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Justice and the Pandemic City: How the Pandemic Has Revealed Social, Urban, and Data Injustices, and How a Narrative Approach Can Unlock Them

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The global COVID-19 pandemic has exacerbated infrastructural, societal, and resource inequalities along racial and socioeconomic lines. Many countries have struggled to provide adequate COVID testing and healthcare. Denmark has been exceptional in its investment in a hyper-efficient and ever-present infrastructure, with testing tents distributed across the country. In this article we ask: What is the impact of this infrastructure in terms of the (urban) culture that is built around testing? And what does that mean in terms of data management and mass surveillance? As a public good, the COVID-19 testing infrastructure has costs and benefits, but these are not always clear. They concern future urban life and data management, and our ability to draw a boundary around ourselves—that is, biopolitics. At the time of writing, with the Omicron variant on the rise, we are hovering on the threshold between new restrictions and a post-COVID urban reality. Now is the time to take stock of the COVID infrastructure's spatial, temporal, and political dimensions, and of what they mean for urban decision-making, governance, justice, and democracy. To do so, and following philosopher and legal scholar Martha Nussbaum, we suggest the deployment of a narrative approach for the education of democratic citizenship and, indeed, for justice.

INTRODUCTION

I literally haven't gone beyond my own front yard in 2 weeks. I speak to my neighbors through the windows. One of them has the virus. We help him by organizing bags of groceries, which we leave on the sidewalk outside his house. A couple of children play a game called "virus" in the street. They yell to each other: "The stick has corona, watch out!" "The car has corona, don't touch it!" "You touched it, now you have corona!" They run up and down the street, yelling, and laughing (Steiner and Veel, 2021, p. 1).

A few months before my friend died from cancer, she said that she wasn't fighting anything. She just took the drugs and underwent strange-sounding treatments, like getting her brain "zapped." Or at least, she went for any treatment she was offered while she wasn't considered too statistically close to death for the treatment costs to potentially "pay off." In the meantime, her 37 year-old

body withered, one damaged cell at a time. Anne Boyer speaks to the complexities of the gendered politics of cancer when she writes that "the work of care and the work of data exist in a kind of paradoxical simultaneity: what both hold in common is that they are done so often by women, and like all that has historically been identified as women's work, it is work that can go by unnoticed. It is often noted only when absent." In light of a potentially deadly or crippling illness such as COVID-19, intersections between care, data, and death become visible in new ways that affect larger institutional and social structures—and indeed, these intersections become particularly visible when absent because they are damaged, abused, repressed, or left uncared for (Steiner and Veel, 2021, p. 55).

There has been much discussion regarding the unequal distribution of resources and societal infrastructure throughout the COVID-19 pandemic, and how existing societal inequities have been exacerbated along racial and socioeconomic lines. Many have had limited access to healthcare, testing facilities, or vaccines. Others have been skeptical of public health campaigns and reluctant to seek or accept healthcare due to a variety of factors, including historical discrimination in the healthcare system (Bambra et al., 2020).

Denmark is a rich country with comparatively high living standards and levels of economic equality. While some of the issues listed above have arisen here, this country has fared better during the pandemic than many others, including developed countries such as the United States and United Kingdom, where death rates have been far higher. Nonetheless, traditionally marginalized neighborhoods in Copenhagen, for example, have been disproportionately impacted by COVID-19. In these neighborhoods, residents are more likely to work in the service or health sectors, where employees are at higher risk of COVID exposure; large families live in close proximity; and vaccination rates are comparatively low (Krusaa, 2020). Other socioeconomic factors, such as the house price boom and the unequal distribution of wealth in Danish society in general, have also helped to make COVID into more than a health crisis: the pandemic's political handling raises questions of justice and what makes a society equitable.

While other countries have struggled to provide adequate testing and healthcare during the pandemic, Denmark has been exceptional in that it has built a hyper-efficient and ever-present infrastructure. This infrastructure is most visible in the numerous white testing tents that have sprung up across the country. But there is also the underlying digital and technological infrastructure for epidemic surveillance—statistical analysis, genetic sequencing, and biobanks of biological material—as well as a corresponding set of (more or less forcefully imposed) new cultural and social practices, norms, and ethics (Busk et al., 2021).

At the time of writing, with the Omicron variant on the rise, we are hovering on the threshold between new restrictions and a post-corona urban reality. Now is the time to take stock of the COVID infrastructure's spatial, temporal, and political dimensions, and of what they mean for urban decision-making, governance, justice, and democracy. To do so, we call for the deployment of a narrative approach, exemplified in the two quotations above. As philosopher and legal scholar Nussbaum

(1998) suggests, a narrative approach can offer a vehicle for democratic citizenship education and thus, indeed, for questions of justice. What is the impact of Denmark's COVID testing infrastructure in terms of the cities of the future? What does this mean for urban decision-making and governance going forward, specifically in terms of justice and democracy?

DENMARK'S COVID TESTING PROGRAM AS INFRASTRUCTURE AND CULTURE

Denmark has established mass testing as a free nationwide healthcare infrastructure to control the spread of COVID-19. In April 2020, white tents sprang up to host government-run polymerase chain reaction tests. As infection numbers rose during winter, facilities multiplied with rapid testing options, and much of this expanded infrastructure was transferred to private companies. In December 2020, ~2,900 people per 100,000 were tested daily; the numbers peaked in May 2021, with 12,167 tests per 100,000 inhabitants per day. The testing program was briefly suspended between September 10 and November 11, 2021, when COVID-19 was officially deemed to no longer be an emergency in Denmark (Regeringen, 2021). It was then reintroduced, albeit with differentiations regarding vaccinated and unvaccinated people.

The scale and rapid implementation of Denmark's testing scheme is unique, certainly in Europe. Yet recent research suggests that mass testing does not impact hospitalization numbers. One factor is that with rapid (antigen) tests, people infected with COVID-19 are not "tested early in their infection where the risk of transmission is highest," and indeed testing "increases risk-behavior of the tested persons and … a high fraction of false negatives at low Covid-19 prevalence combined with increased risk-behavior outweighs beneficial effects of mass testing" (Busk et al., 2021). Thus, although Denmark's government presented mass testing as a key healthcare measure (Krogh et al., 2021), it may have been relatively unsuccessful in controlling the epidemic. But as we will shortly argue, it was successful in helping to establish a particular culture around COVID-19. Proof of vaccination, a negative test result, or natural immunization from infection became compulsory for people to access basic public amenities such as school, work, sports and leisure facilities, and restaurants. Indeed, not only did a negative antigen test give access to these basic societal functions, but it also became normal to get tested before attending private gatherings.

Thus, before the advent of mass vaccination, and subsequently for people who are unwilling or ineligible to be vaccinated (e.g., children), testing was and is key in order for individuals to participate in everyday activities, like dining out, going to work or school. Nevertheless, testing is voluntary, and except in cases of contact-tracing, it is largely left to the individual to decide whether a test is necessary. This means that the mass testing has been unsystematic and uneven. As of August 2021, 10% of the population had never been tested for COVID-19, although roughly 80 million tests had been conducted, of which 340,567 were positive (Statens Serum Institut, n.d.). Evidently, since Denmark's population is only six million, large groups of

people have been tested very frequently, while others have been tested sporadically or not at all.

Denmark's COVID infrastructure is not only architectural and spatial; it is also a data infrastructure. Only a few weeks into the pandemic, on April 3, 2020, a national biobank for COVID-19 test swabs was established (Ministry of Foreign Affairs of Denmark, 2020). At first, all test swabs were collected and stored, although this was later restricted to positive test swabs only. This has made it possible to trace the distribution of specific viral strains in Denmark, where around 20% of all positive tests have been sequenced (Bech, 2020). Citizens can opt out of the biobank, but doing so requires action on their part (Coronaprøver, 2020). This digital culture around Denmark's mass testing has helped to produce big COVID data on a scale that is unique worldwide—data that is ripe for future analysis and mining.

A *culture* is a set of norms and practices. We contend that a culture has been built around mass testing in Denmark. This culture hinges on an infrastructure where bodies, human biological material, digital communication, data collection, public services, for-profit private enterprise, urban and architectural planning, and construction have come together. The result is a set of practices that constitute a significant aspect of the pandemic experience in Denmark. The culture rests on the surveillance of the population through digital data, enforced testing and/or vaccination, and biological and big-data collection and storage, as well as a high degree of transparency, knowledge, and openness about COVID-19. It also encompasses a set of practices the Danish public quickly embraced, whether because they had no choice or because it was communicated as the sensible thing to do (Steiner and Veel, 2021, p. 35–54): those 80 million tests involved real individuals traveling to a testing site and having biological material swabbed from their throats or nostrils. There is also a set of norms and feelings about what it means to live a good life in the pandemic: the research finding that people who have had a negative test result are more likely to engage in "risky behavior"—e.g., physical contact or proximity to others—suggests that testing is seen as a ticket to a more normal life. Clearly, this culture comprises spatial, affective, and political components.

But what trade-offs does this culture entail? Every time I get tested—for free, and at my discretion—I give away behavioral and biological data. If the test is positive, I also give biological material. What form of transaction is this? Does it have a price, and when will that price by paid? If my data is stored now and not used until later, what futurity is involved here? What does it do to the (potentially sick) body that is both a vehicle for the spread of the virus and an instrument to monitor the disease? Is my body a distributed object, parceled out and preserved for the future in data flows and biobanks, even though it may itself be eradicated by the virus? What happens to the boundary between common sense and emergency laws when cultural practices change with changing rules and are steeped in moralistic notions about the protection of common goods such as healthcare? What questions arise about justice and injustice on that ontological and epistemological boundary? These issues lie at the intersections of infrastructural, urban, and data justice and injustice, now and in the future. Going forward, urban

decision-making and governance must respond to a context where not only deep political injustices have been exacerbated by the pandemic, but where everyone, voluntarily or not, simply by virtue of having a body that is vulnerable to COVID, has participated in creating a huge repository of data, and in creating new practices about that body as an object of desire for the virus—a form of dehumanization (Steiner and Veel, 2021, p. 55–74). The prevailing reduction of social justice to distributive justice presents itself here as a dilemma, and the COVID-19 crisis speaks to that dilemma. The belief that the infrastructure is a neutral framework that contributes to the common good, health, and wellbeing eclipses critical questions around ethics, practice and politics as well as surveillance and data-tracking, and is based on highly normative standards regarding what it is to be an acting human.

A NARRATIVE APPROACH TO JUSTICE IN THE PANDEMIC CITY

To grapple with these questions, we suggest an approach to basic, normative values or "capabilities" that draws on the work of philosopher Nussbaum (2000). According to her, the ability to preserve one's bodily integrity and sense of self is a key marker of quality of life, and hence is one of the goals of the good life. We might say it is part of what it takes to build a just society. To begin to understand the full complexity of our post-pandemic predicament—for example, to assess the effects of mass testing in Denmark—we contend that we need to deploy multiple academic angles and disciplines, ranging from statistics to epidemiology, sociology, urban planning, cultural studies, philosophy, and more. Such a complex, large-scale, interdisciplinary study is not possible in this short paper, but it suggests a way forward. Future research on the effects of the pandemic should focus not only on central societal institutions and experiences, but on categories pertaining to individual and social bodies, common sense, justice, and infrastructure—in short, the basis of the just and democratic city. While it is not unreasonable to outsource such issues to institutions, the COVID-19 emergency has often seen big political decisions being taken overnight in the name of a good and safe future (Douglas, 1986; Steiner and Veel, 2021, p. 73–74). We would welcome reflections on the consequences of this from politicians, artists, and scientists alike. We therefore end this paper by suggesting a methodological way forward: the narrative approach, of which we provided examples in the epigraph.

In her work on the philosophy of justice, Iris Marion (Young, 1990, p. 6) writes:

Each social reality presents its own unrealized possibilities, experienced as lacks and desires. Norms and ideals arise from the yearning that is an expression of freedom; it does not have to be this way, it could be otherwise. Imagination is the faculty of transforming the experience of what is into a projection of what could be, the faculty that frees thought to form ideals and norms.

In what sounds like a response to Young, (Nussbaum, 2000, p. 15) defines a narrative approach "with its implicit emphasis on the political importance of the imagination and the emotions" as a vehicle for democratic citizenship education

and thus, indeed, as a problem of justice (Nussbaum, 1998). In the current transitional situation toward a post-pandemic reality (living with the virus, as many experts and politicians say), we may see the pandemic as a crisis on a par with other current cultural, ecological, and cultural crises. In this light, we advocate for joining scholars like Young and Nussbaum as well as contemporary feminist and ecocritical theorists who insist that we need to imagine alternative futures. For academics, this entails writing academic texts differently—for example, by learning from situated experience (Haraway, 1988; Lykke, 2014; Steiner and Veel, 2020) and to include other voices, other stories also in academic arguments as we have done in the epigraph to this paper. However, beyond the academy, narratives are vehicles that allow us to acknowledge that this moment's crisis is also a crisis of the imagination—for what kind of future can we hope for and support in shaping? The first step is to inquire into the changing cultural and urban life-forms that we are now living through, by telling stories about the kinds of experiences, emotions, and interactions with other people and places which have been impacted by the political and human response to the pandemic. Heeding these calls, we advocate for a narrative approach, engaging with our own experience as particular and situated material, as well as drawing on studies and reports pertaining to the specifics of the situation, and combining them with theoretical frameworks from cultural studies, criticism, and philosophy. Moreover, it is possible to use a range of news media stories and scholarship from various fields to explore the spatial, affective, infrastructural, and political dimensions of the response to the pandemic. We see these dimensions as intertwined, and we suggest that a situated, narrative approach to that intertwining—in research, teaching, and public scholarship—can unlock an overview of the pandemic's social, urban, and data injustices.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

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