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Curiosity Among the Ruins of Homo Faber. Infrastructural Capitalism and the Politics of Care

This is the final peer-reviewed author's accepted manuscript (postprint) of the following publication:

Published Version:
Borghi, V. (2024). Curiosity Among the Ruins of Homo Faber. Infrastructural Capitalism and the Politics of Care. London : Routledge [10.4324/9781003401575-9].

Availability:
This version is available at: https://hdl.handle.net/11585/984774 since: 2024-09-30

Published:
DOI: http://doi.org/10.4324/9781003401575-9

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11 October 2026

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Infrastructural Capitalism and the Politics of Care

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"You Are Here": *Homo Faber* in Infrastructural Capitalism

Infrastructural capitalism is the definition that seems most appropriate to defining the specificity of the contemporary phase of a form of life that has a long history. In a lecture in the late 1950s, Günther Anders (1992, 193) already caught a glimpse of the disquieting characteristics of this form in which "the events and objects of the world are 'delivered to your home.'" However, Anders used the "home-delivered world" as a metaphor, in which the world entered people's lives in the form of images and sounds, through communication infrastructure (radio and television). Infrastructural capitalism, its current form of planetary-scale logistics, configures a scenario in which the image used by Anders loses its metaphorical character and becomes reality.

Of course, this discontinuity is intertwined with elements of continuity, an intertwining that is evident in the role of technology. Indeed, as Pierre Veltz observes (2017, 42), the key aspect of what he calls the *hyper-industrial* society is not primarily identifiable with the technological characteristics of its infrastructure. In fact, the technological dimension itself has a long history that goes far beyond the historical limits of capitalism and refers to the process of *exosomatization*[1] with which human activity is constitutively intertwined: the deep history of human-ity is the history of the co-evolution of life forms and technical devices – toolsfor doing things, which at the same time make human beings something different through the use of these devices. Technical artefacts are to be studied as *pharmaka* (Stiegler 2020, 24), whose relationship with human beings opens a field of possibility in which they can act as poison or remedy (toxifying or enhancing human capabilities).

The process of exosomatization is linked to modernity in an ambivalent way. On the one hand, the socio-technical systems that technologies have made possible underpin the promise of a future that modernity has based on the development of these same systems.

> Material infrastructures, including roads and water pipes, electricity lines and ports, oil pipelines and sewage systems, are dense social, material, aesthetic, and political formations that are critical both to differentiated experiences

DOI: 10.4324/9781003401575-9

> of everyday life and to expectations of the future. They have long promised modernity, development, progress, and freedom to people all over the world. (Anand, Gupta, and Appel 2018, 3)[2]

On the other hand, in the development of the socio-technical systems of modernity, a process of "proletarianization" takes place: with the advent of industrial capitalism and, above all, with the rapid start of standardized mass production, a process of dispossession of knowledge (increasingly delegated to machines) also begins, which immediately affects the worker (with Taylorism) and then, in a complementary way, the consumer (insofar as she/he is reduced to a "user" of pre-programmed devices). It is in this relationship between forms of life and infrastructure that the discontinuity I have been talking about takes shape. Anticipating the considerations I will make about the discontinuity that characterizes infrastructural capitalism, we can see how hyper-industrial societies "that have risen from the ruins of the industrial democracies constitute the third stage of completed proletarianization: in the nineteenth century, we saw the loss of savoir-faire, and in the twentieth the loss of savoir-vivre" (Stiegler 2020, 17). In other words, it is not only a matter of the loss of knowledge, but more dramatically a process of "denoetization, that is, the loss of the ability to think (noesis)" (Montévil et al. 2021, 46). How does such a "denoetization" affect our attentions, and what place is left to curiosity in such a process?

Infrastructures "simultaneously shape and are shaped by – in other words, co-construct – the condition of modernity" (Edwards 2003, 186). However, in this co-constitutive relationship between infrastructure and modernity, a transformation is discernible, a transformation in which the modern project "to make the world engineerable, predictable, available, accessible, disposable . . . in all its aspects" (Rosa 2020, viii) intensifies dramatically. This discontinuity becomes evident if we look at the short history of the "modern infrastructural ideal" (Graham and Marvin 2001). Put simply, this ideal consists of a project for social life that emerged in the mid-19th century, based on the public provision of a set of services essential to the daily lives of all citizens (from the road system to public transport, from water infrastructures to early versions of the Internet). A promise of modernity, indeed, but one that is beginning to fade with the gradual overlapping and hybridization of infrastructures (large facilities and service delivery networks) and platforms (linked to the transformations of everyday practices that have emerged since Web 2.0). A process of "platformization" of infrastructures and "infrastructuralization" of platforms is particularly evident, for example, in the evolutive stages of the most recent embodiment of this infrastructural ideal, the marketization of the Internet through "the privatization of Internet backbone lines (from 1987), and deregulation (removal of restrictions on commercial use, from 1992)" (Plantin et al. 2018, 301).

The discontinuity of infrastructural capitalism must be seen in this context and is based not on connectivity per se (which is a structurally intrinsic element of social life), but on the specific centrality it assumes in contemporary capitalism (Borghi 2021). Indeed, in this globalized phase of logistical and financial capitalism, an unprecedented synchronization of the infrastructure of things and infrastructure of experience is achieved, based on the fact that "all tasks, all actors, all

processes can now be connected to each other, at multiple geographical scales, creating passages of enormous masses of data that are the raw material of the new value chains" (Veltz 2017, 42). We need to pay special attention to the peculiar ontology of infrastructures: what "distinguishes infrastructures from technologies is that they are objects that create the grounds on which other objects operate, and when they do so they operate as systems," in other words, "they are things and also the relation between things" (Larkin 2013, 329). Hence a "platform business model" (Rahnam and Thelen 2019) that does more than just connect social and economic actors, places, objects, and practices, because these socio-technical systems "steer how they connect with each other" (Van Dijck, Poell and de Waal 2018, 14). In infrastructural capitalism, a phase whose beginning can be made to coincide with the privatization of the Internet and thus with the end of the 1980s, the exercise of particularly profound control over individuals is asserted, as algorithms structure the rules and parameters of action to participate in socio-technical systems "that have come to form part of the infrastructure of their lives" (Rahman and Thelen 2019, 185).

As a consequence, understanding the specifics of infrastructural capitalism requires another, distinctively gnoseological element, which is at least partly independent of the socio-technical apparatus it embodies and expresses. The continuities and discontinuities, the ambivalences and contradictions of the relationship between modernity and capitalism, and the field of tension they generate are fully embodied in the paradigm of *homo faber*. The figure of *homo faber fortunae suae* [Man is the creator of his own fate], taken up by the humanists of the 14th century and elevated to the ideal of the Renaissance, has become paradigmatic of forms of 20th-century economic production and social organization, in industrial companies as well as in services, but also trade unions and political parties (Revelli 2001). It sums up the characteristics of the relation to the world and to oneself that are dominant in that field of tension:

> [T]hrough its work, *Homo faber* aims in principle to adapt its vital milieu to its needs, or in other words, to create a cosmos from out of chaos, a humanly liveable world from out of worldlessness [*immonde*]. But conversely, its work can, whether voluntarily or not, also destroy or devastate its vital milieu, and make it humanly unliveable.
>
> (Supiot 2019, 19)

In infrastructural capitalism, this contradiction reaches unprecedented levels.

Our Heritage: The Ruins of *Homo Faber*

As mentioned in the introduction, Anders sensed that the imaginary institution of a home-delivered world marked a discontinuity in our forms of life. However, this change is not a matter of the superficial representation of the world, a mere image of it. Rather, as Anders wrote ([1958] 1992, 193), a sort of "phantom of the world . . . acts in turn as a matrix that not only molds us, the effective consumers, but also

influences the organization of events." It is a phantom of the world in which the infrastructure of things, of their production and circulation, is deeply synchronized with the infrastructure of experience that focuses our attention on (and off) these things. The "home-delivered world" therefore seems to configure a frictionless capitalism (Schröter 2012) whose infrastructure is founded on the principle of connectivity; a capitalism in which, in the words of Bill Gates (1995, 158), the Internet "will carry us into a new world of low-friction, low-overhead capitalism, in which market information will be plentiful and transaction costs low." In fact, the assemblage of systems, standards, codes, technologies, social practices, and things through which the increasing hybridization and synchronization of platforms and infrastructures has been produced is a process carried out by an *extrastatecraft* (Easterling 2014), with which the governance activity of public action increasingly struggles.

However, the imaginary institution of a home-delivered world, centred on the idea of a frictionless relationship to the world, hides the ruins of *homo faber* and the intensified social-reproductive structural contradiction of capitalism (Fraser 2016) which now extends to questioning the conditions of reproducibility of life tout court. We constantly experience the diversity that coexists with this phantasmal world, that interrupts it, and that manifests its contradictions and limitations. In fact, what hinders the pursuit of a frictionless state is not only the strictly technical drawbacks and limitations (Tomalin 2023), or the contradictions between technical potential and the social conditions of production (see, for example, the "Napster case"; Schröter 2012), or even the bubble of the new and the dot-com economy. To borrow Chakrabarty's (2021) words, it is not only the frictions generated inthe *globe* that are at stake: it is the experience of the *planet* which we are increas- ingly encountering that gives us back a measure of the ruins that coexist with the continuous reproduction of capitalist realism. The planet, in this sense, is the most obvious denial of the promise of a frictionless "home-delivered world" capital- ism. The calculation by Elhacham et al. (2020) of the weight of things artificially produced by human activity compared to natural biomass gives us a clear picture of the materiality of this fantasy world. "At the beginning of the twentieth century, anthropogenic mass was equal to only 3% of global biomass. About 120 years later, in 2020, anthropogenic mass is exceeding overall biomass in the world" (Elhacham et al. 2020, 2). The attempt by *homo faber* to exert ever greater control over the world paradoxically turns around in "a predominantly mute, distant, and resonance-less form of relating to the world" (Rosa 2019, 423). The more the activity of *homo faber* intensifies, the more it multiplies and intensifies the experience of the encounter with the planet, that is, with "something that is the condition of human existence and yet remains profoundly indifferent to that existence" (Chakrabarty 2021, 75). The very intensity of this encounter renders the categories with which we have tried to master it (risk, sustainability) increasingly unsatisfactory, and requires, if anything, the adoption of an "anthropology beyond the human" (Kohn 2013) that focuses on *habitability*, according to which the central concern "is life – complex, multicellular life, in general – and what makes *that*, not humans alone, sustainable" (Chakrabarty 2021, 83).

To this end, it is necessary to make explicit the logic of relation to the world that nourishes the *homo faber* paradigm. Knowledge production and world-making practices are closely intertwined and mutually reinforcing in this paradigm. The latter has its roots in a definition of development and progress that has significantly been defined as the "trap of trajectorism."[3] In this globally expansionist conception of development, an idea of design has become hegemonic – that is a combination of knowledge and action aimed at intervening in and changing the world – which constitutes the operational logic of *homo faber* based on *scalability* (Tsing 2012). The history of *homo faber*, in this sense, is the history of the progressive expansion and naturalization of scalability. In this long historical context, the relationship between experience, knowledge, and world-making has been interpreted and practised according to the mode of scalability to conceive this interaction, which consists in "the ability to expand – and expand, and expand – without rethinking basic elements" (Tsing 2012, 505). Hence, the relation to the world is deeply rooted in scalable projects, a perspective of world-making design whose abstract generalizability protects it from the need to think about its own limits and thus its own change. "Scalability projects banish meaningful diversity, which is to say, diversity that might change things" (Tsing 2012, 507).

The hegemony exercised by *homo faber* paradigm has extended into all spheres of collective life (Revelli, 2001); at the same time, the deployment of the *homo faber* paradigm has accumulated a growing mass of ruins. The impossibility of fulfilling the *homo faber* promise of infrastructural modernity and the progres- sive reformulation of that promise according to the imperative of value extraction becomes ever more dramatically evident. The ruins then become increasingly cumbersome and an integral part of our everyday experience: in this sense, capitalism itself becomes interpretable as a process of ruin.[4]

First and foremost, these are ruins of a *social* nature. The promises of *homo faber* and the infrastructure through which he has expanded his reach concern a form of life that is becoming more and more improbable. We are witnessing a paradoxical change, a transformation in which pre-modern societal patterns result not from a retreat, but from the very dynamics of modernization itself.This is what Neckel (2019) identifies to be a process of *refeudalization* and of which it is easy to find a multiplicity of traces and symptoms: the organizationof economic and, more specifically, financial processes that transform elites from businessmen to rentiers; the general privatization of the welfare state, in formsof its increasing dependence upon both charitable foundations and financial sys- tems; the reintroduction of forms of vassalage between men and firms by way of feudal modes of hybridizing the public and the private and via a growing gov- ernance by numbers;[5] a dramatic increase in social polarization due to the riseof a new super-rich oligarchy of wealth (Volscho and Kelly 2012) that uses the same means as the old aristocracies to maintain their own positions of politicaland economic power; denial of the minimum basis for dignity in social organiza- tion due to the persistence of pre-modern conditions such as forced labourers, now more numerous in the world of the 21st century than at any time in the past (Neckel 2019, 479).

A second type of ruin is the *ecological* ruin of what is now commonly referred to as the Anthropocene.[6] The literature on the ways in which we experience such ruin – global warming, ocean acidification, soil depletion, air pollution, destruction of biodiversity – is endless. If anything, it is a matter of better grasping the (political) significance of such ruin and of trying to focus on the connections between the "zones of sacrifice" (Lerner 2012), whether they are concentrated in a specific territorial space or reappear in even less intense forms within the spaces of our daily lives, and the cognitive and practical schemes that have produced them and continue to produce them. The concepts of *zombie technologies* and *negative commons* (Bonnet, Landivar, and Monnin 2021, ch. 1) greatly help to identify the places and processes in which such ruin manifests itself. This approach makes it possible to avoid false paths (conservative approaches to an alleged wilderness; productive logics only superficially reorganized in terms of a highly improbable circular economy) and to come to terms with the legacy of which the ruins are the most obvious manifestation. The message is clear: we need to dismantle those infrastructures which currently fulfil our needs while simultaneously ruining our living milieus. We can't ignore, nor simply "get rid of" such negative commons: we are (collectively) bound "to take care of them collectively (commoning) if we are not able to wipe out these realities" (Ibid., 21). The negative commons remind us of the systemic nature of the relationships that underpin the ruins around us. Consider how, for example, our "consumptagenic system" (Friel 2020) is part of an infrastructural capitalism based on an apparently dematerialized data economy, which instead operates via the cloud, that is "a resource-intensive, extractive technology that converts water and electricity into computational power, leaving a sizable amount of environmental damage that it then displaces from sight" (Hu 2015, 146).

What needs to be addressed when dealing with the ruins we experience is the relational dimension that underlies them, a form of relationship with the planet that cuts across the specific dynamics we experience in different spheres of our social life. It is a relation to the world that is closely intertwined with a format of knowledge, experience, and sensibility that a third kind of ruin must deal with.

> The dominant economic model thus disregarded the biophysical limits and conditions of exosomatic evolution. The result has been a generalized increase in entropy rates not just at the thermodynamic level (concentration of anthropic energy in atmospheric greenhouse gases) and the biological level (destruction of biodiversity), but also at the informational level (post-truth) and the psycho-social level (destruction of collective knowledge, widespread addiction, and psychic ill-being).
>
> (Morlat et al. 2021, 97)

This third kind of ruin calls into question Bernard Stiegler's (2014) *symbolic misery*, exploring ruins concerning the dimensions of aesthetics, that is "of feeling and sensibility in general" (ibid., 1). Again, it is a system of relations, an overall process that leads to *proletarianization*, understood as *denoetization*, a "loss of theability to think (*noesis*)" (Montévil et al. 2021, 46), to which we are all exposed

and not just the proletarian masses – who is to decide whether the proletarianized masses "think" or not? – because of the *infrastructural hijacking of our attention*. Infrastructural capitalism has set in place and in motion a globally integrated system of information exchange which preconditions to a large extent what each of us is bound (by the collective) to attend to. The financial system, of course, but also commercial mainstream media are to be considered – and dismantled – as negative commons which feed and condition our attentions, while simultaneously ruining our living milieus. On such questions, the "ecology of dismantlement" advocated by Bonnet, Landivar, and Monnin may find precious suggestions in a closer analysis of the role played by curiosity in infrastructural capitalism.

Curiosity Among the Ruins: Towards a Politics of Care

Beyond the proposed analytical distinction (social, ecological, symbolic ruin), we are dealing, as suggested earlier, with a single process. In fact, it is necessary to give a *political* interpretation of the ruin mentioned thus far.[7] Negative commons are not inert remnants of the past or accidental externalities that can be avoided by simply "improving" or "optimizing" business as usual. They embody an active principle of destruction that remains at the heart of contemporary infrastructural capitalism. Whether they are *ruina ruinans* [ruining ruins] (the socio-material assemblages still at work in the form of organizational and business models, supply chains, communication and consumption infrastructures, etc.) or *ruina ruinata* [ruined ruins] (parched soils, eutrophied seas, a polluted and overheated atmosphere, as well as destroyed forms of social life and cultural systems, etc.), we are dealing with the ruinous legacy that forms the backdrop against which we must elaborate the design forms for building our future (Bonnet, Landivar, and Mon- nin 2021). We must redefine the assumptions of our design capacity – the "designhope" that Maldonado ([1970] 2019) spoke of – and reset the social project along new and transformative lines.

With regard to the relationship between knowledge, technology, and our relationship to the world in particular, we must avoid moving further towards what Günther Anders called the *monstrous*. As early as the beginning of the 1960s, Anders (1995[8] 29) warned that "what we can now *do* (and what we are in fact really now doing) is bigger than anything we can *fathom*." The monstrous is the result of an ever-widening gap "between our capacity to *manufacture* and our capacity to *conceptualize*": it is the consequence of the fact that

> the objects that we are today accustomed to producing with the assistance of our impossible-to-contain technology, as well as the effects we are capable of causing, are so enormous and so powerful that we can no longer comprehend them, much less identify them as our own.
>
> (Ibid. 30)

What emerges here is a fundamental and transversal link between the capacity to think and the forms of doing.

While Anders' "monstrous" is conceived as a painful and alienating experience, one could tilt it slightly in direction of the "curious" to sketch a different (and more stimulating) attitude towards capitalist ruins. What is curiosity, if not a desiregeared towards what does *not* fit within pre-existing and predefined (infra)struc- tures? If infrastructure capitalism tends to hijack our attention within the boxes (actions, gestures, thoughts, desires) the profit-oriented productive system has defined for its producers–users–consumers, curiosity pushes each one of us to gaze(and think) outside of these boxes. It operates as a potential opener of possibilitiesbetween the capacity to think and the forms of doing. If this is the case, then keep-ing an eye out (of the box) to find curious objects, curious facts, or curious peoplemight be one way to avoid being crushed by the unfathomable monstrosities of capitalist ruins. As illustrated by the early modern tradition of the "cabinets of curiosities" (collections of unclassifiable "things," generally inherited from the past or imported from exotic voyages), ruins can provide marvellously curious objects (Mitman et al. 2018). The cumulated strangeness of their temporal distanceand of their demise tends to generate affects of estrangement, which are prone to trigger alternative modes of thinking and imagining.

Infrastructural capitalism feeds off the tensions it induces in our attentions. It does instrumentalize our curiosity too, of course, by ceaselessly flashing prom- ises of "enhanced" and "innovative" experiences to trigger endlessly renewed consumer-reactions in us. But curiosity can also make us wander off the beaten consumer track. While infrastructural capitalism rests on ever tighter knots tied between attention (*ad-tendere*: to be driven *towards* something) and intentions (*in-tendere*: to will a certain goal) (see Chapter 3), curiosity brings a principle of aberration and potential *dérive* in the circulation of desires.

Curiosity, however, mostly operates as a drive to peep through intriguing holes encountered in our whereabouts. It does not provide reliable means to *evaluate* what is to be discovered through such holes. This is where a politics of care is needed. In this sense, curiosity operationalizes the attitude that characterizes atten- tion, an "attitude of political and moral order" (Hennion and Monnin 2020).

Since the definition of care as a "species activity" (Fisher and Tronto 1990), the debate has developed enormously in different, distinct, and, at the same time, interrelated directions: investigating the ethics of care (Gilligan 2011) and "caring with" (Tronto 2013), the contradictions between care and capitalism (Fraser 2016) and the frontier of the "forces of reproduction" (Barca 2020), up to interpretations of care as "an ontological requirement of relational worlds" (Puig de la Bellascasa 2012, 199). Questioning the "plantationocene attention," thematizing what is out of our conventional focus of attention (Brekhus 1998) and pursuing the imperative to reimagine the planet (Spivak 1999) implies, in fact, looking at the logic of care as a direction to move in search of a different relationship between the attention we bring to the world and the way we intervene in it (Citton 2017, 110–16). More specifically, I am interested in developing the connection between approaches that focus on care as a logic of relation (Centemeri 2021) on the one hand and, on the other, analyses that recognize the inescapability of the infrastructural dimen- sion of our collective life and therefore strive to fine-tune a conception of "care

as alternate infrastructure" in opposition to the dominant logics of infrastructural power (Mann, 1984; Easterling, 2014). It is in this direction, I believe, that a politics of care can be profitably elaborated, redefining the paradigm of human activity embodied by *homo faber* and attempting to go beyond an idea of development that presupposes "pyramids of sacrifice" (Berger 1974). Clearly, it is a matter of adopting an experimental perspective, of practising a "ruins thinking" that does not seek "a return to a 'before' modern infrastructure nor its mere continuation, and neither still are they geared toward simply surviving its ruins, as if liberal life is all there will ever or could ever be," but rather tries to develop "the experimental audacity of resilience and the 'here and now' mentality of ruins thinking to create their own ways of living irreducible to liberal life" (Wakefield 2018, 9).

In this sense, Laura Centemeri's (2021) insistence on placing the logic of care in a pragmatic perspective is very helpful. According to this approach, and based on a definition of reality as something "that is *done* and *enacted* rather than observed" (Mol 1999), the complexity of which we are a part arises from the co-evolutionary relationship between the agency of the social actor and the multiplicity of possible environments for action.

> In the logic of care, the crucial moral act is not making value judgements, but engaging in practical activities. ..... It is important to do good, to make life better than it would otherwise have been. But what it is to do good, what leads to a better life, is not given before the act.
>
> (Mol 2008, 77)

Thus, according to this approach, the crucial ground of the logic of care – which is needed to pursue and complete what has been merely glanced at during the moment of curiosity – is the evaluative process, more specifically evaluation as a process of determining the value of things.

The logic of care returns the evaluative process by which we define what value is, objectified and naturalized in the abstract form of economic value, back to its actual relational nature: care "can be defined as a logic of evaluation," as an alternative to the principle of equivalence which reduces the value of everything (objects, living beings) according to an abstract unit. Instead, it is based on a normativity that determines "what constitutes the value (of people, things, situations, places, activities, etc.), starting from the 'concrete' experience of the relationship" that must be put to work "for the purposes of a coexistence that is based on the recognition of the interdependence that unites and at the same time singularizes" (Centemeri 2021, 76). It is clear that this is the opposite logic to the "scalability" we discussed earlier and implies an "investment in forms" (Thévenot 1984) that goes in a very different direction. The evaluation process therefore acquires a central role – both as an object of research[9] and as a crucial moment in the concrete dynamics in which planning (of policies, infrastructures, interventions) is generated and developed – because it is the context in which takes shape (or not) a specific form of attention to the ways in which our activities and our very existence are entangled with other living beings, both human and non-human, and with the environment as a whole, and in its complexity.

Equally crucial is the emphasis on the collective nature of the process "of establishing what 'better' might be" (Mol 2008, 75). This calls for a politics of care. Indeed, the evaluative process inherent to the logic of care necessarily implies "a politics of need interpretation" (Fraser 1989), that is, a dynamic of (possible) generalization ([*montée en généralité*] Boltanski and Thévenot, 1991) that links individual experience to the collective terrain of dispute. This is what Nancy Fraser (2011, 147–48) calls "the public sphere of civil society," that is the space

> in which those who defend the latter are forced to respond. It is the space, therefore, in which the tacitly diffused common sense of 'society' is transformed into explicitly avowed propositional positions, subject to critique, on the one hand, and to explicit defense, on the other.

"'Ruins thinking' recognizes that there is nothing to wait for" (Wakefield 2018, 9) and "there is no codex or twelve-point master plan" (Boyer 2022, 63): in this context, the politics of care is configured as the space in which to attempt to overcome the logics of "gray infrastructure"[10] and of "green infrastructure"[11] and elaborate a tentative, site-specific, experimental approach by "paddling and wriggling to escape the mire of the Anthropocene/Capitalocene/Plantationocene condition" (Boyer 2022, 63). In the politics of care, the conditions can be created through which an alternative subject to *homo faber* can emerge, a subject "whose autonomy is not understood as self-sufficiency and domination over the world, but as relational autonomy that develops in the relationship of (inter)dependence with other living beings (human and non-human) and with a material context" (Centemeri 2021, 85). Such conditions, without ambitions of systemic closure, can be explored on the basis of a pragmatist, experimental, creative, transformative, and site-specific approach to the politics and the poetics of infrastructure and on the connection between knowing and doing requested by any "boundary infrastructure."[12] It will not be a technological innovation or the supposed educational value of a catastrophe to help us; only within the framework of a politics of care is it possible to move towards the "social desirability"[13] of the ecological conversion of our forms of life.

Notes

1 This conception of technology refers to the work of André Leroi-Gourhan (see Stiegler 1998, 156–57) and Alfred J. Lotka (see Montévil et al. 2021).
2 On the increasing centrality of infrastructures, see, for instance, Easterling (2014), Wakefield (2018), Hetherington (2019), Anand, Gupta, and Appel (2018), Knox and Gambino (2023), Harvey, Jensen, and Morita (2017), and the Special Issue of *Historical Social Research* (2022).
3 According to Appadurai (2013: Chapter 11), *trajectorism* is a foundational vision in which the arrow of time has a telos. All significant patterns of historical development and transformation are oriented in the direction of this arrow; a direction explicitly expressed in the post-Renaissance European idea of modernity, "which requires complete global expansion for its own inner logic to be revealed and justified" (Ibid. 225).
4 The coexistence between the expansion of capitalism and its hegemony as a historical form of social metabolism and the increasing accumulation of ruins of a different nature

is a motif that can be traced, for instance, in Tsing 2015; Stoler 2013; Lam, 2019; and Bonnet, Landivar and Monnin 2021.

5 "The feudal relationship, as it reappears today, is signalled by a double displacement: from sovereign to suzerain and from law to bond" (Supiot 2017, 215).

6 On the limits and possibilities of the Anthropocene concept and the need to combine it with the Plantationocene see Haraway and Tsing 2019.

7 I take up here the approach suggested by Rahola (2017, 323) and Bonnet, Landivar, and Monnin (2021, 23).

8 Here is the English translation of G. Anders' *We, Sons of Eichmann* (1964). http://anticoncept.phpnet.us/eichmann.htm?i=1

9 Research aimed at understanding "the way actors place value on people and things in ways that appear to be more legitimate than others, without reducing these evaluations to other factors" (Thévenot 2002, 55).

10 Gray infrastructure "is a command-and-control apparatus, reproducing the modernist conceit that humanity can predictably control both nonhuman and human forces through its highly intelligent design work and technological prowess" (Boyer 2022, 54).

11 Very often "green infrastructure is really gray infrastructure at heart" (Boyer 2022, 59), because it recruits nature as something that "does a job" and because it ignores "the entire human social complexity of a situation," substituting it with a "consoli- dated generic 'human' subject to emerge in its place that almost always defaults to the epistemic predispositions of white, male, well-educated, socially-privileged humans" (Ibid. 58, 59).

12 I am referring here to the indications we can draw from a heterogeneous literature: a (radical) pragmatist approach (and a pragmatism of attention) is discussed by Hennion and Monnin (2020), but many insights about experimental ways of dealing with the heritage of our ruins can also be drawn by Centemeri (2019), Wakefield (2018), and Boyer (2022). The critical discussion of concepts such as resilience (Chandler, Grove, and Wakefield, 2020) and preparedness (Bifulco, Centemeri, and Mozzana 2021; Caselli, Giullari, and Mozzana 2021) are very helpful for going beyond homo faber's scalability approach to the world. The approach of "contributory research" (Fitzpatrick et al. 2021) is also invaluable. Of particular importance, of course, are those contributions that help to rethink the infrastructure itself from a perspective consistent with the politics of care: Alam and Houston 2020; Boyer 2022; Power and Mee 2019.

13 This is in reference to the reflection Alexander Langer (1994) made 30 years ago.

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