but most rewarding one. Chapters 3, 4 and 5 draw essentially differentiated worlds which cannot be reduced to any other and which, by their mere presence, inflect our own condition. They’re more-than-human worlds for they rely upon the powers of wireless chips (ch. 3), of routers (ch. 4), of node databases and antennae (ch. 5). They produce sensations of algorithmic enfoldment, electromagnetic sharing and conjunctive looping. In other words, these wave-like worlds are far removed from human agency, subjectivity, volition or consciousness, and can only be grasped with the input of extensive abstract reasoning, such as that offered by Radical Empiricism.

Chipsets, routers, node databases, antennae and many other wireless devices - all part of the Internet’s physical layer - carry abstract processes, i.e. “an enveloping conjunction of relations coalescing around problems of spacing, departure, arrival, proximity and being-with others” (87). Throughout the book, this is referred to as the “conjunctive envelope” (see index). These words

translate the Radical Empiricist idea according to which worlds are made by linkages, concatenations, connections and proximities, and need not be explained by any other founding principle. For instance, Digital Signal Processing - as performed by wireless chipsets - intensifies relations at the departure and arrival points of data, and this gives it its own consistency. No other principle establishes DSP's worldhood. It's a world made of Viterbi, Fourier and other algorithms that allow signals to travel through noisy environments by packaging, splitting, reconnecting, correcting and detecting them. "By combining a number of different algorithmic processes, (the wireless chipsets) generate a conjunctive envelope, a spatial-temporal fold that configures and concentrates arrivals and departures. In consequence, wherever this envelope appears, and particularly so in cities, the way a world hangs together is altered." (60).

Indeed, we have an inchoate sense of the algorithms' performances as we perceive "slight differences in availability, celerity, clarity, and responsiveness of contemporary wireless signal environments" (72). These, often minor, oscillations shift our relative position in such environments, widening or shrinking our sense of the world's availability. From the point of view of chipsets and algorithms, the perspective is not that different: "At their core, I would argue, algorithms in concert with chipset architecture perceive contemporary cities as proliferating movements, as full of encounters with obstacles and blockages, and as replete with connections between variously intimate and strange others." (85) Perhaps our shifting sense of the world's availability is a vague version of the chipsets' and algorithms' own sense of the noisy environment? Perhaps, as we brush against devices and their abstract processes, we get a vague sense of the sensations they carry? The book doesn't give a definite answer but it does say this: each wireless device extracts one aspect, one potential, out of the ongoing stream of sensations. Wirelessness, thus, is the sum of felt extractions.

Routers define the parameters of inclusion - what is the signal's reach, its availability, its level of protection? - and thereby produce, extract, a vague sense of openness or narrowness. They're an experiment in altering boundaries. Node databases, equipped with antennae, produce, extract, "a technogeographic milieu in which a network could emerge from connections" (142). They're an experiment in virtuality, in triggering proliferation. They give a sense of growth and expansion, of setting up loops and collecting increasing numbers of providers. To this we can add the faint atmospherical changes born by wireless cities and development projects, i.e. feelings of an environment tinged with possible connection, feelings of tensions between validating the ways of the core and verifying further possibility for action. All in all, the conjunctive envelope produces a state of indeterminate expectation, of being thrust into the realm of more-to-come, without having any clear idea of what that "more" is, or is about. "In the state of wirelessness, experiences of tendency or of advancing wave-crest situations become as important as things or thoughts." (62) Let's quote James on both these issues, on wave-crests first and on tendencies or the conjunctive feeling next:

"We live, as it were, upon the front edge of an advancing wave-crest, and our sense of a determinate direction in falling forward is all we cover of the future of our path. It is as if a differential quotient should be conscious and treat itself as

an adequate substitute for a traced-out curve. Our experience, *inter alia*, is of variations of rate and directions, and lives in these transitions more than in the journey's end. The experiences of tendencies are sufficient to act upon." (62)

"While we live in such conjunctions our state is one of *transition* in the most literal sense. We are expectant of a 'more' to come, and before the more *has* come, the transition, nevertheless, is directed *towards* it." (85)

Overall, wirelessness produces, extracts, introduces, "a turbid sensation of change" (87). It is a peripheral state which inflects our being: opaque and cloudy sensations pack on the fringes of our perception, nevertheless conveying a sense that something's already triggered, that we are involved in a process of some sort. Yet again, it doesn't define us, it doesn't immerse us but it stimulates us, alters our bearings and weighs upon the differential quotient of our inclinations. It doesn't lie in the fold of our own personal expression but in that of the devices and the equipments themselves. All this has one important consequence for *Wirelessness*: the book has to actively reinforce all grappled bribes of sensation in order to pour it into a train of thought; it has to take many side-steps, away from the often bland, too direct, methodological rules which social sciences' empiricism often holds. "To even sense the force of tendencies means adjusting ourselves to flows of alterity." (210) To even try and articulate that turbid sensation of change, "the acts of intuition (...) have to be multiplied" (210, quoting Gilles Deleuze).

Conclusion

Wirelessness is a series of inquiries into tendencies that are spun out by devices and equipment; it is a series of experiments drawing on philosophical techniques which emphasize the stream-like nature of experience; it is a series of acts of intuition capturing the non verbalized sensations which affect our condition. In all three cases, in all of its facets, the book throws new light on current beliefs, fears, hype and anxiety, which surround the electromagnetic waves today. Although such waves have been present for some time now (radio, TV), something's changed with the arrival of wireless connection (the "more-to-come", the tendencies). The book allows us to acknowledge the change without necessarily or too quickly pinning it down to one catastrophe scenario or the other, neither to some prophecy for that matter. It tells us to advance more cautiously.

Recent studies of changed reading capacities, cognitive patterns, spans of attention, leisure behavior, even of changed brains and collective introversion - all due to Internet - take on a different meaning when framed by wirelessness. These changes could well be motivated by some wide-spread embrace of the turbid sensation. The feeling of more-to-come is maybe the reason why we get "hooked on". Wireless devices are not mere tools for accessing and transporting data. They are the network's experimental, at once abstract and embedded rim, which directly engages with the material, economic and political constraints of setting up connections. Moreover, conceiving of that rim as a mere means-to-an-end, seeking its immediate correspondence in the social realm, only gives leeway to the powers of general equivalences, be they capitalistic or neocolonial.

Rather than seeking perfect virtual sociability or the oneness of the world, we should grapple with the potential of this new vague and peripheral condition. The task ahead is an aesthetic (*aisthetikos* - “sensitive, perceptive”, “of the senses”) and political one, one of otherness and finding alternative ways for connecting to the forces that inflect us: “We should attend to the currents of feeling and processes that render us affectable in wirelessness” (169). We are surrounded by devices and their abstract processes. We are enfolded by equipments and their experiential tendencies. After reading the book, the world is filled with new micro-worlds, sensations and affects. The non-verbalized is slightly more verbalized. Or, to sum it all up, the book is a series of partial clarifications. It’s an attempt of making tendencies more and more explicit, and it’s a successful one at that.

¹ The words “néo-monadologie” or Neo-Monadology refer to 20th-Century retakes of Leibniz’ philosophy: see work of Gabriel Tarde, Alfred Whitehead or even Gilles Deleuze. The label has been re-introduced by Maurizio Lazzarato and, perhaps in a more affirmative way, by Didier Debaise, both of whom are referred to in *Wirelessness*. The main idea can be summarized as follows: contrary to a mechanical view of matter and causality, the world is filled with infinite ways of grasping and consistency-making, all of which are filled with appetite, novelty and their own share of knowledgeability; one process is never just a consequence of the other but rather takes on the other in its renewed grasping of the world; or, to put it simply, the world is no pool-game (A hits B) but a copy-cat game (A passes onto B).