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<Immune Nations>

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Kaisu Koski, *Injection Simulator* (2015)

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## SHADOWPOX: THE ANTIBODY POLITIC – THOUGHTS AND REFLECTIONS

ALISON HUMPHREY, CAITLIN FISHER, STEVEN J. HOFFMAN

*This dialogic exchange discusses the development and outcomes of an interactive installation that uses live-animated digital effects to projection-map viral “shadowpox” onto the player’s body. The project was developed by Alison Humphrey, then a Vanier Scholar and York University PhD candidate in cinema and media studies, in collaboration with Caitlin Fisher, director of York University’s Immersive Storytelling Lab, and Steven J. Hoffman, director of the Global Strategy Lab and scientific director of the Canadian Institutes of Health Research’s Institute of Population and Public Health, with support from technical director and creative coder LaLaine Ulit-Destajo, epidemiologist Susan Rogers Van Katwyk, and website programmer Sean Sollé, as part of the three-year interdisciplinary project <Immune Nations>, and culminated with an exhibition at UNAIDS during the 70<sup>th</sup> World Health Assembly in Geneva, Switzerland.*

*Cet échange dialogique discute du développement et des résultats d’une installation interactive qui utilise des effets numériques animés en direct pour projeter un «virus de l’ombre» sur le corps du joueur. Le projet a été développé par Alison Humphrey, alors boursière Vanier et doctorante à l’Université York en études cinématographiques et médiatiques, en collaboration avec Caitlin Fisher, directrice du Immersive Storytelling Lab de l’Université York, et Steven J. Hoffman, directeur du Global Strategy Lab et directeur scientifique des Instituts de recherche en santé du Canada et de la santé publique et des populations, avec le soutien du directeur technique et codeur créatif LaLaine Ulit-Destajo, de l’épidémiologiste Susan Rogers Van Katwyk, et du programmeur de sites Web Sean Sollé, dans le cadre du projet interdisciplinaire de trois ans <Immune Nations>, et a culminé avec une exposition à l’ONUSIDA lors de la 70e Assemblée mondiale de la santé à Genève, en Suisse.*



Figure 1: *Shadowpox* player at the <Immune Nations> exhibition opening, UNAIDS, 2017. Photo by Alison Humphrey.

## THE BACKSTORY

**S** *Shadowpox: The Antibody Politic* is an interactive installation, an incarnation of the mixed-reality *Shadowpox* storyworld that forms the core of a research-creation dissertation devised by Alison Humphrey in collaboration with youth on three continents (North America, Europe, and Africa) to coincide with the centenary of the 1918-19 influenza pandemic. Seeking to make visible the invisible consequences of our actions, the *Shadowpox* storyworld plays with “co-immunity” as a metaphor for the power we each have to make choices that have a destructive or constructive effect on the people and the world around us. This immersive, mixed-reality scenario imagines a deadly new pathogen made of shadows, and uses live-animated digital effects to projection-map viral “shadowpox” onto a player’s body.

Building on the *Shadowpox* concept and technology, *Shadowpox: The Antibody Politic* is a full-body video game designed for gallery installation that lets the player see the invisible effects that their choice to vaccinate, or not, has on their community. Players choose to “Get the Vaccine” or “Risk the Virus,” then watch the results of their decision as they fight the disease, protecting or infecting the people around

them in a high-stakes scenario based on real-world data. As players visualize how seemingly private choices have public reverberations, population-level health statistics are broken down into their component parts and rendered palpable. Three years later, the team created a new, online version of the game, shifting the focal decision from vaccination to physical distancing. *Shadowpox: #StayHome Edition* (<https://shadowpox.org/game/>) was submitted to the United Nations COVID-19 Response Creative Content Hub in April 2020.

What follows is a reflective conversation between Alison Humphrey, Caitlin Fisher, and Steven J. Hoffman on the development and outcomes of the project.



Figure 2: Steven J. Hoffman, Alison Humphrey, and Caitlin Fisher in front of the *Shadowpox* tent at UNAIDS, 2017. Photo by Roman Levchenko.

### ON DISCIPLINARITY, TEAMWORK, METHOD, AND FUN

**Steven J. Hoffman:** I remember first hearing about *Shadowpox* at the first <*Immune Nations*> workshop in Ottawa. I was just amazed by the world that you were creating, Alison, whereby people were experiencing a pandemic on their bodies. For me, this was just after a time

when we were dealing with Ebola in West Africa, when it seemed like every day I was explaining outbreaks to people, whether on the radio, to students, or friends and family. Suddenly, I hear you talking about this amazing immersive work, which you had already developed and were inviting others to join. I was just completely enamoured with the project and thought it was an incredible idea. But it was also daunting, because the world that you were building came from your background in theatre and your work with Caitlin on augmented reality and gamification. These were all very new areas for me, a law professor with a statistical bent. I wasn't sure at the beginning how I was going to be contributing.

**Caitlin Fisher:** For my part, the idea of working between data and art made a lot of sense. What was a little bit of a stretch was the policy piece. I work across a lot of disciplinary boundaries in my research, but for some reason policy felt like a challenge.

**Alison Humphrey:** It was an honour to have you both decide to join me on *Shadowpox*. The new frontier for me was not only the policy side, but also the data side. Caitlin has done previous work integrating real-world data visualization into artistic pieces, but that was a new sphere for me. I think that's what you hope in putting together a team for a project like this: that everybody has got one foot in a very strong discipline, and the other reaching out across the cliff edge!

**Fisher:** Once I started to think about the project as a transdisciplinary riff on the central core of Alison's doctoral project, I felt far more confident about considering how *Shadowpox* might work in new locations and in new ways. When you came on board, Steven, and I realized how compelling the real-world data underpinning the project was going to be, the project changed again for me, moving beyond the art project I already loved so much with its cool embodied practice and amazing story world. Bringing the art into conversation with the global public health data, it began to make a real intervention into academic form, communicating research.

**Hoffman:** I think it's very clear that Alison is our fearless leader and that this project is part of a broader research world that she's creating. Once we stumbled on this idea of using real-world data for this par-

ticular manifestation of that world, it meant that I actually had something very tangible to contribute. It gave me—an artistic outsider—a role that I could play in this effort, and also it suddenly meant we were combining our different backgrounds together to make something that in the end, I think, became more than the sum of its parts. Already at the first workshop in Ottawa in August 2015, I remember thinking that the kinds of work that both of you were describing was different from what I typically come in contact with when visiting the traditional museum. And from the outset of our collaboration together, I knew that I was working with good people, and that we'd figure it out.

**Fisher:** Thank you for that. I feel that too. And felt it from the beginning, though there were certainly some moments of anxiety for me too!

**Humphrey:** I remember being concerned in that first meeting about goal orientation. Some people were saying, “We have to have a clear message. What’s the goal here? What’s the policy that we want to change?” But others were saying, “No, no, no. We can’t be that instrumental.” That didn’t surprise me at all—involving artists in a policy-influencing project is always going to be a bit like herding cats. But more importantly, I think a lot of us prefer the role of speaking truth to power, like the AIDS activist art in the Reagan era. It’s more heroic to side with the underdog. So when there’s a chance you’ll find yourself seen as speaking truth *from* power, you pause. Some vaccine resistance or denialism sees itself as the underdog speaking truth to power. Vaccine hesitancy is very different from denialism, but it too can come from a feeling of not being listened to by power. So, if you’re going to engage in this issue you have to be very thoughtful about your politics. I thought Kaisu Koski’s film *Conversations with Vaccine-Critical Parents* was powerful that way, starting with the wording of its title. *Shadowpox* looks at power from a different angle: the individual’s power to choose, and the effect that choice has on people around them who have no say in their decision.

**Hoffman:** I do feel quite proud that our piece did have a very clear message. It might be received differently by different people, but it succeeds in letting people experience a disease outbreak on their body,

differentiated according to whether they choose to get vaccinated or not, and which country they say they are coming from. I'm actually quite proud that we were able to figure out an experience that's artistically coherent, scientifically valid, and expressive of our normative views around the challenges and importance of vaccination.

**Fisher:** I loved the idea of putting people in that position, the way *Shadowpox* fits you into a much larger narrative and challenges you to see your place in the context of community—inhabiting an artistic but also reality-based simulation that encourages you to make choices, consider implications, and maybe feel at least some small sense of consequence. There is a particular power to an embodied experience. I loved your foundational premise, Alison, that choosing whether or not to vaccinate is a heroic threshold. It begs us to look at the practice historically, and also as a set of future technologies. It's a brilliant narrative frame. When you ask people to step into that story, literally, to imagine themselves as either heroic or willing to risk others, and then to position their body in space and act [...] I think the game harnessed the power of embodiment really successfully.

**Hoffman:** One of the challenges that Sean, Natalie, and I had as co-leads of the broader <Immune Nations> project at the beginning was thinking about different forms of artistic work. Yet I feel that in this piece, we bridged very different modalities and it worked well.

**Fisher:** I did come at it with that little bit of trepidation at people's formations being really different, even within artistic disciplines, maybe especially with digital work. If you come through storytelling or theory or even film, rather than visual art, there is a different history, and both the making of art and its communities of reception are typically very different. There are different things at stake. You have a different formation. And I think I'd still say that for many if you're trying to create experiences that persuade or inform—what we were really challenged to do here as a group—it's considered to be very banal, artistically speaking.

**Humphrey:** You get a similar conflict in theatre. Some people argue that when the audience can grasp everything, they get too comfortable,



and it's your job as an artist to make them uncomfortable. Art theatre may teach, but it's not edutainment.

**Hoffman:** Yet we're all researchers, so when we came to this project as researchers it probably did not make sense to think of undertaking this work *primarily* for aesthetic purposes. Or at least that doesn't really make sense in the world that I come from, which is law and social science. But there are other domains in my world that might be more analogous, like legal practice. Some people's research is primarily to inform practice, understanding what the law *is*, rather than what I focus on, which is more about what the law *could be*. There is a bit of an analogy there of alternative expectations of research as practice, which is interesting but so different.

**Fisher:** It was really interesting to find that tension, and also whether research-creation is mostly an expressive act—learning through process—or to what extent the research aspect is concretized in the product itself. For me, it's always been concretized in the product, not simply in the process. But I think this is a moment of tension, too.

**Hoffman:** I think the hardest part of our project was finding the time to interact with one another and have those touch points to make sure we were making progress. In the day-to-day craziness of academic life, it's so easy to lose momentum for important-but-not-urgent projects. Yet, at the same time, it also shows the need for time and maturation of ideas. We definitely benefited from that time, but we also benefited from having hard deadlines.

**Humphrey:** For me, one of the hardest challenges on the project was how to make a *Shadowpox* incarnation that fit the venue, and made space for this new team to work together on it. With my wider *Shadowpox* doctoral work, I began by working with groups of drama students in a number of different countries. I was originally imagining we'd just take the video of that and show it in the exhibition. I have no experience in gallery work. I did a studio art minor in undergrad, and worked in graphic design to support myself as a theatre practitioner, but I've never taken work into gallery spaces. So that whole world was slightly intimidating for me. Hence my first plan: "Here, show my video." But it was intriguing putting my theatre hat aside, looking at a

projected special effects technology which was developed for a stage setting, and asking, “How could we make this interactive for a gallery-goer? And what kind of piece could use all of our expertises in an integral way, instead of just tacking on new team members without giving them elbow room?”

**Fisher:** I’ve actually done a number of installations, and yet I hesitated because, as a supervisor, I’ve made a conscious, feminist manoeuvre never to mess with anyone’s project, never to co-author in that sense. So while I actually have quite a bit of expertise with installation work, I really felt, especially at the beginning, that I had to keep my mouth shut. I think the hardest thing for me was negotiating how it would work to collaborate on this “supervisor/supervisee” aspect of the project. It was very hard finding the right way in, one that wouldn’t be philosophically against what I’ve always tried to do.

**Humphrey:** It is fascinating. I’ve been reading articles in medical journals for the first time ever, and the fact that you regularly have fourteen authors on an article just blows my mind. Having said that, a theatre production can have a hundred people working on it, and the credits in the program are three pages long!

**Fisher:** It’s a disciplinary thing. I’m shifting on it now, but I think when I first encountered it, I also thought it was an incredibly gendered thing. When we first started to get students from computer science and engineering into the lab, I realized with horror that they didn’t own their own intellectual property. And of course, in Canadian universities we own our intellectual property. So it was a unique thing to say, “No, anything you build—you leave the architecture—but if you build something, that is absolutely yours, and you are the person who takes it and publishes it and does it.” That was such a draw for people.

This collaboration was challenging along that dimension, but I’ve learned quite a bit, I think, and I’m shifting as a consequence of this project and our work together. It’s made me reconsider the publishing model where everybody is on everything all of the time, and realize it’s not always a predatory practice. Or at least it does not necessarily have to be.

**Hoffman:** The hardest and most rewarding thing aspect of this project for me might also have been learning the different languages that we speak when describing our research, and what we do with our professional lives. This was a totally new world for me. I also knew that there were some sensitivities around the legitimization of different disciplines as contributing to knowledge creation and society. One thing I knew from the start was that if I say something wrong, or if I say something in a slightly different way, it could actually offend people.

Fortunately, that wasn't the case with either of you. There was such generosity of spirit. As a result, learning that language became really rewarding. That's what is motivating my interest in continuing these kinds of collaborations. It was an opportunity, with that generosity of spirit, to be able to delve into something I would never otherwise have been able to experience. For me, that was really hard, and also really rewarding.

**Fisher:** I think that it is actually politically important that we had fun on this project. In a culture where everything has to be overworked and horrible and hard—and that's the moment where things are supposed to be most appreciated—I think it is critical to recognize the value of fun, and generosity of spirit, and good times. Productive joy elevates our work.

**Hoffman:** In some cases, I feel like this project has been an experience of privilege. We all report learning so much, enjoying ourselves, experimenting, and doing things that we love to do. Sometimes I feel a bit guilty: Is research and work allowed to be this fulfilling? Is this what it's supposed to be? We've been able to articulate personal learning in far clearer terms than we have thus far been able to articulate the knowledge we have generated for society.

**Fisher:** I don't think the benefits are strictly personal. At all. It's not just that people have this summer-camp moment of working together. Rather, multiyear collaborations like this with slow timelines and a chance to reorient our personal work create conditions of trust and possibility that have wider implications. I think these things have an incredible multiplier effect. Absolutely they're fun, but you also generate communities of thinkers who are then poised to work in new

ways. This is incredibly important if we're talking about the internationalization and impact of our work, but also its potential to depart from existing models. I think there's so much there that is a huge public benefit. I do think that we can have these selfish moments of, "Oh my God, this was so fun." But I feel really strongly that this is good for knowledge production generally.

**Hoffman:** Definitely. Although it is then a bit ironic that the outputs that are likely to be most valued by our academic leaders are not the outputs that we're identifying today as the outputs that will have the greatest impact on society.

**Fisher:** I just wrote a Canada Foundation for Innovation grant that went in, and the only thing they allow for deliverables are peer-reviewed journal articles, which is typically not my genre. None of the apps, none of the installations—none of that stuff counts for some of these major granting organizations. I went rogue and I started putting in new categories of work. We'll see if there's pushback.

**Humphrey:** One of the questions we're exploring in this entire initiative is, why bring art into it in the first place? And to address your question about fun, I think one of the reasons art gets invited to the party is that often, though not always, art brings pleasure. It reaches a wider audience because people are drawn to it as opposed to feeling like it's an obligation. When that doesn't work is when it's "chocolate-covered broccoli." People can smell when you're trying to give them medicine in a spoonful of sugar. But it's one interesting core question with this initiative: what can art bring to public health that's not just pouring chocolate on broccoli?

Going back to what Steven was saying about learning another language: when I first started researching vaccination, I sent an email to be circulated in the London School of Hygiene and Tropical Medicine describing my work and asking who might meet to give me advice. I used the term "microphage." Moments after I hit send, I realized that should have been "macrophage." I cringed, imagining all these scientists laughing at me. I was buying into the popular stereotype of science-as-impenetrable-cult, full of elites who look down their noses at the masses outside the gates. But I was wrong. I got three wonderful

meetings out of that email, and every scientist I've met through this project has been warm and generous and good humoured. This is a cross-cultural exchange.

**Hoffman:** Art also has access to different spaces that, for example, science might not have access to. And art serves different roles in society than other things that I would have more familiarity with. How cool is it that the First Lady of Namibia was playing *Shadowpox*, and experiencing an epidemic on her body? I would never have been able to engage her in a conversation had it not been for the <*Immune Nations*> exhibition.

**Fisher:** I'm also thinking of people who will not have experienced *Shadowpox*, weren't at the exhibit, probably are not going to read the backgrounder on it, but will see pictures of the First Lady and see one quotation pulled from *The Lancet*, and will draw on that alone to think about how our piece functioned to present these ideas. The publicity piece of this is something I'm in awe of—and terrible at. I'm also still thinking about the effect of the physical space of the UNAIDS building—the physical intertext—as well as the impact of these high-profile visitors on the way that projects like this are taken up.

**Humphrey:** Certainly, for me, the other participant who really sticks in my mind from that opening reception was a six-year-old boy who walked into the tent and started playing. Some of the buttons were too high for him to reach, but he was really engaged with it. I'm curious what he took away from it. But the age span between him and the First Lady—trying to make something that both of those folks can enjoy—was a good challenge, because you're not going to get a six-year-old reading a peer-reviewed article.

**Hoffman:** Methodologically, I think this experience reinforced why I only want to work with nice people. When doing research, there's too many smart people for us to be worried about working with the ones who are not nice—particularly knowing that research does not always unfold as planned, and that unexpected events will occur, and that flexibility is a necessary ingredient for truly innovative research. I think a huge enabler of this project was that everyone, and particularly you two, were generous and flexible and accommodating and willing

to embrace the unexpected. In fact, Caitlin, at various times I got the sense that you *enjoyed* encountering problems! It seemed that a key part of your artistic practice was dealing with problems. I remember you once saying, “Okay, if we have lots of light in the UNAIDS building that interferes with the technology, we’ll just build a tent!” That seemed like fun for you. That was so refreshing.

**Fisher:** Yeah, I’m the great plan B person! I think it’s very hard when there aren’t constraints to just say, “Oh, well, let’s all talk together across our various expertise.” An organizing principle like an important exhibition actually creates panic that is really, really useful to mobilize these conversations. Adrenaline, maybe—maybe not actual panic. That’s a theatre thing, right?

**Humphrey:** Yup. Opening night is not something you bump. For me, one thing I’ve learned methodologically, especially bridging these “two cultures” of art and science, is trying to hold two kinds of truth at the same time. The more I’ve learned about vaccine hesitancy, the clearer it becomes that a major problem comes from incompatible definitions of “truth.” There’s medicine’s positivist, evidence-based concept of objective reality, and then there’s the subjective reality of how people feel, and the vicious circle of fears about whether the people asking them to trust vaccines are themselves trustworthy. Those two kinds of truth often talk past each other, and straw-man the other side. When you’re writing a play, if you don’t give each side the strongest possible articulation of their logical and emotional stance, the conflict won’t resonate and the drama won’t work. You let down your audience if you say a choice is easy when they know it’s tough.

**Hoffman:** Similarly, for me, engaging in this project has deepened my longstanding interest in methodology and causal inference. Basically, understanding what causes what, and the methods and ways in which we create knowledge around what causes what, and for whom and how. I guess it makes sense—I am a methodologist by background. I did a lot of graduate coursework in the area and a lot of my work is methodologically intense, but not in as diverse a way as what we did in this project. So this really challenged me to think through how to

generate generalizable knowledge through, for example, research-creation. It's piqued my interest to explore epistemology further.

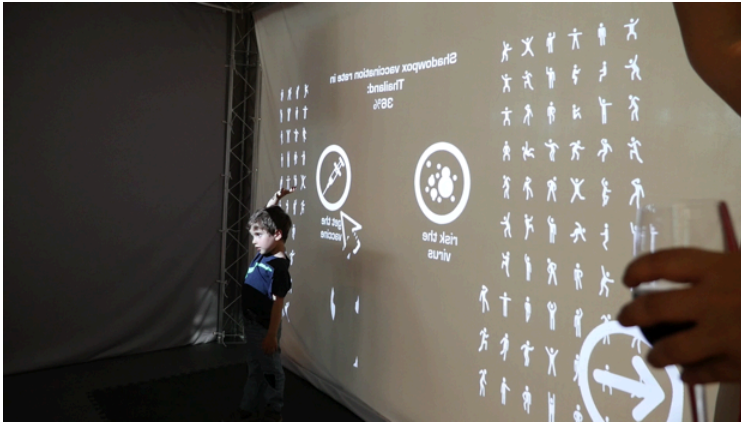


Figure 3: *Shadowpox* player at the <Immune Nations> exhibition opening, UNAIDS, 2017. Photo by Alison Humphrey.

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Figure 4: First Lady of Namibia Monica Geingos plays *Shadowpox* at the <Immune Nations> opening, UNAIDS, 2017. Video still by Julien Duret.

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## IMAGE NOTES

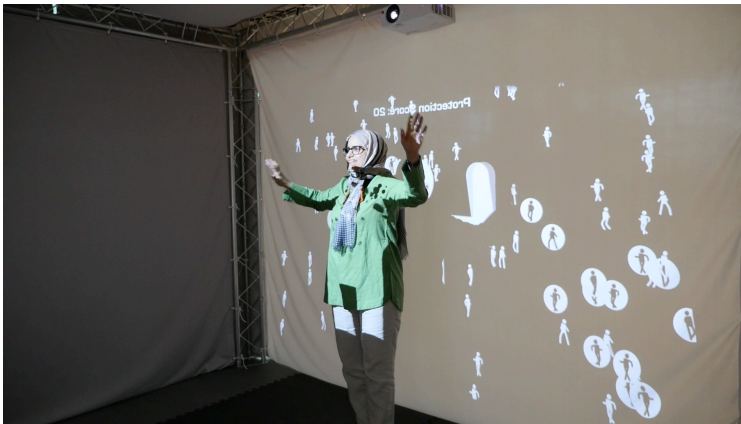
Figure 1: *Shadowpox* player at the <Immune Nations> exhibition opening, UNAIDS, 2017. Photo by Alison Humphrey.

Figure 2: Steven J. Hoffman, Alison Humphrey, and Caitlin Fisher in front of the *Shadowpox* tent at UNAIDS, 2017. Photo by Roman Levchenko

Figure 3: *Shadowpox* player at the <Immune Nations> exhibition opening, UNAIDS, 2017. Photo by Alison Humphrey.

Figure 4: First Lady of Namibia Monica Geingos plays *Shadowpox* at the <Immune Nations> opening, UNAIDS, 2017. Still image from video by Julien Duret.





Shadowpox player at the <Immune Nations> exhibition opening, UNAIDS, Geneva, 2017. Photo by Alison Humphrey.

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Alison Humphrey at the opening reception, Shadowpox, UNAIDS, Geneva, 2017.  
Motion-tracked interactive projections. Photo by Roman Levchenko.

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Alison Humphrey, Caitlin Fisher, Lalaine Ulit-Destajo & Steven Hoffman, *Shadowpox*, UNAIDS, Geneva, 2017. Motion-tracked interactive projections. Photo by Annik Wetter.

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Alison Humphrey, Caitlin Fisher, Lalaine Ulit-Destajo & Steven Hoffman, *Shadowpox*, UNAIDS, Geneva, 2017. Motion-tracked interactive projections. Photo by Annik Wetter.

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