

## **Automobility and Hospitality**

**Oscar Krüger and Corinna Burkhart**

### **Introduction**

And which driver is not tempted, merely by the power of his engine, to wipe out the vermin of the street, pedestrians, children and cyclists?

- Theodor Adorno

This paper returns to a theme that has received much attention in commentary on the thinking of Ivan Illich: his elaboration on the story of the Samaritan. (e.g. Taylor, 2007; Bruno-Jofré and Zaldivar, 2012; Perelli, 2015) Far too little attention has been accorded to one crucial element of that story, namely the *road* where it takes place. Following upon Illich's claim that "the love of friendship, *philia*, as practicable under the social and symbolic conditions engendered by modern artifacts, has been the constant subject of my teaching" (Illich, 1996, p. 6), our question is how these conditions are put at stake in the modern system of automobility. Our claim, insofar as unexpected meetings between strangers are the concern, is that they are largely eliminated from what is likely to occur in the course of the everyday movements of people in so called modern societies. We then explore how a remnant of such hospitality remains in the form of hitch-hiking. Looking closer at the conditions required for successful hitch-hiking only strengthens the argument that the conditions for unexpected encounters along the road have been marginalized. We conclude with a brief discussion which suggests that the imminent arrival of the self-driving car may mark the transition from what Illich called the "age of tools" to the "age of systems."

In this transition, even the hospitable remnant of hitch-hiking stands in danger of final extermination.

### **Automobility and Forms of Critique**

In this section, we provide conceptual elaboration by defining what we mean by “automobility” and we discuss two different means of scrutinizing this phenomenon offered by the work of Illich. Automobility, to begin with, is understood in the sense used by sociologist John Urry: “a self-organizing autopoietic, non-linear system that spreads world-wide, and includes cars, car-drivers, roads, petroleum supplies and many novel objects, technologies and signs.” (Urry, 2004, p. 27) This system, it has been argued, has come to exercise a radical monopoly on wayfaring. That is, the desire to move has been molded into the desire—even need—to make use of the particular product which is the car. (Illich, 1974, p. 45) The car's apparent self-mobility would thus here be regarded as made possible only within a larger system, which operates through a specific domain characterized by its own spatial and temporal structures. (Urry, 2004, 29). Now, if the triumph of this domain may appear an inevitable outcome of technological development, it is worth noting how its emergence was highly contested. As Wolfgang Sachs shows, “[t]he automobile delivered the power to overcome distances, but not the path.” (Sachs, 1992, p.83). Those paths which preceded automobility were winding, uneven, cluttered and primarily fit for moving between neighboring towns by foot or bicycle. (Ibid, p. 45) Inevitably, as the domain of the car was expanding, this led to great conflicts between those moving by such older means, and those making use of the new machine. In particular, the remodeling of space into the straight and linear thoroughfares that fit the car met great popular resistance. (Ibid, pp. 12-22) The conditions that allowed

automobility to triumph were thus not related to any inevitable progress. Instead, the condition was the ability of political claims made in the name of systemic needs to trump those claims which invoked the habits of vernacular communities. Even in an iconic car-nation such as Germany, the political debate on automobility was settled only once its proponents realized they could claim that this system was needed for the prosperity of the national industry. (Ibid, p. 24).

By now, much of the earth has been transformed to fit the needs of this system. Once we no longer take this development for granted, it becomes possible to scrutinize the significance of it having done so. How are we then to take its measure? The works of Ivan Illich offer two possibilities. The first possibility can be adopted from his earlier work, for example, *Energy and Equity*. In doing so, we would seek to bring out the hidden counterproductivity which is the real cost of a car's speed. This could be done by attending to things such as the increasing time that persons are expected to spend travelling, or the time required for keeping both the car and its system operational. This sort of scrutiny can be very valuable, such as demonstrated by Alf Hornborg's (2001) more recent critique of the false "time-saving" promises of technology. It may also render clear and succinct conclusions: "free people must travel the road to productive social relations at the speed of a bicycle." (Illich, 1974, p. 12) This is not what we do in this paper.

Illich himself came to reject the approach which allows the kind of critique found in *Energy and Equity*. (Cayley, 1992, p. 112) Essentially, this earlier critique shows us what tools really do. But it does so without asking if the language which articulates this reality may itself not be determined by that tool, and if that would mean that the critique itself is constrained by its grasp. Indeed, a large part of the appeal exercised by these early works is that they are easily graspable, which they are

by making use of the same conventional measures of time or space upon which the proponents of (e.g.) automobility formulate their promises. This does not challenge the more fundamental issue regarding whether the terms are the appropriate ones for understanding it. If we were instead to approach a thing such as making highways from the later period of Illich's thinking, doing so could be read as a process in which the “bulldozer [...] incorporates discrete vernacular space *sui generis* into non-discrete, in-discreet, homogeneous, commercial space.” (Illich 1985, pp. 20-21) The concern here is with the *qualitative* transformation of space (and time) itself. In regards to automobility, then, we now find him reflecting on how

[L]ocomotion is a very modern concept. People have walked in all societies, but they had no way of moving through a three-dimensional Cartesian space. It didn't exist [...] The prevalence of wheels says that I am engaging in locomotion when I walk [...] Thinking of myself as engaging in locomotion places me in Cartesian space; and by placing myself in Cartesian space, I limit my experience, and my sense of reality, to Cartesian space [...] It is my duty *not* to be constrained into three-dimensional space [...] What would happen to me there? I would lose the interiority of my heart. (Illich in Cayley, 1992, pp.113-114)

Automobility is connected to a new kind of space, and placing ourselves in it transforms who we are. The strategy of critique would now be one of revealing what these qualities are, and the difference they make. Thus, what is this space which Illich here calls “Cartesian,” and what difference does it make? Whereas the name designating it invokes Descartes, this philosopher formalized earlier developments having taken place in Renaissance Italy: the invention of the artistic technique known as *linear perspective*. (See Illich, 1995; Hoff, 2013) The novelty invented there made use of a frame, positioned between the painter and the thing to be depicted. This thing can then be decomposed into geometrically defined sections. Subsequently, the frame and the straight line came to define what we understand by “space.” That is, as an

abstract grid completely neutral in regards to whatever comes to occupy it. As Illich puts it—a “space without quality.” (Illich, 1985, p. 62)

This kind of space makes a difference. On one side, any spatial being can now be exhausted as such by mathematical definition, which affords the subject unparalleled precision and control over the things that it can now univocally define. On the other hand, as we found Illich to claim, it provides no place for the heart's interior. Why is that? Whereas the icon of old “was not yet a place *in* which to see things but *through* which to see them” (Illich and Cayley, 2005, p. 117), the image of the frame is a representation. Linear perspective is created so to designate a correct position for the one who gazes upon the image, and this position is fixed and external to the representation. The perceiver does not participate in the image, and its position is that of the Cartesian “subject,” who is the bearer of all that meaning and interpretation which the worldly space of pure quantity is unable to open towards on its own accord. And this has consequences for the range of possible relations that this subject may now maintain towards its world. According to theologian Johannes Hoff, who traces Cartesian space to the same origin as did Illich, the space of such perspective lacks the possibility to “create an *actual* space of *face-to-face encounter* [whereby it] reduce[s] my ability to perceive embodied individuals as persons to my ability to put myself in the place of their mirror-image.” (Hoff, 2013, p. 95) Inter-human relations, then, would only now become that which we know as “intersubjective”—that is, as if consisting in an ability to put oneself in one subjective, external and “narcissistic” perspective after another. (Ibid, p. 104)

This change in perception must be a great danger to those who share, to some extent, Illich's belief in an Incarnation which “invites me to seek the face of God in the face of everybody whom I encounter” (Illich and Cayley, 2005, p.110) through a

mode of “seeing [which] was once felt to be an act of bodily intercourse with the object of my gaze.” (Ibid, p. 107) As a foundation for scrutiny of a system such as automobility, this manner of drawing out such hidden structural elements and their significance is more challenging than the earlier critique employed by Illich in that it doesn't let us grasp a phenomenon as much as it undoes the grasp by which it is held fast. It also has a tendency to remain very abstract, such as in the discussion of space we conduct above. In the following section, we make this later kind of scrutiny of the modern world more concrete by focusing it on one of its components – the system of automobility.

### **Automobility and Its Aspects**

In this section, we conduct an inquiry into what automobility tells us about movement, then how it transforms the experience of moving, before concluding with a discussion on how Illich would lead us to consider the possibilities of human becoming which may close with this change.

In regards to the first question, we can adopt a distinction introduced by anthropologist Tim Ingold between thinking journeying as transport, and thinking it as wayfaring. For the latter, movement is a continuous process of generation, sustained by attentive engagement with changing surroundings. The wayfarer “has no final destination, for wherever he is, and so long as life goes on, there is somewhere further he can go.” (Ingold, 2011, p. 150) Transport, by contrast, is what movement is when we understand the space it moves through in the Cartesian terms introduced in the preceding section. The meaning of the movement, and the reason it takes place at all, is bestowed onto it from the point at its end. Consequently, the places traversed

become but distances to cross as efficiently as possible – ideally, instantaneously. (Ibid, p. 152) The latter is the perspective assumed by the German architects of their nation's famous highway system, which they designed by deliberations on how to connect major points, cities, along as straight and efficient lines as possible. (Sachs, 1992, p. 46)

This was not only the case for the Germans, and the spread of automobility also realizes the kind of space implied in this vision. The result is not merely a change in regards to conceptions *about* space, but something which also transforms the experience of moving through it. As Urry notes, automobility changes “what can be seen, heard, smelt and tasted.” (Urry, 2004, p. 30) According to Ingold,

... modern metropolitan societies [...] have created transport systems that span the globe in a vast network of destination-to-destination connections. And they have converted travel from an experience of movement in which action and perception are intimately coupled into one of enforced immobility and sensory deprivation. The passenger, strapped in his seat, no longer has the ‘all around’ perception of a land that stretches without interruption from the ground beneath his feet towards the horizon. It rather appears as so much scenery projected onto vertical screens, more or less distant, that seem to slide past one another. (Ingold, 2011, p. 152)

In the context of a discussion on the iatrogenic (doctor-generated, see below) body, Ivan Illich remarks in a similar vein that “you need such a body to take the car, jumping kangaroo-like from place to place, without touching the earth.” (Illich and Cayley, 2005, p. 131) The connection here is that between the body and the earth, the question is what *kind* of earth and body these are. For Illich, the earth is not the globe as made visible in Cartesian space, gazed upon from afar. It is “something you have to use all your senses to grasp, to feel. Earth is something that you can smell, that you can taste”. (Illich in Cayley, 1992, p. 287) That is, something we relate to through carnal participation. This earth is not the space traversed by the car. As for the body,

the term “iatrogenic” serves to historicize our bodily conceptions and perceptions along a line where the evaluations and measurements and diagrams of medical science have come to serve the basis not only of our conceptual understanding of ourselves, but our very *sense* of ourselves. The diagram takes the place of the felt flesh. Illich's belief is that the body as flesh has been increasingly marginalized, such as seen when he reads the history of the gaze as a gradual *disembodiment*. (Illich and Cayley, 2005, p. 108)

The common theme here is the estrangement of the world and the body as experienced through the carnal senses. As the body goes from something which travels by wayfaring through the earth to something which is transported across its surface<sup>1</sup>, the character of experience goes through a disembodiment. There are many reasons for which one might believe that this matters, but Illich's work leads us towards one issue above others. Our senses open us towards certain kinds of experience. The kind of experience which Illich held the body *in particular* to open towards was that which finally answers the third question we posed for this section: how does it change the range of possibilities for humans to be?

The answer comes through Illich's elaboration on what is the proper way for humans to *be*, which we find in his interpretation of the parable of the Samaritan. In Illich's interpretation of this story, he says “that your *telos*, your end purpose, the goal of your being, is an other whom you freely choose.” (Illich and Cayley, 2005, p. 197) His elaboration of this story has received extensive attention elsewhere (ref. initial page), but it is still helpful to recapitulate a few points. What the story tells is the event when a Samaritan turned to care for a Jew lying wounded by the side of the road. The pain of the Jew constituted a call, and in defiance of traditional boundaries,

---

<sup>1</sup> For the claim that wayfaring moves *through* the world rather than across it, see Ingold. (2011, p.151)



the Samaritan responded. What Illich developed was a novel interpretation of this well-known event. Whereas it is often understood as telling us how to treat our neighbor, this was not the actual question that the story was originally told as an answer to. Rather, the question inquired into *who* the neighbor is. In this case, the point of the story would be exactly that the Samaritan story does not answer this by recourse to inherited duty or prescribed law. The decision he makes is *beyond* any law, and the relation established through his act is a unique relation between one person and another. Once this possibility had been introduced into the world, according to Illich, it “is open to anyone who walks down that road to move away from the road and establish a relationship, a fit, a tie, with the man who is beaten up.” (Ibid, p. 206) But the call and response which creates this relation moves through a certain medium: the body.

According to Illich, the New Testament brought about not only a new way of conceiving the world, but also of *perceiving* it. (Ibid, p. 106) In the Incarnation, the Word became flesh, which lifted this flesh out of the ancient denigration it had suffered in favor of the abstract *logos*. This flesh is the condition of possibility for the unprecedented kind of relation told of in the story of the Samaritan, and if you “[t]ake away the fleshy, bodily, carnal, dense, humoural experience of self, and therefore of the Thou, from the story of the Samaritan, you have a nice liberal fantasy, which is something horrible.” (Ibid, p. 207) The sight of the wounded Jew struck the Samaritan in his *belly*. (Ibid, p. 227) No such belly, then no such meeting. Through the entrails goes the connection wherein the invitation is received to seek the face of God in the face of those who we encounter. Compare this to how, in automobility, “[t]here is no reciprocity of the eye and no look is returned from the ‘ghost in the machine’.

Communities of people become anonymized flows of faceless ghostly machines.”

(Urry, 2004, p. 30)

Elaborating upon Illich's work, Jesse Perillo points out that “[w]hen we allow the built environment to actively hide persons from our presence, we remove the physical reality of the body which affects the moral formation of responsibility.” (Perillo, 2015, p. 55) In doing so, insofar as we follow Illich in thinking it, the built world of automobility would eradicate from its domain the very *telos* of human life. The possibility may remain open to anyone who *walks* down that road. Less so for the one who drives it. Human beings are wayfarers, but as the ways along which they travel are increasingly incorporated into such a system, the conditions where the Samaritan could encounter the Jew are increasingly scarce. Now, approaching automobility in this fashion renders a very different kind of critique than that found in (e.g.) *Energy and Equity*. It may be harder to grasp, but it is also more profound. Whether it may somehow lead to another way of travel, or if it will remain an elegy remains to be seen.<sup>2</sup> In the following, we turn to the question of how complete the transformations of the world by the system of automobility have been.

## **Hitch-Hiking**

In the preceding sections, we have explored the characteristics of automobility. How complete is the transformation brought to the world through this system? Illich himself insisted that the “[t]ransportation systems can function only as long as people have legs to walk to the car and open the door.” (Illich in Cayley, 1992, p. 241) This means that there is a hidden outside to the domain of automobility, which it is contingent upon. But also its inside is not without cracks – there remain “rests” of forgotten or maybe hidden possibilities (see Schwartz, 2002), which serve

---

<sup>2</sup> See Mitcham 2002, pp. 18-19 for Illich and “elegy” as mode of writing.

to remind us of what has been lost. While hitch-hikers are rarely in any obvious pain, and seldom set off from the driver by any traditional boundaries, we believe that this practice in some respects enacts a distant echo of the event told in the story of the Samaritan. The hitch-hiker is also found at the side of the road, making an appeal in plain sight, from one person directly to another, which the driver has no obligation to answer. And yet so the driver does.

First of all, it should be noted that hitch-hiking is alive and well. Whereas popular belief often holds the contrary, the authors of this paper can attest from experience that it is a viable manner of travel in Europe and many places beyond. The claims that follow build solely on such experience, and should be understood as such rather than as universally valid facts. That said, what we focus on in this section are the conditions that the hitch-hiker seeks to create in order to be successful.

Elaborating on these conditions serves to strengthen the argument above as to how automobility, and the modernity in which it has grown, have come to marginalize what are otherwise freely available such as: the possibility of gaining access to the road without making use of a car; the possibility for cars to pull over; trust towards the unknown stranger; time reasonably unbound by strict commitments. We discuss each of these in turn.

The first two conditions define the kind of place required. The hitch-hiker needs to be present in such a way as to be seen, and the driver needs the possibility to respond to this presence by answering what it calls for. That is, by stopping. The kind of spaces made for automobility are often created not only without consideration for what it takes to ensure these conditions, but frequently actively discouraging them. Fast travel requires roads free from whatever would impede it—whether debris, animals or hitch-hikers. Highways in particular are often built so to keep these out,

and to keep in the noise and fumes exuded by the machines making use of them. This means that to reach where they need to be, hitch-hikers would frequently have to illegally scale walls and fences bounding this isolated domain through which transport takes place. Once there, they also need to be *seen*.

On highways, which often span several lanes, an outstretched thumb is more likely to appear a blur at the edge of vision than as the opportunity for an encounter. And more than a thumb, what needs to be made visible is a *person*. This is possible by means of establishing eye-to-eye contact, and seldom will a driver stop in the absence of such. With the high speeds of automobility, the time for eyes to meet is reduced to the briefest of instants. Further, moving slower by one's own unassisted powers frees the world for being brought to attention with whatever it may present. In contrast, the speed of a highway demands high attention from the driver, who as a result will not be able to notice the unexpected by the side of the road.

The third condition for a successful event of hitch-hiking is trust, which passes through two stages. First, hitch-hikers will not be found by the roadside unless brought there by trust that some unknown stranger will answer their call, even as they are in no situation to compel another to do so. This is a trust not in their own ability to master a situation, but faith that the situation will turn out well even without such mastery. Second, the strangers united in hitch-hiking need to trust each other on the basis of very little but intuition - "gut feeling." One common way to partly circumvent this is when hitch-hikers approach drivers directly when they stop at (e.g.) gas stations. But even then, the mutual danger involved for both parties once the threshold of the car is crossed is all but unavoidable. For this crossing to be freely enacted, a decision needs to be made which puts trust in the surface of things. Where modernity is characterized by a suspicion which seeks to create security through mastery, this

practice rather echoes Illich's insistence to engage in “a mode of knowledge [...] which makes me aim at facing people with a willingness to take them for what they reveal about themselves – to take them, therefore, *at their word* – and not for what I know about them.” (Illich and Cayley, 2005, p. 57)

The fourth condition is a free relation to time. But what do we mean here by “free”? Again, for modern thinking, such freedom tends to be identified with mastery over whatever would resist the realization of one's own desires. The car itself, as Sachs shows, embodies the promise of freedom understood as individual mastery over time and space. (Sachs, 1992, p. 100) In hitch-hiking, a person makes use of automobility *without* the means to such mastery. Instead, this person relies on the unpredictable good will of others. This means that being strictly bound by a commitment to be somewhere at a particular time easily becomes a source of frustration when that good will is not quite as forthcoming as hoped for. But no such commitment means no such frustration, which reveals a critical counterproductivity brought about *in part* through the system of automobility. For with individual mastery over time and space, these individuals have themselves become increasingly mastered by commitments that bind them to be in particular places at times specified down to mere minutes. Walking may leave a person more subject to the contingencies of weather and circumstance, but in walking societies there also tends to be more freedom to answer the contingencies that may appear. Such is the reason also, of course, for many drivers not to answer the call of a hitch hiker—a commitment to be somewhere at a specific time, which does not allow any deviation from the pre-planned path of transport.

With these conditions in place, hitch-hiking is far from as difficult as many today believe. The conditions, however, are perfectly ordinary and freely available on

a road for slower kinds of travel. Essentially, the hitch-hiker endeavours to restore the conditions pertaining to meetings taking place in self-propelled movement. What then happens in hitch-hiking is a hospitable meeting, where the driver becomes like the host who presides over a table. (Illich and Cayley, 2005, p. 149) Sharing this table with unexpected strangers, a space is created which fills up with stories. Even in cases where those who meet do not share any common language, the stories of their lives interweave for a brief moment of travel along the road. This is a radically different manner of persons to relate than that which automobility normally affords those who are being moved through its system. And this is a possibility of wayfaring which wholly eludes consideration by those who plan roads according to the sole value of immediate point-to-point transportation. Nor is it taken into consideration by those advocating what is likely to be the next change of this system, namely the self-driving car. In the concluding section below, we offer a few remarks on this looming prospect.

## **Conclusion**

This paper discusses movement and the roads on which this movement takes place. The claims made above assume that these are changing historical products, whose history can be approached in relation to systemic wholes. Automobility names a system connected to the whole of modernity, and the character of the movement that its roads provide space for can be understood in relation to this epoch. This embeddedness pertains to how we conceive *of* movement, how we experience such movement when engaged *in* it, and the possibilities thereby opened and closed. We follow up on the perspective that the works of Ivan Illich provide for scrutinizing these changes, which allows us develop a narrative centered on the body and the

hospitality it opens towards. In particular, how the flesh of a person's body opens towards an unexpected meeting with the unknown stranger, whose unicity might serve the ground for defining who this person himself is. As Illich puts it, "I cannot come to be fully human unless I have received myself as a gift and accepted myself as a gift of somebody who has, as we say today [...] distorted me by loving me." (Illich, Brown and Mitcham, 1997) If this is our fundamental human *telos*, and if automobility closes the opening towards it, then this system ought to be regarded with dread.

Our discussion on hitch-hiking explores a remnant of another possibility. Focusing on the conditions for realizing this practice, our argument that these are marginalized by automobility is strengthened further. We focus throughout on such conditions of possibility for a meeting which would somehow resonate with Illich's interpretation of the story of the Samaritan. The extent to which people actually seize upon such possibility when it is present is a wholly different question. The Samaritan story itself indicates how often this might not be the case, and our intention is neither to romanticize the past nor propose a definite path for the future.

Our discussion above does provide a perspective on this future, however, from an angle seldom adopted by those seeking to intentionally bring it about in a certain form. This is the future where even the perceptual engagement needed for bringing oneself from one point to another in the road network is taken over by the machine. Where the classic car, for Illich, was a tool, he recognized the difference of such cars from the rolling computers increasingly occupying the roads. (Illich and Cayley, 2005, p. 158) Such cars, as are presently being tested for widespread implementation, are said to be auto-nomous.<sup>3</sup> That is, not only moving by their (supposedly) own powers, but also finding their own way by independently making the necessary

---

<sup>3</sup> *Auto* – self; *nomos* – law.

decisions along the way. Thus, a practice would finally be realized which moves humans along roads by means of abstract rules processed by a system, without any need for their sensory engagement.

This possibility may certainly make for more efficient driving. As the United Nations Economic Commission for Europe claims in a press release: “[a]utomated driving will be the next revolution in the field of mobility. As human errors are the main reason for road traffic accidents, driving automatically controlled by a computer is expected to make future road transport safer. It has also the potential to be more environmentally friendly, efficient and accessible.” (UNECE, 2016) The text is accompanied by a picture which shows a man sitting in a driver's seat, reading. Using such terms to advocate a transition in automobility, the central value becomes that of *efficiency*. An efficiency which now enfolds even life and death. In a press release following the first human fatality occasioned by such a car, its manufacturer Tesla pointed out that this fatality was one in 130 million miles, whereas in ordinary driving (in the US) there is such a death for every 94 million miles. (The Tesla Team, 2016)

Again, we see essential elements regarding both a thinking *about* transport and the experience of engaging in it. A “tool,” that is, something which can be taken up or left behind by its user, is increasingly realized as a “system”—something which incorporates the user into its own sequence of operations. (Illich and Cayley, 2005) Illich believed that we are now undergoing an epochal shift from a paradigm of being which is defined by the former, to that of the latter. Our discussion above lets us see that this transition, in the case of automobility, may finally close off the remnant of hospitality which remains in the form of hitch-hiking. In regards to Google's prototype of such cars, for instance, difficulties have been noted with its ability to respond to police officers since “[p]edestrians are detected simply as moving, column-



shaped blurs of pixels.” (Gomes, 2014) The same problem would then apply to its ability to respond also to hitch-hikers. But even if these cars were developed so as to detect such travellers, the car has no entrails by which to let it respond beyond its programmed rules. That we have yet to find a single policy-document taking into consideration whether a driver engaged in reading would note the call of a stranger by the roadside is itself telling for how distant the debate is from the considerations opening for us through the work of Ivan Illich. In the world of modern transport, the possibilities of unexpected intimate encounters with a stranger is increasingly delimited. Even more worrying, it appears that the significance of this loss is less and less likely to be noticed to begin with.

## References

- Bruno-Jofré, R., Zaldivar, J.I. (2012). Ivan Illich's late critique of deschooling society: I was largely barking up the wrong tree. *Educational Theory*. 62(5): 573-592.
- Cayley, D. (1992). *Ivan Illich in conversation: The testament of Ivan Illich*. Toronto: House of Anansi.
- Gomes, L. (2014). Hidden obstacles for Google's self-driving cars. *MIT Technology Review*, Accessed August 28  
<https://www.technologyreview.com/s/530276/hidden-obstacles-for-googles-self-driving-cars/>
- Hoff, J. (2013). *The analogical turn: Rethinking modernity with Nicholas of Cusa*. Grand Rapids: Wm. B. Eerdmans Publishing Co.
- Hornborg, A. (2001). *The power of the machine: Global inequalities of economy, technology, and environment*. Walnut Creek: Altamira.
- Illich, I. (1974). *Energy and equity*. New York: Harper and Row.
- Illich, I. (1985). *H 2 O and the waters of forgetfulness*. Dallas: The Dallas Institute of Humanities and Culture.
- Illich, I. (1995). Guarding the eye in the age of show. Retrieved August 14, 2016 from <http://www.pudel.uni-bremen.de/pdf/Illich95Guardipu.pdf>.
- Illich, I. (1996). Philosophy... artifacts... friendship. Presentation given to The American Catholic Philosophical Association at their annual meeting in Los Angeles, California, March 23, 1996. Retrieved August 14, 2016 from <http://www.pudel.uni-bremen.de/pdf/Illich96PHILARPU.pdf>.
- Illich, I., Brown, J., Mitcham, C. (1997). Land of found friends. *Whole Earth*, 90: 22-27. [http://ournature.org/~novembre/illich/1997\\_friendship.html](http://ournature.org/~novembre/illich/1997_friendship.html) (accessed 21 October, 2016)
- Illich, I., Cayley, D. (2005). *The rivers north of the future*. Toronto: House of Anansi
- Ingold, T. (2011). *Being alive: Essays on movement, knowledge and description*. Abingdon, Oxon: Routledge.
- Mitcham, C. (2002). The challenges of this collection. In *The Challenges of Ivan Illich*. Lee Hoinacki and Carl Mitcham (Eds). Pp. 9-19. Albany: State University of New York Press.
- Perillo, J. (2015). Ignoring and encountering the tragic neighbor through the built environment. *The International Journal of Illich Studies*, 4(1): 55-69.

- Urry, J. (2004). The 'system' of automobility. *Theory, Culture & Society*, 21(4-5): 25-39.
- Sachs, W. (1992). *For love of the automobile*. Berkeley, CA: University of California Press.
- Schwartz, D. (2002). Ivan Illich's concept of "rests": Glimpses of a world past. In *The Challenges of Ivan Illich: A Collective Reflection*. Lee Hoinacki and Carl Mitcham (Eds.). Pp.101-112. Albany: State University of New York Press.
- Taylor, C. (2007). *A secular age*. Cambridge, Mass.: Belknap Press of Harvard University Press.
- The Tesla Team. (2016). A tragic loss. *Tesla-Blog*, June 30. Retrieved from <https://www.tesla.com/blog/tragic-loss>.
- UNECE. (2016). UNECE paves the way for automated driving by updating UN international convention. *Press Release*, 23 March. Retrieved from <http://www.unece.org/info/media/presscurrent-press-h/transport/2016/unece-paves-the-way-for-automated-driving-by-updating-un-international-convention/doc.html>.