

Impact case study (REF3)

Institution: University of Oxford		
Unit of Assessment: 32 Art and Design: History, Practice and Theory		
Title of case study: Mirror-Touch: working with synaesthetes to celebrate neurodiversity and empathy		
Period when the underpinning research was undertaken: 2010-2017		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Daria Martin	Professor of Art	April 2006-present
Period when the claimed impact occurred: 1 August 2013-31 July 2020		
Is this case study continued from a case study submitted in 2014? N		
1. Summary of the impact (indicative maximum 100 words)		
<p>Mirror-touch synaesthesia (MTS, or 'mirror-touch') is a deeply resonant neurological condition – a form of heightened physical empathy – present in about 1 in 75 people but 'discovered' only in 2005. Martin's multi-platform research project, spanning film and interdisciplinary scholarship, inspired people with mirror-touch to celebrate their neurological differences as a gift, rather than an impediment, improving their own self-image and, in a few cases, giving them prominent public voices. Martin's widely distributed project celebrates this form of neurodiversity. It increased awareness and positive perception of mirror-touch synaesthesia among participants, readers, and audiences – of Martin's edited volume, films, and ripple-impact media. It also prompted a sensitised relationship to artworks and to art events, forwarding, within artistic, curatorial and critical spaces, a new aesthetics inspired by the empathy inherent in mirror-touch.</p>		
2. Underpinning research (indicative maximum 500 words)		
<p>How might artistic research advance emerging neuroscientific understandings of bodily empathy, and, through this, revise how we consider the embodied dynamics of viewing art?</p> <p>People with mirror-touch feel a corresponding sense of touch on their own bodies when viewing others being touched. The condition is a rare, yet recognisable, form of heightened physical empathy; present in just 1 in 75 people, it is associated with an overactivation of the near-universal mirror (neuron) system. Martin's ambitious, multi-platform research not only established that mirror-touch has wide-ranging implications for art spectatorship, refreshing a long history of artistic engagement with synaesthesia by suggesting the ways in which mirror-touch expands the possibilities of what we call the 'participatory' in contemporary art to include multi-sensory, embodied spectatorship; it also made an important contribution to mirror-touch research, constituting the first exploration of the lived experience of this unique neurological condition.</p> <p>Synaesthesia has for over a century provoked thought about new ways of artistic seeing. Martin's mirror-touch output, however, is the first artistic project, and first scholarly volume, to investigate mirror-touch, a social synaesthesia, grounding its theoretical approach in a collection of first-hand testimonies. The social nature of the trait enables discussion of synaesthesia as a model for spectatorial engagement to be expanded beyond the arguably more inward-turning perceptions of, for example, 'coloured-hearing' to embrace a new form of embodied spectatorship in which 'images touch'. It celebrates the perceptual potentialities of this trait as a model for new art experiences which interrogate the threshold between art and life, redressing the significance of synaesthesia to some pressing concerns in contemporary art.</p> <p>Interdisciplinary dialogue began at a 2014 Tate Modern symposium that brought together leading neuroscientists, artists, and curators to discuss the parallels between mirror-touch research and wider investigations into embodied spectatorship. Developing insights from the</p>		

conference, Martin embarked on an AHRC Mid-career Fellowship (2014-2015; GBP185,000) and concluded the 16mm film trilogy that had commenced with *Sensorium Tests* (R1) with the production of two new films (R2, R3) that explore aspects of the condition as it is lived, drawing from Martin's in-depth interviews conducted with mirror-touch synaesthetes. Exhibited internationally in venues such as 14th Istanbul Biennial and MK Gallery (accompanied by an artistic monograph) (R4), the films stretched the formal possibilities of the medium to evoke touch and to promote empathy. Furthermore, Martin edited, introduced, and contributed a chapter to the first-ever volume on mirror-touch, *Mirror-Touch Synaesthesia: Thresholds of Empathy with Art* (R5), that draws together commissioned essays and conversations by prominent neuroscientists, anthropologists, artists, philosophers, and mirror-touch synaesthetes. These contributions were, like Martin's films, developed in response to the first qualitative analysis of mirror-touch, which Martin conducted, and which was further explored by Martin and two of her AHRC collaborators in a peer-reviewed scientific journal (R6).

Martin's project has reached a diverse international audience and has been widely reviewed in artistic and scientific contexts. Its contributions to the fields of art and neuroscience exemplify the potential of artistic, interdisciplinary research: forwarding an aesthetics that widens the notion of the 'social' in art; providing material for the social analysis of mirror-touch; and promoting greater awareness of this fascinating condition.

3. References to the research (indicative maximum of six references)

- R1. [Digital or Visual Media, available on request] Martin, D., (2012), *Sensorium Tests*, [16mm celluloid].
- R2. [Digital or Visual Media, listed in REF2] Martin, D., (2014-5), *At the Threshold*, [16mm celluloid].
- R3. [Digital or Visual Media, listed in REF2] Martin, D., (2016), *Theatre of the Tender*, [16mm celluloid].
- R4. [Authored Book, available on request] Martin, D., (2012), *Sensorium Tests*, MK Gallery, Milton Keynes. ISBN: 978-3-03764-272-6
- R5. [Authored Book, listed in REF2] Martin, D., (2017), *Mirror-Touch Synaesthesia: Thresholds of Empathy with Art*, Oxford University Press, Oxford. ISBN: 978-0198769286
- R6. [Journal Article] Martin, D., Cleghorn, E. (Oxford), and Ward, J. (Sussex), (2017), 'The Lived Experience of Mirror-Touch Synaesthesia: A Qualitative Investigation of Empathy and Social Life', *Journal of Consciousness Studies* 24 (1-2): 214-227 (2017).
<https://ora.ox.ac.uk/objects/uuid:39492cc9-fcd1-4474-934d-4cc2984b8360> and
<https://www.ingentaconnect.com/content/imp/jcs/2017/00000024/f0020001/art00009>

Grants and Awards

- Daria Martin (PI), 2012-2014 Leverhulme International Network Award, *Empathy, Spectatorship, and Mirror-Touch Synaesthesia*, The Leverhulme Trust, London (GBP60,000) [Grant reference IN-2012-117], supporting The Ruskin School of Art and the Tate Modern's joint symposium, *Mirror Touch: Synaesthesia and the Social*, Tate Modern, London, 7-8 February, 2014.
- Daria Martin (PI), 2014-2015 AHRC Mid-Career Fellowship, *Spectatorship, Participation, and Mirror-Touch Synaesthesia*, Arts and Humanities Research Council, London (GBP229,000) [Grant reference AH/K007319/1].
- Daria Martin (PI), 2014-2015 Wellcome Trust Small Arts Award *Implicit Processes*, Wellcome Trust, London (GBP29,900) [Grant number GPR00030], supporting the creation of *At the Threshold*, a 16mm film exploring accounts of mirror-touch.

4. Details of the impact (indicative maximum 750 words)

Transformed how many MT synaesthetes think about themselves and their relation to others, increasing a sense of belonging, pride and purpose

Like many with non-visible conditions, people with synaesthesia experience prejudice, disbelief, and self-doubt. Ignorance about mirror-touch (only 'discovered' in 2005) has contributed to these experiences. One mirror-touch synesthete interviewed by Martin described the reaction he had received from some people to his diagnosis, noting that they think '... "this person is lying to me" or "this person must be psychotic"'. (E1) Another wrote of feeling 'deficient' growing up (E2). A *Psychology Today* blogger, herself a synesthete, described neurodiversity as 'probably the last legal stigma'. (E3) The UK Synaesthesia Association President attests: 'Daria provided confidence and a voice to mirror-touch synaesthetes who had previously been reluctant to talk about their subjective sensory experiences to other people.' (E4) The synaesthesia blogger who covered Martin's Tate Modern symposium for *Psychology Today* (24th January 2014; 1,395 views) wrote that Daria's project '...was a major act of public service'. She continued, 'Mirror-touch synaesthetes globally read my [*Psychology Today*] article... and felt validated by it... Daria paved the way for mirror-touch synaesthetes to freely express themselves'. (E3)

Martin interviewed thirteen mirror-touch synaesthetes for the project. Two of them, Carolyn Hart and Joel Salinas, were spurred by the project to become prominent public advocates of mirror-touch. The first of these participants started a blog which has been followed by a forthcoming memoir about her neurodiverse experiences (E2, E5). In collaboration with the popular YouTube channel Great Big Story, she narrated the video, 'Feeling All the Feels: Living with Mirror-Touch Synaesthesia', (2017; viewed over 1,800,000 times; 4,400 comments) in which she discusses everyday activities coloured by MTS (E6). She has founded an International Association of Synaesthetes, Artists and Scientists, which hosts symposia that are free and open to the public (E7). This synaesthete writes:

'When I started talking to Daria, I had only recently learned that my mirror-touch experiences, were anomalous; I was still struggling to articulate my synaesthesia... [This was] my first opportunity to reflect upon my mirror-touch experiences; it gave them context. I felt, for the first time, that I didn't have to be afraid of my sensorium. Daria's project was a profound, empowering opportunity that launched me onto a trajectory of advocacy for synaesthesia as a neurocognitive difference. If we don't bring the voices of neurodiversity out into the world, we're doing a disservice to humanity'. (E2)

The second of these two project participants is a young NYU neurologist whose participation in the project prompted the writing of his inspirational, best-selling memoir, *Mirror Touch: Notes from a doctor who can feel your pain* (HarperCollins, 2017). Joel Salinas has since become a prominent public advocate of mirror-touch, giving a TED talk (18th May 2018) and hosting a blog (E6). He celebrates mirror-touch as 'compulsory mindfulness' that is 'essential' in his work as a neurologist. He writes about the project, 'Over the course of interviews that I did with Daria, I was invited to think deeply about my experiences and to articulate them in ways I had not before. Prior to speaking at the Tate Symposium, I was scared to "come out" with my experiences publicly. Doing so, on my own terms, was a powerful experience. People reach out to me from all over the world in response to my book and TED talk – from those who have had similar experiences and just want to say "thank you for sharing your story; I finally have a name for this experience"'. (E1)

Created awareness of and positive perception of mirror-touch among 'neurotypical' audiences

Martin's mirror-touch films were exhibited in several prominent public exhibitions, including within the core exhibition space of The Istanbul Biennial (2015), which attracted a record 545,000 visitors (the previous record holder, the 2015 Venice biennial, attracted only 500,875 visitors) (E8). Martin distributed 20,000 free flyers to biennial visitors which described mirror-touch and featured excerpts of the project's 13 interviews. *At the Threshold* (R3) was also exhibited outdoors at the public High Line in New York (January 17 – March 23, 2018), which boasts one of the largest attendances of any cultural institution in New York City. In 2018, the year of Martin's exhibition, the High Line attracted over 7,000,000 visitors. For print and online communications, Martin's program was included in the High Line's seasonal print calendars (1 x

to 25,000); their overall website (2,400,000 visitors in 2016); a dedicated art website (780,000 annual visitors); an e-newsletter (monthly to 45,000); and the High Line's social media following; Facebook (172,230 followers); Instagram (84,300 followers); and Twitter (82,480 followers) (E9). The president of the UK Synaesthesia Association acknowledges: 'Daria cleverly made complex ideas and perceptions accessible...[her] films are perfect in explaining mirror-touch synaesthesia - I use them myself to explain the phenomenon.' (E4)

The Director of the Milton Keynes Gallery, who exhibited Martin's first mirror-touch film in a solo survey, states: 'Mirror-touch synaesthetes experience an excess of physical empathy and Daria's work raises awareness of how we respond, interact and empathise with others.' (E10) The host of the *Art Monthly* Talk Show on Resonance FM agrees, 'Daria's public celebration of the mirror-touch point of view expanded our own; it offered another cognitive paradigm through which the world could be experienced. For me, that's the promise of neurodiversity'. (E11) The President of the International Association of Synaesthetes, Artists, and Scientists (IASAS), who has been familiar with Martin's work for many years, noted that 'One of the reasons Daria's films have the impact they have is that they do not romanticise Mirror Touch synaesthesia; they do not make it mystical. The films are realistic portrayals of what it is like to live with Mirror Touch and that is why she is so appreciated... I have frequently used and encouraged others to use her work in my own awareness-raising activism and public education'. (E12)

Crucially, Martin began this project only a few years after mirror-touch was identified by neuroscientists (some of whom were advisors to her AHRC Fellowship). The UK Synaesthesia Association President recalls 'what impressed me was the way her films demonstrated the complex subject of mirror-touch synaesthesia at a time when very little was known about it.' (E4) The synaesthesia blogger for *Psychology Today* confirms Daria 'was visionary in focusing on MTS at the Tate Modern... [she] is a trusted ally of a very sensitive neuro-tribe of people... [Her] intellect and sensitivity allowed her to see [the importance of mirror-touch]. To use a baseball metaphor, she hit it out of the park very, very early with regards to awareness about MTS'. (E3)

Martin's project has created a 'ripple effect' in popular media: mirror-touch has been described on popular TV show 'Chicago Med'. Martin's mirror-touch collaborator Joel Salinas, who hosted a TED talk, has also been widely covered in the popular media, raising awareness of mirror-touch through interviews on *Fox News*, with *New York Magazine* and *The Doctors*, an American medical chat show (E6).

Inspired a new aesthetic amongst curators and artists through the empathy inherent in mirror-touch

The project prompted a sensitised relationship to artworks, forwarding a new aesthetics inspired by the empathy inherent in mirror-touch (that widens the notion of the 'social' in art). Martin worked with a core group of about 30 curators across the several years during which the project unfolded, including curators at institutions where the work was exhibited (Istanbul Biennial; MK Gallery; Wellcome Collection; VISUAL; Highline), and curators with whom she dialogued for the Tate symposium and OUP edited volume. The Milton Keynes Gallery Director notes of Daria's work, 'It reminded us that we don't have to literally touch something in order to have visceral, physical response to it'. (E10)

Starting with Martin's artist-collaborators and including artists who have been exposed to the work through exhibitions, the research has established a new aesthetics of embodied spectatorship among art professionals. Writer and host of the *Art Monthly* Talk Show on Resonance FM: 'Since engaging with Daria's films and writing on mirror-touch, I've shifted my writing about art. I attempt to access another register. I now try to coax the viewer into an empathic response to my own relationship to artwork'. (E11) Art critic, lecturer and a Programme Director at the National College of Art and Design, Dublin: 'Daria's mirror-touch research has been very influential in encouraging artists, curators, and writers to engage in an affective, embodied way with art'. (E13) Performer and co-founder of Theatre O: 'Daria's mirror-touch aesthetics help me to access deeper layers of my sensory training as an actor, and to provoke

an empathic response in audiences'. (E14) Finally, synaesthetes Salinas and Hart have also gone on to create and exhibit their own art, something which they had not pursued before the project (E15).

5. Sources to corroborate the impact (indicative maximum of 10 references)

- E1. Signed Letter from Joel Salinas, neurologist, NYU, author of *Mirror Touch: Notes from a Doctor Who Can Feel Your Pain* (2021, 11 Feb)
- E2. Signed Letter from a Mirror-Touch synaesthete and neurodiversity activist (2020, 19 Nov)
- E3. Statement from a blogger at *Psychology Today* (2020, 2 Dec)
- E4. Signed letter from the President of the UK Synaesthesia Association (2021, 15 Jan)
- E5. Carolyn Hart's blog confirming her activist work (accessed 2020, 22 Oct)
<https://voxsynaesthetica.wordpress.com/neurodiversity-advocate/>
- E6. Media compilation video at <https://vimeo.com/486762794/b6c122944a> confirms Hart's involvement with Great Big Story, Salinas' TEDx Talk (2018, 18 May) and Salinas' other high-profile media appearances, including *New York Magazine* and US TV show *The Doctors*
- E7. Website of The International Association of Synaesthetes, Artists, and Scientists confirming Hart's role as Secretary of the Association (accessed 2020, 22 Oct)
<https://iasasevents.com>
- E8. Statistics showing attendance at major art exhibitions, confirming Biennial attendance figure (accessed 2020, 22 Oct)
<https://www.artnews.com/art-news/news/exhibition-attendance-graphic-5471/>
- E9. Emails from the High Line Art Associate Curator (2020, Jun - Jul)
- E10. Signed letter from the Director of MK Gallery, Milton Keynes (2020, 17 Nov)
- E11. Audio recording of an interview with an artist, writer and broadcaster at Resonance FM [available on request] (2019, 20 Aug)
- E12. Signed letter from the President, International Association of Synaesthetes, Artists, and Scientists (IASAS) (2020, 15 Dec)
- E13. Audio recording of an interview with an art critic and lecturer at the National Art and Design College, Dublin, Ireland [available on request] (2019, 22 Aug)
- E14. Audio recording of an interview with a performer in *At the Threshold* [available on request] (2019, 12 Sep)
- E15. Art created by mirror-touch participants in Martin's project (accessed 2021, 27 Jan)
 - <https://joelsalinasmd.com/events/theneurodiversityproject>
 - <https://tinyurl.com/cchart-art>