

Towards an embodied expression of pandemic nodes & networks in the age of social distancing

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Abstract

Before the covid-19 virus was well understood by scientists, social distancing was the pandemic's only effective remediation tactic. Despite this, social distancing became politicized and denial was persistent. An inability of the human body to perceive the spectrum of scales through which disease spreads may be one contributing factor. Here, we present a case study collaboration between a professional dance company and a chemistry professor using the body to comprehend the calculus of disease spread. The collaboration resulted in a five-minute dance film, made while in quarantine between March and May 2020—a design artifact made through, with, and by the zoom typology of social connection.

Neely posits the "the-body-in-motion" as the fundamental center of all human experience. (Neely, 2019) He then states: "We have no affinity for cell division, or nuclear fission, or the digital change from 1 to a 0. This is to say, we have no way to feel these things, so if the goal is to make them known, [...] the designer has to first recognize this threshold and then offer a bodied interaction to foster the knowing" (p. 133). As dancers intuitively understand this, the company decided that embodying the calculus of disease spread would help to calibrate their bodies to the virus's invisible forces, from the micro to the macro.

These ideas are not new, with multiple instances of scientists engaging dance as a communication tool (BPSOfficial, n.d.; Bohannon, 2008; Stolberg, 2006), using dance to teach technical disciplines (Barnes et al., 2020; Chen et al., 2018; V. Geršak & G. Geršak, 2016; Jane Franklin Dance Company,

2009; Lerman Z.M., 2003, 2005), choreographers finding inspiration in science (Derry, 2022; Lerman L., 2006, 2010), and technical fields creating new knowledge vis-a-vis dance (Flink & Odde, 2012; Green, 2019; Jürgens & al., 2021; Loke & Schiphorts, 2018; Designing Dance, 2022). Less so, are there instances of the two conversing with one another as equals, *Physics and Dance* (Coates & Demers, 2019) is one such example—a workbook of movement activities exploring principles of classical mechanics and dance technique concurrently; explicitly posing the disciplines as two ways of "knowing the same thing" (p. 1).

It is from this mindset that this project was born, with an approach that engages both expert dancers and an expert scientist throughout the entirety of the project—rehearsal/lesson planning, movement generation, storyboarding. The SIR Model of Infectious Disease, first postulated by Kermack & McKendrick (1927), divides a total population into susceptible, infected, and recovered individuals in calculating a disease's reproduction number (Straub, n.d.). The dancers created movement phrases for each of these, drawing upon experiences of dancers who had since contracted covid-19.

The film was made in quarantine through and with zoom—as a meta-medium for social communication—representing populations with zoom-like grids. The cells of the grid were each individually filmed with one dancer performing each movement phrase a specific set of times. The virus visually passed from zoom-box to zoom-box through use of video filters. Three scenes depicted different reproduction numbers: $\frac{1}{2}$, 1, and 2.

