

Fragility

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The figure of population remains an important marker of the efficacy of vaccines both in specialist and popular thinking. Population thinking is inherent to contemporary biotechnological pursuits of practices such as precision medicine and personalized interventions. The case of herd immunity, as in the form of population immunity that is produced specifically through effective vaccines, is an interesting example of the ways in which the biological capacities of the population are used to advance biotechnological fixes in a neutral way. It can also become a site of feminist STS intervention when the material fragility of how this immunity is reproduced and maintained is used to consider the political implications of how human and microbial bodies live together, enmeshed in social, ecological and economic networks and hierarchies of life that determine who can be protected from that immunity and who threatens it.

The history of public vaccination efforts is deeply interwoven with the first steps of the bureaucratization of public health and administrative procedures constitutive of the population, with both the accumulation of statistical data and surveillance practices. The concept of herd immunity did not carry much weight until the second half of the twentieth century, with the establishment of global immunization programs at the World Health Organization and promises of future disease eradications. During the COVID-19 pandemic, both vaccines and their herd immunity were integrated in strategies and hopes of pandemic relief. This interest in applying the “magic” of herd immunity in disease control characterizes this phenomenon as an indirect protection of nonimmunized people when in the presence of a specific proportion of immunized people, with the public health goal to mathematically model and then apply these conditions.

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Herd immunity is in this sense framed as a stable biological property of the population. The population is understood as herd-like, which implies that it behaves in an irrational or uncontrollable way requiring some form of domestication and alienating it from decision-making; but it could also refer to a form of gregariousness and homogeneity normally associated with animal herds (Anderson 2021). Thinking of population as a herd makes it a site of intervention that can be framed as “purely” natural and therefore neutral.

This framing of population as a “herd” happens in a context where immunity, the protection that this herd should benefit from, remains theorized as an assemblage of individual responsibilities, where neoliberal subjects are expected to cultivate their health and secure their own bodily borders against microbial invasions (see vaccination campaigns focusing on either punishing or convincing individuals to get immunized). Through herd immunity, vaccines become a governmental device for both securitizing and disciplining the “population” against viral threats and nonimmunized individuals either entering the “herd” or endangering it with risky behaviors. All this while assuming some form of homogeneity and some natural or “simply” biological way in which as a collective the population behaves.

In practice, though, population immunity is a much more fragile, inconsistent biosocial and ecological phenomenon. Important discussions among scientists around the complexities of this collective immunity’s practical workings often remain overlooked, but it is this fragility in practice that I propose could help us rethink ideas of populations and collective futures. First, immunity is not a stable condition; in most cases, our bodies slowly lose their capacity to respond to a pathogen. Moreover, the memory acquired can be easily forgotten (see all the booster shots needed for many vaccines’ protection to endure); and often protection to a viral strain can make you more susceptible to others (of the same pathogen or different ones). Finally, as David Napier (2020) shows, there are viruses that can circulate in the population for decades before turning into an epidemic, signaling that the driver of a pandemic and therefore the protection that herd immunity produces is not against the virus or its encounter/invasion of a body, but the changing conditions in the way we interact with each other and with our environment (as we know, microbial life is already completely entangled with our bodies and broader ecosystems; and feminist scholars have long proposed to think of corporeality as excessive, fluid, and leaky).

It is by reflecting on matter that we could think of population in a different way, as a fragile social and material ecosystem. Herd immunity, at a material level, speaks of a form of sociality that is not only more-than-human but especially fragile, which requires attending to inequalities and vulnerabilities (disease’s burden, we know, is unevenly distributed) in a responsible and ethical way, without stigmatizing some populations as more in need of protection or intervention. The material complexities

of population immunity could invite us to take care of these ecological and bodily fragilities of the population in a “perpetual” way (Lancaster and Rhodes 2023), while also keeping at the forefront classic feminist questions around who is burdened by this care and how this care can be enacted in a *just* way (Kenney 2024).

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Author Bio

Roberta Pala is a Postdoctoral Research Fellow in the Sydney Centre for Healthy Societies at the University of Sydney. Her research draws on science and technology studies, feminist STS, biopolitics, and sociology of health. Her current work looks at the concept of more-than-human health with a focus on human-microbial relations and investigates the politics of microbiome research.