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Towards Conviviality in Smart Territories

Federico Diodato

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The Ecological Turn

Design, Architecture and Aesthetics
beyond "Anthropocene"

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Towards Conviviality in Smart Territories

Smart City; ITC; Urban Ethics; Urban Planning; Territorial Studies.

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Today, smart planning models are beginning to show aspects of fragility, with Sidewalk Labs' abandonment of the Quayside Toronto project being an emblematic example.

This fragility indicates the need to deconstruct these powerful narratives and reflect on the appropriate application of ICT devices to spatial planning.

The article aims to analyse the power of the dominant narrative, that of the smart city, which confers to the models of territorial development a conceptual value finalised in the production of economic value.

The smart models present a series of limitations:

Spatial ones, by creating a disconnection between physical and digital spaces;

Political ones, by reducing territorial governance to its technical dimension;

Social ones, by externalising and privatising public services.

These limitations imply the delegation of the control of these technological devices with which we interact.

After the analysis of smart planning, the article will explore an alternative approach regarding the use of technology. This approach will be based on Ivan Illich's conviviality theory, and will aim to examine the development of smart territories as a place of reintegration of social relations and community in order to outline a different relationship with technology.

Could technology establish an ethical relationship between territory and community?

Technology and territory: a problematic relationship

“In about twenty years’ time, we will enter the third millennium of our history. Some imagine it as a miraculous era: diseases will have disappeared, everyone will live more than a hundred years. These optimists believe that many of our problems, such as pollution, overpopulation and violence, will have been solved by intelligent measures and new techniques,”¹ wrote Ernest Dichter in the late 1970s in the preface of *Comment vivrons-nous l’an 2000?*

Today, 40 years later, the narratives that celebrate this optimism towards the use of new technologies find in the smart city narrative a crucial model for territorial planning strategies.

However, what has been presented for the past ten years as a revolutionary and inevitable process of territorial development is beginning to show signs of fragility:

The recent abandonment of the Quayside project in Toronto by Sidewalk Labs, Alphabet’s subsidiary for smart city promotion, is a major example.

On 7 May 2020, with a short letter published online,² Sidewalk Labs CEO Daniel Doctoroff declared the end of the Quayside project.

His statement depicts three years of challenges and ultimately the end of Quayside, one of the most ambitious urban planning models in North America. In 2017, after winning the call

1 “D’ici une vingtaine d’années, nous entrerons dans le troisième millénaire de notre histoire. Certains l’imaginent comme une ère miraculeuse : les maladies auront disparu, tout le monde vivra plus que centenaire. Ces optimistes pensant que beaucoup de nos problèmes, telles que la pollution, la surpopulation, la violence, auront alors trouvé leur solution grâce à des mesures intelligentes et l’aide de techniques nouvelles”. English translation by the author, in Ernest Dichter, *Comment vivrons-nous en l’an 2000 ?*, INF (Paris: Hachette, 1979), 13.

2 Daniel L. Doctoroff, “Why we’re no longer pursuing the Quayside project — and what’s next for Sidewalk Labs”, Medium, May 7, 2020, <https://medium.com/sidewalk-talk/why-were-no-longer-pursuing-the-quayside-project-and-what-s-next-for-sidewalk-labs-9a61de3fee3a>.

for proposals for the development of the Toronto port area, Sidewalks had the ambition to develop a prototype project that combined urban planning and new information and communication technologies (ICTs).

The scale of the project can be grasped in the 15,000 pages of the development plan presented in June 2019. Known by the acronym IDEA (Innovative Design and Economic Acceleration), the project provides a strategic vision for 77 hectares of land: an area equipped with thousands of sensors which, through data processing and analysis, will determine the strategic use of infrastructures, equipment and buildings.

A ground for urban innovations, as announced on the Sidewalk website, with the goal to create through the application of technological innovations in the physical environment “a complete community and a great neighbourhood in its own right” and “improving people’s lives”.³

Since its launch in 2017, the project has been challenged by the local population who did not feel reassured by the data collection and protection systems proposed by Sidewalk. A year later, in 2018, Ontario Privacy Commissioner Ann Cavoukian resigned, stating: “I imagined us creating a Smart City of Privacy, as opposed to a Smart City of Surveillance.”⁴

The need for a debate on the themes of “privacy, ownership and governance” was pursued by the opposition committee to the Quayside project, #BlockSidewalk, concerned that the proposed planning model was designed to create a “Data Surveillance Zone”.

3 “Quayside”, Sidewalk Toronto, accessed August 11, 2020, <https://www.sidewalktoronto.ca/plans/quayside/>.

4 Gabrielle Canon, “‘City of Surveillance’: Privacy Expert Quits Toronto’s Smart-City Project”, *The Guardian*, October 23, 2018, sec. World news, <https://www.theguardian.com/world/2018/oct/23/toronto-smart-city-surveillance-ann-cavoukian-resigns-privacy>.

This planning model, rather than proposing sensible innovations, would generate a surveillance and control policy driven by the commercial interest of private technology companies, with the possibility of transforming the entire area into a gigantic surveillance network.

Sidewalk's abandonment of the project has shown its inability to deal with the demands of opposition committees combined with the current health and economic crises.

This fragility suggests the need to deconstruct these powerful narratives and to think about an alternative application of ICT devices to spatial planning.

Narrative and planning: the construction of the *smart* narrative

The formulation of narratives is constitutive of contemporary models of spatial planning, whose objective is not only to give meaning to the past, but rather to prepare the arrival of a desirable future. Stemming from this need, technology companies have begun to develop a series of storytelling, whose protagonists are technology and the relationship that it can establish between mankind and territory.

The importance of storytelling in planning is not, however, a peculiarity of smart models:

The very act of planning involves the narration of future events, and narratives applied to planning models are not limited to making the complexity of the territory intelligible, but also help to organise it by preparing it for what the future might bring. Storytelling is an essential tool to practice planning, and it is doubly linked to planning: on the one hand it is a tool *of* planning, and the realisation of a project can be seen as a stand-alone



Fig. 1

En l'an 2000,
Le Matin,
January 2nd, 1908⁶.
Credits: gallica.bnf.
fr / BnF.

act of storytelling; on the other hand, it is a tool for planning, as stories are told to develop new visions [Fig. 1].⁵

It is therefore a powerful tool of persuasion, and this power is shaped by the influence of politics and the private companies' interests, which can use it to establish themselves and push urban planning strategies. Narration is not always based on the development of inclusive planning models, that could include a

⁵ Merlijn van Hulst, "Storytelling, a model of and a model for planning", *Planning Theory*, August 2012, vol. 11, no. 3, p. 299-318.

⁶ I wish to thank Ferdinando Gizzi for the suggestion.

plurality of players into the planning process. In this sense, it is a strong legitimising device that structures power and knowledge together, but if this power is not balanced out, other interests may play a determining role.⁷

This legitimising device is widely used in smart narratives applied to urban and spatial planning. In order to analyse their construction, we can identify three main players:

The author, the ICT companies that write these narratives;
The narrative itself, a vision of urban planning managed through data collection and analysis;
The public, identified with the city (which adopts these solutions) and the citizen/user (who uses these technologies).

The author: smart city, a corporate storytelling

Since the early 2000s, ICT companies have contributed to the development of a planning model based on corporate storytelling processes.

Encouraged by the recessionary economic context, they have developed long-term business strategies focused on marketing and ICT innovations.⁸

The acronym ICT stands for technologies related to the processing and transformation of data and then used as managing processes.

Their use is crucial to enable the optimisation of urban services promised by smart models. These devices have radically changed our relationship with the machine: we cannot limit ourselves to acting on them, but it is necessary to interact constantly.

7 James A. Throgmorton, "Planning as Persuasive Storytelling in a Global-Scale Web of Relationships", *Planning Theory*, 2003, vol. 2, p. 125-151.

8 Sotirios Paroutis, Mark Bennett, and Loizos Heracleous, "A Strategic View on Smart City Technology: The Case of IBM Smarter Cities during a Recession", *Technological Forecasting and Social Change* 89 (November 1, 2014): 262-72.



The stored data, through their processing and linking, produce knowledge, and the retransmission of this knowledge to the devices that will use them allows private technological companies, on the one hand, to optimise the urban services promised by the smart models, and, on the other hand, to constitute the power of territorial management [Fig. 2].

Thanks to the widespread use of sensors, software, digital networks and remote-controlled devices, ICT companies are emerging as the best solution for governing cities with millions of residents. A jackpot of 100 billion dollars, of which IBM is the coordinator:

“If Siemens and Cisco aim to be the electrician and the plumber for smart cities, IBM’s ambition is to be their choreographer, superintendent and oracle rolled into one”.⁹

Fig. 2

Smart City, Cisco
Systems, 2013.
Credits: Creative
Commons.

⁹ Ibid, 63.

The narrative: the hegemony of calculation

Cybernetic studies in the 1950s and 1960s and early forms of artificial intelligence played a predominant role in the development of these smart narratives,¹⁰ contributing to the dissemination of one of the founding myths of the digital age:

Of a non-human intelligence form making a contribution to the functioning of the urban system.

These stories are structured in two main steps:

In the beginning, smart narratives aim to make complexity simple, to simplify reality to make it communicable, in which ICT is the answer to making the world look better. To reach this result, it is necessary for companies to open a conversation with the market segment they are targeting, mainly managers and potential businessmen, people who are likely to open up mentally to the opportunities of the future.

Secondly, the narrative strategy guides the potential client towards actions to address this need, and in doing so, companies rely on their ability to offer intelligent technology services and then appear as indispensable players in the solution.¹¹

The smart product is then presented to potential customers: a commercial solution consisting of a set of services that is for sale and whose use transforms cities/territories/planets into smart cities/territories/planets.

The aim of these stories is to redefine the relationship that human beings establish with technology and territory, presenting smart models as the culmination of an evolution driven by technological innovation.¹²

10 Antoine Picon, *Smart Cities: Théorie et critique d'un idéal auto-réalisateur* (Paris: Editions B2, 2013).

11 Ola Söderström, Till Paasche, and Francisco Klausner, "Smart Cities as Corporate Storytelling", *City 18*, no. 3 (2014): 307–20.

12 Francesca Bria and Evgeny Morozov, *Ripensare la Smart City* (Turin: Codice Edizioni, 2018).

The public: the role of cities and citizens

“In a world of machines, or of creatures that can be reduced to machines, technocrats would indeed be gods.”¹³

With these words, Lewis Mumford warned us against a technical progress outside human control, detached from social progress and only serving itself, where the development of technologies can lead to a domination over the physical dimension of the territory. Referring to Norbert Wiener,¹⁴ the forerunner of cybernetic studies, he underlined the risks of the potency of automation technology:

If technology grants us all our wishes, when asking for perks, how can one be sure to ask for what one truly wants and not what one thinks one wants?

In today’s conversation about having faith in the progress and development of ICTs, what is the role of cities and citizens in these narratives [Fig. 3]?

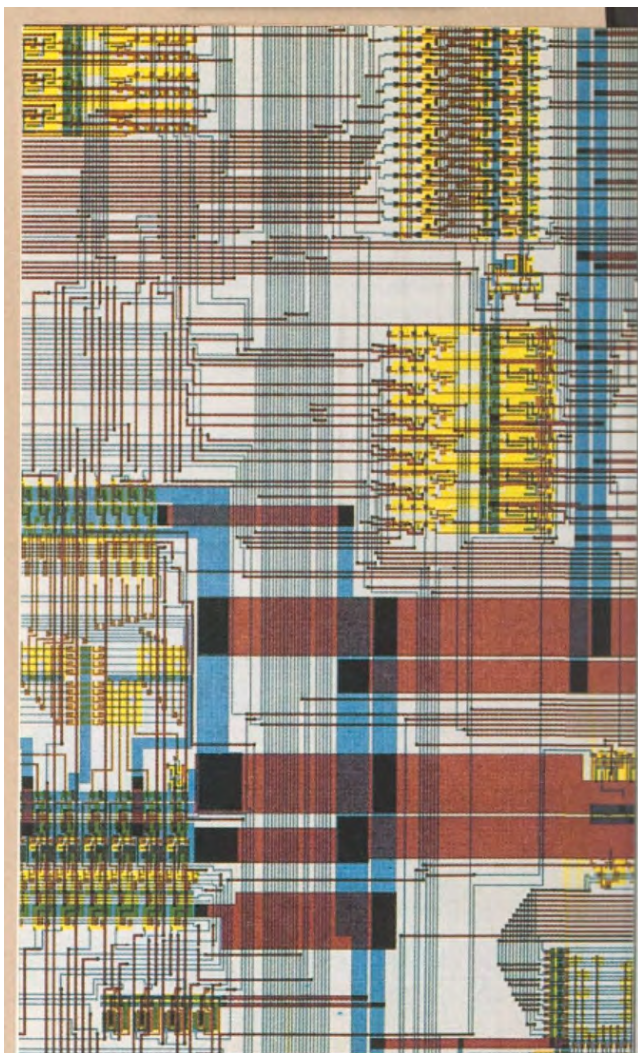
In smart systems, public space is increasingly being managed by processes driven by ICT companies.

The resulting space must be understood as a new form of territory, a “zone (...) intended to serve as a platform for the operation of a new ‘software’ for governing human activity”.¹⁵ This platform would set the base for a gradual substitution between public administration and private interests. Urban and spatial planning models are subsequently digitised and purchased by administrations as a commodity. ICT companies build the “regime of desire” that conceives them, and they assume the role of

13 Lewis Mumford, *The Myth of the Machine: The Pentagon of Power* (New York: Harcourt Brace Jovanovich, 1970), 75.

14 Norbert Wiener, *La cybernétique: information et régulation dans le vivant et la machine*, trans. Robert Vallée and Nicole Vallée, 1 vols., Sources du savoir (Paris: Éd. du Seuil, 2014).

15 Orit Halpern, Robert Mitchell, et Bernard Dionysius Geoghegan, “The Smartness Mandate: Notes toward a Critique”, *Grey Room*, September 2017, vol. 68, 113.



main actors in smart narratives by directly influencing the lives of citizens identified as mass consumers.

Reflecting on the promises of this new territorial governance, the philosopher Bernard Stiegler underlines the risk of a “digital inurbanity” in which ICT companies would replace public entities. The delegation of all choices to databases would create a hegemony of calculation that would preclude free decision-making

Fig. 3

L'intelligence artificielle, Joanna Pomian, 1959.
Credits: gallica.bnf.fr / BnF.

and create a short circuit in the relationship between the individual and the socio-economic system.¹⁶

From smart city to convivial territory

This growth in automation processes calls into question the “freedom” of the citizen who uses these devices:

Are we always free to decide on our uses and lifestyles?¹⁷

By delegating the control of these technological devices, we are actually losing our own responsibility for actions that we do not directly produce.

Can we gain control over the technological devices with which we interact? What is our degree of “freedom”? Are we responsible for the effects these devices have on the territory?¹⁸

The search for an alternative approach to the use of technology echoes the concept of “conviviality”¹⁹ developed in the 1970s by the philosopher Ivan Illich, who warned us against the “counter-productive” aspects of modern society. Technical tools have crossed a threshold of mutation and are the means for dominating nature, and making human beings slaves to the technical system.

Illich's thesis consists in reversing the deep structure that reacts to the relationship between human beings and technology, considering that it is necessary to develop a new type of relationship to replace the values of technology with an ethical value:

16 Bernard Stiegler, *Séminaire Pharmakon - La Smart City comme lieu sans lieu*, 2018, <http://www.philoinfo.fr/2018/07/bernard-stiegler-la-smart-city-comme.html>.

17 Matthieu Amiech, “Peut-on s'opposer à l'informatisation du monde?”, *Terrestres*, June 1, 2020, <https://www.terrestres.org/2020/06/01/peut-on-sopposer-a-linformatisation-du-monde/>.

18 Adriano Fabris, *Etica per le tecnologie dell'informazione e della comunicazione* (Rome: Carocci, 2018).

19 Ivan Illich, *Tools for Conviviality* (Harper & Row, 1973).

The convivial relationship.

The convivial relationship outlines a theory that prophesies a reversal of the relationship between human beings and the technical tool, in which the technical tool should meet three requirements to become a convivial one:

- 1/ Generating personal autonomy;
- 2/ Producing neither slaves nor masters;
- 3/ Extending personal reach.

By rejecting a technology that enslaves and programmes human beings, Illich proposes a vision of technology that increases personal energy and imagination, which aims to produce tools to work *with* people rather than *for* people.

The concept of conviviality is also characterised by its multiversity:

Illich does not propose a model that can be applied in a standardised way to different contexts, he instead suggests procedures to allow each community to choose its own achievable utopia, encouraging a diversity of lifestyles.²⁰

How can the concept of conviviality be related to our contemporaneity, in which we must constantly interact with the environment of information?

At iConference 2013, American researchers Santoso and Kuehn examined how Illich's thesis can be translated into smart models, pointing to the need to create technologies that allow individuals to interact with each other and build relationships, and to make it possible to connect and coordinate critical activities (transport, public services and public safety) through a technologically sophisticated system.²¹

20 Silvia Grunig Iribarren, "Ivan Illich (1926-2002): la ville conviviale" (Paris, Université de Paris-Est, 2013).

21 Stephanie Santoso and Andreas Kuehn, "Intelligent Urbanism: Convivial Living in Smart Cities"; 2013, 566-70, <https://doi.org/10.9776/13278>.

The two researchers identified four principles to promote conviviality through technology:

- 1/ Facilitating communication, sharing information and providing access to data;
- 2/ Creating choices and enabling decision-making;
- 3/ Engaging in informed municipal governance;
- 4/ Enhancing the multi-sensory experience.

At this stage, the question to ask is whether this way of using technology can radically change the way the territory is planned. The possibility of a convivial society is not opposed to it becoming digital, but rather to an alternative use of the technical tool to produce a local economy that makes technology a social future.²²

Conclusion

From the actualisation of Illich's conviviality, we should open up to another narrative, which considers the territory in its sense of "common good".²³

Aware that, in any case, we are within the framework of these strategies and that any reference to ethics can easily be integrated into narrative devices that aim at economic utility.

To go further, an interesting application of conviviality could be found in The Transition Network approach.

The Transition Network is inspired by the *Transition Handbook*,²⁴ written in 2008 by Rob Hopkins. It aims to use technology that focuses both on human needs and on its "appropriate" use. Each community of inhabitants can invent the actions that suit the specificity of its territory, taking inspiration from the network of other cities.

22 Bernard Stiegler et al., "Manifeste Ars Industrialis", <http://www.arsindustrialis.org/>, 2010, <http://www.arsindustrialis.org/manifeste-2010>.

23 Alberto Magnaghi, *Il progetto locale* (Turin: Bollati Boringhieri, 2010).

24 Rob Hopkins, *The Transition Handbook: From Oil Dependency to Local Resilience* (White River Junction, Vt: Transition Books, 2008).

It is a multiversity-oriented and site-specific approach, proposing a storytelling that aims to foster “a movement of communities coming together to reimagine and rebuild our world”²⁵. The Transition Network incites initiatives that are intended to be resolutely “positive”:

As underlined by Valérie Peugeot, the environmental crisis is an opportunity “for societal transformation, involving all the players who ‘make the city’ (non-profits, companies, residents, local authorities, etc.) in the process, in the most inclusive approach possible”.²⁶

From this perspective, an intelligent city is a city that cultivates the intelligence of its inhabitants.

Unlike the example of Quayside Toronto, this narrative considers the territory as a place of creation of social value, where it is necessary to rethink the relationship between nature and technology in order to articulate technical infrastructure and society in a synergistic way.

The aim of this approach to ICTs is to develop narratives that are not only targeted to producing economic value, but that are capable of putting the freedom of the human being at the centre of the reasoning, in the words of Adriano Fabris, “how we can relate, in a correct and good relationship, the various online and offline environments in which we live today.”²⁷

25 “Transition Network”, accessed February 4, 2021, <https://transitionnetwork.org/>.

26 “de transformation sociétale, et cherchent à associer tous les acteurs qui ‘font la ville’ (associations, entreprises, habitants, pouvoirs locaux...) à la démarche, dans une approche la plus inclusive possible.” English translation by the author, in Valérie Peugeot, “Collaborative ou intelligente? La ville entre deux imaginaires,” in *Devenirs Urbains*, ed. Maryse Carnes and Jean-Max Noyer (Paris: Presses des Mines, 2014), 51.

27 “del modo in cui possiamo mettere in relazione, in una relazione corretta e buona, i vari ambienti online e offline in cui oggi ci troviamo a vivere.” English translation by the author, in Fabris, *Etica per le tecnologie dell’informazione e della comunicazione*, 192.

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Bibliography

- Amiech, Matthieu. "Peut-on s'opposer à l'informatisation du monde?" *Terrestres*, June 1, 2020. <https://www.terrestres.org/2020/06/01/peut-on-sopposer-a-linformatisation-du-monde/>.
- Bria, Francesca, and Evgeny Morozov. *Ripensare la Smart City*. Turin: Codice Edizioni, 2018.
- Canon, Gabrielle. "City of Surveillance': Privacy Expert Quits Toronto's Smart-City Project." *The Guardian*, October 23, 2018, sec. World news. <https://www.theguardian.com/world/2018/oct/23/toronto-smart-city-surveillance-ann-cavoukian-resigns-privacy>.
- Dichter, Ernest. *Comment vivrons-nous en l'an 2000 ?* INF. Paris: Hachette, 1979.
- Doctoroff, Daniel L. "Why we're no longer pursuing the Quayside project — and what's next for Sidewalk Labs". *Medium*, May 7, 2020. <https://medium.com/sidewalk-talk/why-were-no-longer-pursuing-the-quayside-project-and-what-s-next-for-sidewalk-labs-9a61de3fee3a>.
- Fabris, Adriano. *Etica per le tecnologie dell'informazione e della comunicazione*. Rome: Carocci, 2018.
- Halpern, Orit, Robert Mitchell, and Bernard Dionysius Geoghegan. "The Smartness Mandate: Notes toward a Critique". *Grey Room* 68 (September 2017): 106–29. https://doi.org/10.1162/GREY_a_00221.
- Hopkins, Rob. *The Transition Handbook: From Oil Dependency to Local Resilience*. White River Junction, Vt: Transition Books, 2008.
- Hulst, Merlijn van. "Storytelling, a Model of and a Model for Planning". *Planning Theory* 11, no. 3 (August 2012): 299–318. <https://doi.org/10.1177/1473095212440425>.
- Illich, Ivan. *Tools for Conviviality*. Harper & Row, 1973.
- Iribarren, Silvia Grunig. "Ivan Illich (1926-2002): la ville conviviale". Université de Paris-Est, 2013.
- Magnaghi, Alberto. *Il progetto locale*. Turin: Bollati Boringhieri, 2010.
- Mumford, Lewis. *The Myth of the Machine: The Pentagon of Power*. New York: Harcourt Brace Jovanovich, 1970.
- Paroutis, Sotirios, Mark Bennett, and Loizos Heracleous. "A Strategic View on Smart City Technology: The Case of IBM Smarter Cities during a Recession". *Technological Forecasting and Social Change* 89 (November 1, 2014): 262–72. <https://doi.org/10.1016/j.techfore.2013.08.041>.

- Peugeot, Valérie. “Collaborative ou intelligente ? La ville entre deux imaginaires”. In *Devenirs Urbains*, edited by Maryse Carmes and Jean-Max Noyer, 43–64. Paris: Presses des Mines, 2014.
- Picon, Antoine. *Smart Cities: Théorie et critique d'un idéal auto-réalisateur*. Paris: Editions B2, 2013.
- Sidewalk Toronto. “Quayside”. Accessed August 11, 2020.
<https://www.sidewalktoronto.ca/plans/quayside/>.
- Santoso, Stephanie, and Andreas Kuehn. “Intelligent Urbanism: Convivial Living in Smart Cities”, 566–70, 2013.
<https://doi.org/10.9776/13278>.
- Söderström, Ola, Till Paasche, and Francisco Klauser. “Smart Cities as Corporate Storytelling”. *City 18*, no. 3 (2014): 307–20.
- Stiegler, Bernard. *Séminaire Pharmakon - La Smart City comme lieu sans lieu*, 2018.
<http://www.philoinfo.fr/2018/07/bernard-stiegler-la-smart-city-comme.html>.
- Stiegler, Bernard, Georges Collins, Marc Crépon, Catherine Perret, and Caroline Stiegler. “Manifeste Ars Industrialis”.
<http://www.arsindustrialis.org/>, 2010.
<http://www.arsindustrialis.org/manifeste-2010>.
- Throgmorton, James A. “Planning as Persuasive Storytelling in a Global-Scale Web of Relationships”. *Planning Theory 2*, no. 2 (July 1, 2003): 125–51. <https://doi.org/10.1177/14730952030022003>.
- Townsend, Anthony. *Smart Cities: Big Data, Civic Hackers, and the Quest for a New Utopia*. New York: W. W. Norton & Company, 2013.
- “Transition Network”. Accessed February 4, 2021.
<https://transitionnetwork.org/>.
- Wiener, Norbert. *La cybernétique: information et régulation dans le vivant et la machine*. Translated by Robert Vallée and Nicole Vallée. 1 vols. Sources du savoir. Paris: Éd. du Seuil, 2014.