

# Turning Quarantine Inside Out

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## Abstract

In this essay, I describe two logics of space that are operative in responses to the COVID-19 pandemic. Quarantine partitioning is unavoidable and widespread. As a mode of governing, it presents a logic of space understood through its divisibility, making this logic seem like a given. Using the topological concept of a sphere eversion, I describe an alternative way of understanding spaces of quarantine as surroundings that we are exposed to or in contact with. I locate this alternative logic of space within already existing practices and concerns around public spaces newly invested with the possibility of exposure to and exposing others.

## Keywords

space, topology, expertise, perception, ambience

If a quarantine presumes an orderly spatialization of the risk of exposure, then it depends on a way of thinking about space as necessarily divisible into bounded regions by partitions at set locations. Such thresholds have rapidly come to mark public, private, and psychic space in the COVID-19 pandemic. With the spread of shelter-in-place orders and various forms and degrees of lockdown, many spaces of formerly other designations (outdoor, indoor, domestic, commercial, and public alike) are now crosscut by the question of on which side of the quarantine their areas fall.

In this sense, it is fair to say that “quarantine” is a condition defining spaces of life and mobility generally. There are of course enclosures around those who are ill, obviously quarantined areas such as military bases, hospitals, or the homes of the sick. But the broad application of a logic of quarantine turns being anywhere into a question about possible exposure. The SARS-CoV-2 virus and responses to it have reorganized space into areas of shelter and safety, and outside of those, wide areas of greater and lesser risk of exposure.

Recent ideas in circulation—on antibody testing and “suppress and lift” or “smart” quarantines—foreshadow the fact that others have noticed the governmental potential that this general and divisible space affords. A quarantine that would cycle off and on is based on a calculation around infection rate and is only imaginable across territory that is defined by its divisibility, as affording the potential for the orderly spatialization of risk. Prior to this pandemic, imagining

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space as subject to division in such a total way would have required some hypertrophied gaze or power to control territory. Now, the need to control contact and proximity as vectors of infection has positivized space, and is available to persons without (or in parallel to) other intervening concepts of territory.

To treat space this way is a choice. Such a total imaginary of space as such is readily subject to existing knowledges and logics of technocratic intervention. The governmental, transit, and economic infrastructures disrupted by this pandemic were unequal and exclusionary before, and they may sputter and fail during this crisis for reasons that do not have to do with some imaginary leveling to raw proximity. But the presence of this virus has produced an image of space as such as exposed to governance, as calling for governance. It remains to be seen what technologies and whose knowledges will be deployed in efforts to operationalize space as subject to quarantine (as divisible).<sup>1</sup>

My point in this piece is to resist taking the production of space as a divisible totality governable through expert knowledges as a given. Instead, I want to consider other ways of reading the spatiality of contact and proximity produced in this viral crisis. As has been pointed out by scholars in border studies, political frontiers are not simple 2D lines, nor is divisibility the only logic available or active in the effects of and practices around such borders (cf. Billé et al., 2012; Green, 2019; Gros, 2019). Similarly, there are alternative logics to be found in on-the-ground practices that emerge around and within quarantine partitions. In our current moment of quarantine, it is more important than ever to highlight, albeit provisionally, these alternatives.

## Alternative Logics

Anyone moving around their locality these days is in a space of possible exposures. Many of us in the United States have been asked to make our own putative quarantines around the edges of our homes, albeit to varying degrees: we still move between the household and public areas of greater potential exposure for the purpose of exercise, work, and more and less for essential commerce. For those who have a house, leaving the house is like crossing into a quarantined area.

The presence of others means that the space outside the home affords variable possibilities of exposure. You could come into contact with someone directly or through traces on surrounding surfaces, in a way that could sicken you or them. The basic experience of crossing a partition forces us to attend to this space as more than just divisible. From this perspective, the space bears on us in new ways: it is given over to an otherness to which we are exposed.

Prophylactic precautions—social distancing, masks, gloves, and frequent hand washing—to lessen mutual transmission are responses from within this other perspective on space. Unlike divisibility, this perspective is not total or synoptic, but instead “sees” space as it disposes people to exposure. Variegations in this space are a function of the intensity of possible exposure: high contact surfaces, density, and frequency of others’ presence make some areas more dangerous. This reveals a new sense of the way space touches us.

Space as exposure, through its capacity to touch, surround, and contact you, positions the person differently than does the presumption of divisibility that underlies a logic of quarantine.

It may help to understand this difference in perspective—“being exposed to” versus “total imaginary”—with an image from mathematical topology.

## Topological Eversion

An eversion is the process of turning something inside out. An important breakthrough in differential topology (the mathematical study of smooth surfaces and their deformations) was the eversion of the sphere.<sup>2</sup> First suggested in the abstract, then visualized through model-building both analog and digital, topologists proved that it was possible to deform, squish, fold, and force

a sphere to intersect itself in enough ways so as to turn it inside out without cutting or creating kinks in its surface at any point (Edwards & Ionescu, 2019).

If we (particularly those of us who are not topologists) think of a typical spherical surface, we likely imagine it through its properties as a boundary. We can call up an image of a bubble we blow up and pop. Maybe this is a soap bubble whose shifting iridescence amplifies its dimensionality, or a circle stretched into a band, bent around, and returned to itself: a partition that hides something inside. These, however, are not spheres that can be turned inside out because the very act of imagining them, calling them to mind as we might see them, is made possible by their function as a boundary.

The topologists' eversion requires thinking through some properties of a surface that are not based on what of it is visible and what it makes invisible. To turn a sphere inside out requires thinking of the surface from the "perspective" of the unbreakable nearness of all its parts (regardless of scale). This continuity is tested through models and tools (e.g., tangent planes and neighborhoods) that register smoothness even as the appearance of the sphere changes. Instead of thinking of space as occupied and divided by spheres, thinking of a space that itself can be turned inside out defies the segregation of areas inside or outside. There no longer is an inside and outside, but instead a single surface—a shape that can deform and still remain a sphere—whose dimensions and properties are not defined by the location of someone observing it. This space cannot be known by a subject who could be either shut in or pushed out. The only possible register in which such a space can be characterized is an intrinsic one; any putative "observer" must take up a position *on* it, as part of it.

If we are now attending to our spaces of life as surroundings to which we are exposed, then that is a radically different and inside-out logic of space. Space is usually inert and is left to be occupied by human, governmental, or other agencies: our words, our motive forces, our deeds, and our intentions that emanate from our insides out, "taking up" space. But to think of our surroundings in their positivity as a space of possible exposure is to put agency into space. It bears on us.

Eversion here does not mean that whatever was inside is now outside and hence exposed. Instead, it is a shift in perspective. To see our surroundings as terrains of possible exposure demands a reconsideration of the knowing subject or agent "in" space. We are not experts who govern its total expanse by dividing it. Nor do we, as seers, thinkers, or doers, serve as an *origo* from which an action or experience of a space can be projected. Rather than touching, making, and producing space, my corporeal agency and total knowledge is curtailed insofar as I am already touched by what is outside of me.

## Effects

In terms of exposure, what surrounds our bodies is not an empty stage that we come to occupy. Instead, we protect ourselves from our surroundings for their very capability to touch us as they touch other things, people, and even more distant parts of our own exterior surfaces.

This logic of space produces strange distortions of the shapes of our bodies. I touch the world with my hands, or so I thought. It turns out that anything I touch with my hands touches the world too. I try not to touch my face with my hands, but where does my hand end? Is my elbow part of my hand? They can be differentiated only in the intensity of how they are touched by what surrounds me. My immersion in this space of possible exposure helps me see how the surfaces of my body connect on their own. Elbows are perhaps less likely vectors of transmission than hands, but I have to give them new consideration as touched touchers. I have to reconsider how I locate and identify with parts of my body in terms of this new attention to the way I am exposed to space rather than my motor intentionality and agency.

Erving Goffman argues—in his theories of the “front-stage” and the “face” by which we present ourselves—that the surfaces that represent us are on loan to others (Goffman, 1956, 1967). Our self-presentation is subject to observation and interpretation in a way that alienates our power to represent an authentic, stable, and privative self. The logic of space as exposure amplifies this sense of alienation. We are being asked to realize that it is not just the representations of ourselves that are on loan, but our very surfaces. We are in what is, and perhaps has always been, others’ space. The further we intrude into it, the more it turns us inside out, forcing that kernel of us, the point threatened by infection to recede, displace, and be called into question.

This is disturbing, and it provokes fear in ways that belie the simplicity of a quarantine partition.

These boundaries have texture. When crossing one, I feel layer after layer of myself peeled back and opened up until it becomes unclear where “I” even am. I wipe down objects that enter my house with disinfectant and make for them a micro-quarantine near the door for a day or two. I discover myself worrying about the cleanliness of more and more “internal” spaces: Are the insides of my jacket pockets sources of infection? I wash my sheets on a Sunday, then I find myself on Tuesday worrying about getting into bed. Should I wash my almost clean sheets again? I realize I’m worrying about sanitizing myself from myself through my intimate surroundings. Where am I then? Am I located at my body, or on my clean sheets?

To think and move in spaces of exposure is like turning quarantine inside out; I can register the shape and properties of that space as a part of it and not as a viewer or knower of its divisions. Turning quarantine inside out in this way foregrounds the experience and circumstances of being in space, and makes possible ethical thinking of an interpersonal sort. It refocuses on persons and their lives, providing a way of thinking about a person other than their inclusion in this or that segment of a population or in this or that side of the curve projecting a death-count or rate of infection. Without the inside out view, the only question that can be asked is: who has the right expertise; who has the power to know and say where the partitions should be? I am suggesting here that this alternative logic is already part of our practical orientations to space as we are all touched by it. Whether and how that will be recognized ethically and politically remains to be seen.

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### **Key Online Resources**

Information and film of *Outside In* by the UIUC Geometry center, which illustrates and discusses one model of the sphere eversion.

<http://www.geom.uiuc.edu/docs/outreach/oi/>

### **Discusses the History of Sphere Eversions**

<http://torus.math.uiuc.edu/jms/Papers/isama/color/opt2.htm>

## Background on Collaborative Project: Topology as Method

<https://culanth.org/fieldsights/series/topology-as-method>

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### Notes

1. An interesting analog is Anderson's (1983) account of the spatial and governmental effects of print capitalism.
2. There are some very nice visualizations and histories of different eversion methods and proofs available online (cf. Sullivan, 1999), in particular, the film *Outside In* made by the University of Minnesota "Geometry Center" (Levy et al., 1994) though early visualizations are credited to Berkeley mathematicians Charles Pugh and Nelson Max (Max & Pugh, 1977). I am not a mathematician, and I suspect this is true of some readers as well, though the resources provided with this piece will lead one to detailed mathematical proofs explaining the eversion. I personally prefer more narrative explanations, which can still be quite technical (cf. Phillips, 1966). Carter (2012) in particular challenges himself to explain through images and cases, not only formulas, and is quite lyrical.

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