

## **Maryam Ghoreishi in an Interview with Mark Paterson**

**Edited by Sarah Sloan**

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Mark Paterson is a researcher and assistant professor at the Department of Sociology, University of Pittsburgh. He has an interest in the history and science of bodily sensation, blindness and disability, and technologies of the senses. He is the author of *The Senses of Touch: Haptics, Affects and Technologies* (2007), and co-editor of *Touching Place, Spacing Touch* (2012). His book, *Seeing with the Hands: Blindness, Vision and Touch After Descartes* (2016) was published with Edinburgh University Press. He is the author of *Consumption and Everyday Life* (Routledge, 2006; 2nd Edition, 2017). His current book project is *How We Became Sensory-Motor: Movement, Measurement, and Modernity*, contracted with University of Minnesota Press. His research website is [www.sensory-motor.com](http://www.sensory-motor.com).

**Maryam Ghoreishi: In the book *The Senses of Touch: Haptics, Affects, and Technologies* (2007), Mark Paterson introduces various forms of touch and examines some theories around this discourse. These forms are described as haptic<sup>1</sup> and play a critical role in the perception of our body, objects and the world we live in. While presenting a series of definitions and theories, Paterson also draws the reader's attention to the metaphoric use of touch. In Chapter 7, *Feel the Presence: the Technologies of Touch*, he explains some of the haptic technologies that aim to simulate tactile experiences for users. As according to the conceptual framework of *Out of Sight, Beyond Touch*, the following interview spotlights the cutaneous<sup>2</sup> form of touch. In light of the COVID-19 outbreak, the cutaneous form of touch is more**

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<sup>1</sup> In this interview the word haptic refers to a term that Paterson uses in *The Senses of Touch*: “Relating to the sense of touch in all its forms.”

<sup>2</sup> According to *The Senses of Touch*, cutaneous is a form of touch pertained to the skin itself or the skin as a sense organ includes sensation of pressure, temperature, and pain.

**relevant than ever, as this crisis and its consequences such as social distancing can impact our understanding and perception.**

**1- Throughout the selection and research process for *Out of Sight, Beyond Touch*, I was fascinated with the functionality of touch and its relationship with sight. I aim to remind the audience of an obvious, but essential matter: touching is how we reach understanding. The more I delved into this topic, the more I found its complexity and significance to our daily lives. With this introduction, I would like to begin with a broad but critical question: What is the significance of the sense of touch and how would you posit it in the time that digital technology has ascendancy over our life?**

Let's talk about touch hunger and how this has persisted despite different figurations of technology, the rise of digital platforms and social media, and the cycles of innovation within the human-computer interface. On this point, I'd like to offer a biographical snippet about the time in my life when writing *The Senses of Touch* in 2006. During this time, I was living a long way from my family and friends in Sydney, Australia and often sought ways to connect with those who were close to me on a haptic level. This same hunger and craving for tactility mediated through technology was as present then as it is now and has been needed in multiple circumstances globally. While I was privileged enough to be in Australia by choice, asymmetric forms of globalization<sup>3</sup> have permitted, sometimes forced, workers to be economic migrants living far away from their home countries.

This economic pressure/globalization left families far apart and created a need for connection that then emerging forms of social media could enable. In fact, this need for the displaced to engage with their homeland is prevalent in the 2006 protests by Lebanese immigrants going on across the world against the ground invasion of Israeli

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<sup>3</sup> A term used to imply that different groups and countries experience globalization in unequal forms.

forces in their home country. These protests were occurring in many cosmopolitan cities across the world, including Sydney, that became havens for globally diverse communities. There was a sense of urgent global solidarity, a flashpoint of connection, and a need to show this to the world.

Whenever we think about moments like this after the rise of social media, such as the Arab Spring, we connect them with proprietary digital platforms owned by large multinational corporations and tied to mobile phone screens for the most part. When I was researching the technologies of human interaction during the late 1990's and early 2000's, I was looking for the "place" of touch. During this time, I was writing about the possibilities for touch at a distance – telepresence – partly because this seemed to be another narrative propelled by corporations, the hype machine, the 'next big thing'. At the time, living remotely, I genuinely believed that the technologies of touch were getting better, getting more effective, and would reduce in price – therefore democratizing a digital channel of communication, a literal way of being in touch with a distant other. What kinds of tech? Haptic mice, for example, or a cheaper version of the haptic desktop stylus device originally from MIT, the PHANToM (Personal Haptic Interface Mechanism), as described in the book. The promise of having a touch interface on everyone's desktop, just as you might have a printer or a mouse, would enable you to feel textures, play games with others, or allow blind or vision impaired individuals to interact in new ways.

Zoom back into the near-present. Those devices as envisaged never properly took hold, but the hype cycles of similar technologies continually take their place. In 2018, Spielberg's movie *Ready Player One* was released amongst a plethora of think pieces and tech blog posts around the novel forms of tactile interaction envisaged in the book and the film's version of VR. This version of the tactile interaction promised whole-body sensation as a set of ripples around your bodysuit, plus gloves that delivered fine-grained tactile input to your fingers. It seemed incredibly seductive. Yes, there are

'haptic' controllers for VR now, but the reference designs don't let much actual touch through. It's mostly for registering position and orientation of your hands and arms in space using triggers (with the exception of Valve's Index controllers, by far the most expensive, but it does actually register the pressure of fingers).

What is in common between 2006 and 2018? It is the unfulfilled hunger for touch and ways that proprietary technologies tried to hype the market and offer new technologies. This was a result of marketing overpromise and engineering under-delivery which actually ended up restricting forms of touch as a channel of communication. Compare the 2006 Israel-Lebanon anti-war protests to the 2011 Arab Spring, which the rise of social media made possible. Smartphones and computers in internet cafes brought people together through screens. But screens are everywhere; in more and more civic spaces including public squares, airports, and museums. Those touchscreens, plus the ones in everyone's pockets, offer the promise of touch, but it is an incredibly crude interaction. The tactile channel is very narrow—a finger, a prod, a swipe. In 2006, the hype cycle for gadgets/devices promised touch but never properly delivered. Again in 2018, with the seductive promise of interacting with virtual objects – or virtual lovers – by suiting up and strapping a screen on one's face, this was promised, but never materializes in the way it was imagined. Despite the touch hunger, the technology time and time again concentrates on the visible, the immediately obvious, through the tactile poverty of the screen and concentration on screen-based interaction.

You can see where this is going. Now in 2020, we are confined to 'social isolation', spending far too much time with screens, but the "touch hunger" has not gone away. In fact, as we are distant from friends and family, it has only intensified. Our experiences with video conferencing software, which prioritize the audio-visual channels and remove any other sense modality, has become a new "norm" for interaction—one of course where touch hunger cannot be easily sated. I am reminded of the poverty of touch within technology on a regular basis, but it has become much more pointed in

this time of coronavirus. I remembered this recently because of our current pandemic. I have had the thought that after countless hours of lockdown with only screens mediating our interactions with others, maybe more than any other time, we will be rushing to address this touch hunger. We will be emerging from our bunkers to make physical, tangible contact with others (although at the risk of a resurgence of the virus!)

**2- My idea behind curating this show is to draw the audience's attention into their experience of touching in accompaniment to seeing when interacting with objects/artworks. For some works, such as Amina Ahmed's handmade books, the audience's encounter with the books is limited to the sense of touch. Ahmed's embossed drawing books are presented in sealed cases, so no one can see the books, but could imagine them through the act of touching. Do you think the mere experience of touching simulates the act of seeing? Here, I am questioning the authenticity of the sense of touch.**

This is very interesting. Let me start by saying that this is comparable to one of the central questions in my book on blindness (*Seeing With the Hands, Touching with the Eyes: Blindness, Vision and Touch after Descartes*, Edinburgh UP, 2016). If a person is born blind knowing everything through the world of touch and were suddenly able to see, would they be able to recognize objects and shapes by sight alone without touching them? This question, known as the Molyneux Question<sup>4</sup>, is quite well-known in the philosophy of perception. The question seems at first a little naïve, but actually we answer it in different ways. What the Molyneux question is really asking is: is there transfer from one sensory modality to another, in this case from vision to touch. And what you are asking is the reverse: transfer from touch to vision. The answer to both is yes, kind of. There is definitely evidence of a prioritized relation between vision and touch in the brain, and neuroscientists such as Pascual-Leone have demonstrated how, in the

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<sup>4</sup> William Molyneux FRS (1656-1698) was an Irish writer on science, politics and natural philosophy. He presented his question, which is also known as “Molyneux Problem,” to John Locke in 1688 and Locke incorporated this question into the second edition of *An Essay Concerning Human Understanding*.

absence of stimulation in the visual cortex because of sudden blindness, other areas of the brain – especially the touch area – open up. The ability to transfer so readily from vision to touch, (and vice versa) is at the heart of a bunch of what are called “sensory substitution” technologies for those with sensory impairments. A good part of my book deals with these things too.

As in regards to the artwork: it is clear that the endless "Do Not Touch" signs that proliferate in museums and galleries are kind of like a promise that you, as a visitor, *must* use your imaginative faculties. The visitor must do some work of transfer from sight to touch. We see this with sculpture, for example, a supremely tactile artform which we rarely get to touch at all. Conversely, as accommodation for the disabled is becoming increasingly prevalent within the museum sector, we have seen exhibitions that actively encourage touch and forms of interactivity, either for special groups of blind visitors or children. However, an artwork that is deliberately sealed away from vision and can *only* be experienced as a tactile object is rather refreshing to see. Based on the legacy of the Molyneux Question and the possibility of cross-modal transfer, I would say that touching *would* certainly instigate a form of “seeing” or object visualization, but it might not be the same for everyone. It’s rather different for objects that can be held in the hand as opposed to objects that require manual exploration in space. Given some time to become more familiar with objects through touch, most of us should be able to “see” something as an extended object occupying space in our mind’s eye. As to whether touch has more authority than vision: well, this is another whole line of philosophical debate... but this answer has been long enough already.

**3- Now, I would like to ask about the role of mediums in the perception process. For instance, in the case of Masoumeh Mohtadi’s origami books, audiences can see the books, and at the same time, also flip the pages, although with gloves on, to see the metamorphosis of origami forms. Are gloves considered as barrier mediums in the**

## **perception process? And how would this experience change if we see the books on the screen?**

Unfortunately, because of the distance and the lockdown, I don't yet have the ability to touch and manipulate the pages of Masoumeh Mohtadi's book, gloved or ungloved. The detailed photographs I see of the work show how geometrically rich and visually interesting each page is, and I can imagine, through the very tactile process of turning the page, some form of procession of the patterns, as a kind of dance of origami. But it seems to me there are two big things being missed out on by viewing images on a computer screen as opposed to manually flipping the pages. First, like the animation in one of the earliest stages of cinematography, the flipbook, there is a different quality of experience in having the images flip – or flick – over before the eyes. This is so even if the overall change of shapes tells a visually rich story of geometric procession. As small children and onwards know, there is a special kind of delight in being in manual control of the process. You can control speeding up or slowing down the procession according to some images or sequences. You can stop at a particularly striking instance completely. Second, the effect of the layers of cutout paper adds a three-dimensional aspect: the accumulation of depth and how this alters on one side of the book compared to the other. Therefore, and this is where it differs from a conventional flip book, it is not simply a two-dimensional, flat animation but the dynamic adding and subtraction of depth, of layers, that offers a background. This is a rather beautiful optical effect which does come out in the photographs, but it makes me wonder how my manual control of the process would change the experience.

**4- Beginning years before the outbreak, the idea of online exhibitions<sup>5</sup> has been a rather contentious topic—going beyond theories and becoming praxis. Indeed, the current pandemic turned this crisis into a forced opportunity to test this model and examine its pros and cons. Considering this situation, as well as the development of**

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<sup>5</sup> Online or virtual exhibitions refers to any exhibitions held at virtual venues or cyberspaces.

**new technologies such as Hololens<sup>6</sup>, do you think we should expect a significant shift toward virtual exhibitions and events? Or are we still too far away to reach that stage?**

Many, many things will not be the same after this infection has subsided, and the effects on the economy at large will reveal terrible imbalances and misplaced priorities in many areas, including the arts. For some time now, the funding models for museums are based more on physical footfall and visitor counts than on virtual visiting and VR. As you state, this will change, for better or worse. I think access and outreach are hugely important, and the ability to incorporate alternative ways of relating to material culture, either in terms of heritage or contemporary art, will get a big boost. That's a good thing if handled well.

Generally we haven't progressed our ability to offer fine-grained haptic interaction since the 1990's and early 2000's. At that time, there were significant steps forward from an engineering perspective, but the devices never filtered down into consumer-level hardware. With recent waves of VR and AR,<sup>7</sup> the story continues: the dearth of haptic interfaces means that we have beautiful-looking landscapes and worlds, but the 'feel' is nowhere near the same fidelity as the visuals. So-called "touch controllers" are mostly there to offer spatial location of your arms and hands and to fire a trigger. This is proprioceptive rather than tactile. For example, I can don a headset and feel absolutely immersed in a virtual archaeological site which can slowly reveal how people previously lived and worked at that site.

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<sup>6</sup> According to gvsu.edu website, "the Hololens is Microsoft's take on augmented reality, which they call 'mixed reality'. Using multiple sensors, advanced optics, and holographic processing that melds seamlessly with its environment, these holograms can be used to display information, blend with the real world, or even simulate a virtual world."

<sup>7</sup> According to livescience.com, "Augmented Reality is the result of using technology to superimpose information — sounds, images and text — on the world we see. Picture the 'Minority Report' or 'Iron Man' style of interactivity."



However, I cannot pick up a coin, handle a basket, or examine a weapon with any great degree of tactile authenticity. I have been personally very excited about the possibilities for virtual artworks and also for the pedagogic power of virtual archaeology. But the touch isn't there yet. I can also don a bodysuit and fire a high-powered laser rifle in VR and feel 'damage' and pain when being hit (the Teslasuit). But again, this is for entertainment and games rather than a proper tactile solution.

**5- Continuing my previous question, could one claim that online exhibitions impact the relationship between the work of art and the audience at different levels? For example, when I visit a gallery, I see the works, hear the sounds, and may even touch the works. This experience is equal to everyone who visits the gallery. But, to see artworks (in various media) through digital platforms, the equipment (device, headphones, screen) I use might change my experience from the others. In other words, do online exhibitions provide audiences with similar and equal access to reality?**

The question you're asking here is about forms of mediation, and my answer to your previous question implied something along these lines also: you are absolutely correct that my choice of a particular technology is actually also a choice of a particular form of mediation. Screens are not the same. If most students only have access to an incredibly rich and informative online world through a cheap, slow computer offered through their school board, such as a Chromebook, then this is far from ideal. What we call 'VR' actually has a legacy that started as analog, such as the panoramas at the Paris Exposition of 1900 where visitors went on a simulated boat ride with hand-painted scenery being manually rolled past by technicians.

The 'Sensorama' of Morton Heilig in 1962 was an immersive cabinet that showed a film of a motorcycle ride, and a fan near your face offered a sensation of speed. Heilig was keen to explore the artistic potential, but it ended up as a cheap entertainment cabinet

at the end of the pier. Even what we call modern, digital 'VR' is an uneven bundle of technologies that, as I said previously, prioritizes visual fidelity at the expense of any other sense. The most recent wave of VR at least offers comparable standards, a kind of expected package of headset and controllers. I experienced a specially curated VR artwork at Carnegie Mellon University (CMU) a couple of years ago that was a decent use of the technology.

Back in the 1990's, I was lucky enough to experience one of the first waves of digital VR, the artwork of Char Davies, who used an extremely expensive high-end Silicon Graphics workstation. I discuss this in Chapter 5 of my book *The Senses of Touch*. She and her team in Quebec had programmed and engineered the experience to be unlike any other artwork – it was like scuba diving, floating in different worlds. She had used the limitations of early digital VR to offer something absolutely specific to the medium, and yet still offered a painterly aesthetic. So, it can be done well. Ultimately the answer is, either offer artworks that use a particular platform really well, which limits the audience to one at a time, or make it more accessible to more people who might be using their smartphones or a chromebook or a tablet. However, this means the actual experience for each person is uneven, to say the least.

**6- In the case of virtual exhibitions, should we expect artists to shift towards new media and digital art? Especially artists whose medium is painting, printmaking, sculpture, and artist book?**

After every disruption, there will be a period of uncertainty. It is definite that there will be a shift in concentrations of power and the portals and platforms through which we communicate and experience the online world. This will probably go in two directions. First, the more adaptable an artist can be, the more likely they will consider pursuing these forms of new media and digital art. In this uncertain time, and with the need to

have exposure, why not? Second, though, anyone who has read Walter Benjamin will know that exactly the opposite is true also.

The auratic effect of the actual object, unmediated apart through our own senses, will have an increasing power for visitors. It's quite lovely seeing networks of bedroom engineers and tinkerers come up with creative solutions for face shields and ventilators during this pandemic, rising to the challenge in a very real, very material way. But I do know that, as I get older, the joyful and democratic promise of each wave of technology pale in the light of large corporations shiftily acquiring companies, Intellectual Property (IP), patents, and locking in people to particular platforms.

Equally, the very real pleasure of seeing original paintings, lithographs, sculptures, and artists' books simply cannot go away. The last exhibition I saw was William Blake at the Tate Britain in London, and of course I had seen some of his prints online many times. The ability to approach and inspect at close quarters, not to touch (of course) but to appreciate the tactile processes, the brushstrokes, the actual mechanism of contact of the prints, was enthralling. Images that were already familiar had a completely new life. Perhaps younger generations will care less about the particularity of the medium, but a future in which our *only* access would be through digital means would be impoverished, in my opinion.

**7- In *The Senses of Touch: Haptics, Affects, and Technologies*, you state your concern about the sense of touch being forgotten and neglected within the celebration of the sense of sight in Western visual culture. *Out of Sight, Beyond Touch* attempts to bypass the "Do Not Touch" policies of the museums and galleries and provide the audience with a fresh experience encountering the works of art: an experience that seems to be in a significant transmission now. It is not about obeying the "Do Not Touch" policies anymore. It is about being self-conscious of transmitting the Coronavirus while touching an object/surface. Do you think this refusal of touching will lead to forgetting and neglecting the sense of touch and highlighting and celebrating the sense of sight again?**

I think my answers so far have cumulatively been answering this very question. Touch has historically been selectively 'forgotten' and placed lower in the hierarchy of the senses for philosophical and cultural reasons that I explore in that book. But I also think that in recent years there has been a resurgence of interest, certainly as part of a larger 'return to the senses' in academic scholarship. This has been encouraging. I see this in philosophy, in media theory, in history, in anthropology, and elsewhere.

In parallel, as I mentioned previously, the "Do Not Touch" imperative in museums has been partially eroded, partly because of the need for outreach to nontraditional communities and for those with disabilities and partly because of the recognition of the pedagogic value of multisensory interaction with objects. I don't think any of that is going away, exactly. From my previous answer, I think there may be a short-term effect as a result of the pandemic which goes along with a cultural reversion to "Do Not Touch," which tries to normalize and make the most of digital access and delivery of artistic and cultural "experiences". But, as I said, the auratic aspects can only become more powerful as a result.

The way that the actual materiality of their objecthood, which is obviously accessible through proximate touch and close inspection by vision, cannot be sidelined or dismissed forever. Perhaps what the virus is showing us is actually the necessity for concentrations of people to touch or share objects between themselves, in the same way that innumerable generations of humans have been doing with all their material culture: showing, touching, passing along and between. Marvelling, being surprised, reacting, and then passing along again. The circulation of objects within any kinship group, settlement, or city is central to the very idea of a "material culture", we have effective responses, affirmations, connections to others through it. The circulation of goods and objects is at the very heart of a social fabric. Therefore I think the "Do Not Touch" imperative was already an aberration, a hangover from a particular occidental construction of "museum" and access to heritage, and I doubt it will reassert itself quite as before.

**8- Let's wrap this interview up with a short breakaway and go beyond the confrontation with objects. I would like to talk about the role of touch in social interactions which reveals another aspect of this sense. These days, social distancing has reduced social interactions to virtual forms and we may expect this to last for at least 3-6 more months. Despite the desire for physical interaction, we find ourselves deprived from touching one another. To explain, I want to highlight how Constance Classen calls touch:"the hungriest sense of postmodernity." What is your personal opinion about the short or long-term impact of this form of interaction in our relationships with others and also with the world around us? Could it draw our attention to touch and make us more passionate about it? I can even go further and ask your opinion about the possible influence of this situation on evolution.**

In the US we have been seeing protests against the lockdown often for the most trivial of reasons, but as psychologists have recently been saying (e.g. Katerina Fotopoulou's team at University College London have disseminated a survey this week on the absence of touch during the pandemic), it is not trivial or insignificant that some groups of people were already touch-deprived and will suffer more from social isolation than others. The relationship between touch and social isolation was already quite well understood since the work by experimental psychologists in the 1980's in the aftermath of the discovery of (then President) Nicolai Ceausescu's orphanages, which showed what happens to the immune system when babies are separated from the touch of their mothers. Tiffany Field has written about this aspect of touch very authoritatively.

My research in recent years has been departing from a focus on the sense of touch and haptics and digging in a bit more deeply into the history of science. I've been interested in the way that certain sensations have come to be aligned with or associated with "touch" or are considered variations of touch. For example, my current book looks at the formation of certain scientific means of measurement that are applied to the interior of

the body, sensations such as fatigue, pain, balance, as well as touch. In the 1830's, German scientists like E.H. Weber considered pain to be a variation of touch, and through specially designed instruments and devices it was shown that there were special nerve endings that were distinct from those for touch. There is, in other words, a cumulative awareness through scientific experimentation that transfers into our own imagination of the body and its processes. We can see this at work with biometric data, the way many of us have on our wrists devices that will measure certain movements, pulses, steps, and so on. Even galvanic response.

In the same way, the research on touch is starting to be disseminated in an interesting way. It was only relatively recently, in 2016, that Olausson and his team at the University of Gothenburg discovered special unmyelinated touch nerves that complemented the usual myelated (coated, sheathed) nerves. The unmyelinated ones are for slower transmission, and their purpose seems to be different; to employ touch as a communicative channel for emotional bonding. This finding has been dynamite, picked up in the press and widely circulated, and quite rightly we can see the impact on the public at large: what previous researchers like Tiffany Field had said, about the relationship between touch and emotional communication, was now evidenced and unarguable.

Touch hunger is real: while we knew and observed the social and cognitive effects of touch deprivation, here is further evidence and a neurophysiological mechanism that helps fill in the picture. But more than this: the way the research has been disseminated means that many of us now know it is not simply an abstracted result from a laboratory like Weber's or his compatriot Fechner's. Social and cognitive effects can now be more easily grasped. Perhaps I am too optimistic about this, but the widespread recognition of "touch hunger" (addressed in the answer to your first question), along with the public understanding of the science of "slow" touch and the necessity for touch as a form of emotional bonding, is arising as a result of so many of us facing up to the realities of

social isolation. Perhaps also, touch hunger lets us glimpse what is so absolutely absurd about so many of us being transfixed by the many, many screens that surround us, too.