



Sick and Injured Bodies: Medical Imagery and Media Practices of Care¹

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RETHINKING THE BODY THROUGH NEW DISCIPLINARY TRAJECTORIES

The recent pandemic has confirmed that images are a powerful and complex instrument of political and social negotiation, shaping precise forms of representation of suffering, medical disorder, and the sick body, taking root in a particular historical and cultural context. As David Serlin argues, 'contemporary public health crises would be literally unimaginable without these visual representations'.² Visual and audiovisual production has not simply favoured phenomena of re-semanticization of reality, but has also engendered social practices and symbolic actions practical to orient the intersubjective process, self-perception and the perception of the other through physicality or its simulation. Within this framework, this special issue provides a new reading of some theoretical concepts and methodologies. The perimeter we construct deeply intertwines the field of Visual Studies, particularly, the area investigating the visual culture of medicine,³ assigning images a crucial role, and establishes a multidisciplinary and open dialogue between two other fields: Trauma Studies and Medical Humanities. Starting from different methodological positions, both these traditions have questioned the possibilities of representing trauma and illness through images and narrations, and they have assigned a therapeutic potential of media representations and practices. As Elaine Scarry argues, pain belongs to invisible geography; pain cannot be perceived without the image of a wound; the body must be visible to others in order to communicate pain.⁴ It is precisely towards this invisible and incommunicable dimension that Medical Humanities has moved, proposing a reconceptualisation of cure/care, no longer limited to the objective clinical sphere (cure), but conceived in a nuanced and integrated perspective on the fundamental aspects of illness, suffering and healing (care). Starting from the assumption that the subjective

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experience of illness is something distinct from the biomedical attribution of disease, the Medical Humanities have embraced a new concept of care and, in the contemporary debate, of self-care, which is empathic and person-centred, but at the same time, collective and relational. Additional space for dialogue with Trauma Studies opens up in the individual and collective fold of care.

In this perspective, the body is a very fertile theoretical object. If the 'represented body' becomes a crossroads where the cultural and aesthetic question and the biological and medical discourse meet, the 'embodied body' helps one to reflect on the subjectivity of the patient and her/his specific way of experiencing illness, disability and suffering. The body becomes a terrain of exploration that connects the construction of visual imaginaries related to particular medical issues (disfiguration – Suzannah Biernoff, eating disorders - Clio Nicastro, autism - Anna Chiara Sabatino) to the impact, discursiveness and collective assumption of responsibility that such imaginaries provoke. In this first line, more adherent to the Medical Humanities, the essays focus on the reincorporation of lived experiences and the 'acting' capacity of images. The second perspective of analysis, the contributions of Nicole Miglio-Giulio Galimberti and Lorenzo Donghi-Simona Pezzano, pertains to the data visualisation of the body through medical imaging processes. Widespread beyond the narrow clinical perimeter, images pose various questions about their epistemological status and the combination of the indexical, iconic and symbolic modes of signification. Reflections on imaging, particularly on the role of the thermal camera, feed on the recent experience of the SARS-CoV-2 outbreak, which is explored in the essays by Samuel Antichi and Aleksander Sedzielarz. These essays address the iconography of pandemic imagery, attempting to relate Medical Humanities and Trauma Studies, and focusing on the experience and memory of individual and collective trauma.

Images of the body have played an essential role in medical discourse and practice since the illustration of anatomical texts. Still, it is thanks to the advent of photography that they become inextricably linked to the definition of the physiological and pathological body.⁵ They then move through the new frontiers of medical imaging, towards the conquest of human interiority and new forms of visualisation.⁶ The human body is grasped about the connection between the representation and the epistemological plane of the construction of knowledge and forms of control in the trajectory already noted by Michel Foucault. The depiction of illness, of the pathological body, of the wound, firstly, draws iconographic connections with the historical-artistic context of reference; Secondly, it literally acts, identifying and structuring specific biomedical practices. In this perspective, Suzannah Biernoff's essay is illuminating because, on the one hand, she can read Vicky Knight's (*Dirty God*, S. Polka 2019) body in the light of the iconographic theme of the disfigured female face. On the other, the scholar can reason about how the film constructs a process of subjectification of physical and emotional pain on this truly scarred body. The authenticity of this disfigured face explodes the film representation by posing the problem of communicating (and listening to) the pain of the other and reclaiming the value

of vulnerability, difference, and subjectivity, all crucial elements to access the space of self-care.

Images of the body are the starting point for establishing a bridge with the Medical Humanities. This theoretical paradigm is recognisable but still elusive in its definition, which not surprisingly oscillates between 'Health Humanities'⁷ and 'Critical Medical Humanities',⁸ etc. Medical Humanities have urged the paradigm of cultural history, disability studies, and gender studies to share a critical approach to clinical gaze, afflicted body and social pathologies. In the *Manifesto for a Visual Medical Humanities at Interdisciplinary Entanglements: Towards a Visual Medical Humanities* (Edinburgh 2018), Fiona Johnstone emphasised the need to pay more attention to the visual dimension. A first trajectory is an intersection between medical practice and the visual arts, which can take many configurations. The development of narrative medicine, a tool that can give voice to the patient, explore the embodied experience of illness, and understand the uniqueness of each clinical course, has received particular emphasis in the form of somatic narratives and, to a lesser extent, graphic medicine. The focus of Medical Humanities on autobiographical writing and illness narratives has naturally extended to the forms of portraiture/self-portraiture that are widespread in social media and the current media landscape. These portraiture practices can be placed side by side with other practices that more explicitly resort to art and the use of visual/audiovisual media within psychotherapeutic pathways that aim at re-elaborating the experience of illness or the acquisition of greater self-awareness in the role of the patient.⁹ The paper of Clio Nicastro has the merit of capturing the ability of images both to shape the body according to specific cultural expectations and to translate the fragmentation, alienation, and objectification that the patient makes of her/his own body affected by a disease into a very personal and unconventional language. Our lived bodily experience shapes our self-image and, thus also, our narrative identity. In this logic, visual narratives become a powerful tool for approaching and understanding the patient's experience and reconfiguring their identity.¹⁰ Anna Chiara Sabatino's contribution focuses on the ability of audiovisual language to redefine the image of ourselves and our self-awareness. This essay leans more decisively into dialogue with therapeutic practices and, not by chance, is obligatorily in conversation with doctors and psychologists. Sabatino deviates from the path of cinematotherapy as much as from that of film therapy, and structures a theoretical reflection on the use of the cinematographic device in a therapeutic context, updating an original Italian experimental pathway started between 2007 and 2012 with the Memofilm project. Therapeutic filmmaking helps the young patient get involved in a visual representation balanced between self-portraiture and participatory narrative. Images literally act in the representation of the body, trauma, and illness.

Furthermore, there are images that, precisely because of their close connection to the medical field, deserve special attention. That is, the visualisations of the body produced by scientific/medical imaging technologies. The theme of vision devices in medical practice and how they objectify disease in instrument-based

evidence, how they change the narrative, and how they alter the doctor-patient relationship, is grasped by Stanley Reiser with the advent of the stethoscope, and widely revived with the spread of medical imaging and a 'total optical system'.¹¹

MOVING BEYOND A REPRESENTATIONAL FRAMEWORK: THE TRANSFORMATIVE POWER OF MEDICAL IMAGES

As the historian of science Lorraine Daston puts it 'The time is ripe to think about images beyond representation',¹² that is to move beyond the correspondence theory of truth paradigm and regard images as productive agents in the epistemic process. The performative character of images might be valid for images *tout court*, but it is especially applicable to scientific images. Namely, in science and medicine the 'technical image'¹³ has become an autonomous tool of thought independent from its referent: it is often the image or data-visualisation itself which become the working object of science and medicine.¹⁴ The field of visual science and technology studies (STS) has long preferred to talk about practices of making visible that mediate, enact, and visualise.¹⁵ If we leave the representational framework behind, what is at stake, then, in these types of images is not only a question of ontology (what an image is) but also of epistemology (what type of knowledge an image enables or prevents), and ethics (what kind of uses/actions are encouraged or prevented by a certain image).

Authors such as Miglio-Galimberti and Donghi-Pezzano seek to conceptually clarify not only what scientific/medical images are — biomedical imaging and thermography, respectively — but also what they do and how they can be used beyond their immediate context of production. In this respect, the wider cultural and socio-political context comes to the foreground as the kaleidoscopic prism through which one can look at the visual event and its multiple facets. Images do things, because they *present* rather than represent a phenomenon, they enact reality that, therefore, becomes tractable. Attention, however, cannot be paid to images as if they were isolated from the practices and technologies/techniques that enable their production, use and circulation. As the literary historian Sander Gilman argues 'To study "medical technology", without understanding how its generation of representations is the key to its understanding, is limited [...]; to study the representations without understanding the technology and the knowledge it generates is equally one-sided'.¹⁶ Implicitly responding to Gilman's call, Donghi-Pezzano and Miglio-Galimberti keep the detailed analysis of the technology and its representational output side by side.

Contemporary medicine trades in images: anatomical atlases, radiographic X-rays, MRI and CT scans, foetal sonograms, and endoscopic exploration of the human viscera, to name just a few. The changing role of diagnostic visuality in

contemporary medical practices has been boosted by the advent of computer-assisted imaging technology¹⁷, inaugurating a new era in the investigation of the body at both molar and molecular level, that is the one composed of organs, muscles, blood, and tissues (the molar scale) and the body composed of neurons, cells, and molecules invisible to the naked eye (the molecular scale).¹⁸ Imaging is a central feature of diagnostic and treatment procedures, and of the patient experience. To be a patient is increasingly to become an image. The pervasive role of digital technologies does not imply, however, that humans have been side-lined. After all, science and medicine like any other human practice are still very much a matter of 'thinking with eyes and hands'.¹⁹

Visual STS and the turn to matter embraced by humanities and social sciences disciplines have prompted scholars to focus on the material aspects of the visible, pointing out at the networked character of contemporary biomedical vision even when it is increasingly accompanied by non-optical forms of computational imaging.²⁰ Using the framework of materialist philosophy, Miglio-Galimberti theorise the performative network among bodies (at molar and molecular scale), imaging technologies, data and the visual outputs obtained from them. The authors explain how sense-making is the often-neglected qualitative dimension proper to biomedical imaging: human subjects attempt to make sense of medical images when they *see* them even without possessing the knowledge required to *read* them. Sense-making takes on a phenomenological rather than semiotic nuance since it relies on the subject's own experience of undergoing a certain procedure. Miglio-Galimberti illustrate and put to work the concepts of *agential realism* and *intra-action* coined by the feminist theorist Karen Barad who is one of the most influential representatives of contemporary feminist materialist scholarship.²¹ To summarise an elaborate argument, agential realism contends that wide-ranging apparatuses (including medical imaging technologies) do not measure but produce material realities. This relational ontology, the ability to engage with the body-image-technology *ensemble* is key to challenging further the myth and ideology of the transparent body,²² making us aware that scientific/medical images and data-visualisations not only mediate knowledge of the body, but also obstructs and fragments that knowledge.

Rather than the body understood in generic terms, current literature in materialist scholarship engages with the incarnate and material dimension of corporeality. First elaborated by Foucault (1995) and articulated in its dependency on historically bound discursive and social practices, corporeality can be put at work to better grasp the relationship between bodies and medical imaging technologies.²³ The challenge is to move beyond the dichotomy between the fragmentation of the body operated by medical imaging practices and the body as a totality to be reified and essentialised. The body, then, should be theorised as the 'body multiple', always intertwined with the technologies and practices that sustain it.²⁴ This is where the passage from ontology to politics starts to become thinkable.

Keeping these planes together — the ontological and the political — and

embracing a Foucauldian and an Agambian theoretical framework, Donghi-Pezzano coin the concept of *thermo-power* as a form of new biopolitical management, exposing the biopolitical power of thermal cameras beyond their immediate function of body contagion prophylactic. They too embrace a relational ontology by considering the body as a medium contiguous to thermal imaging and bodily heat. Their analysis is enriched by a close reading of the work *Virus* created with a thermal camera by the photographer Antoine D'Agata who roamed through the streets of Paris as a witness during the time of the COVID-19 global pandemic. Private spaces (bodies) and public ones (parks, hospitals, etc.) are sensed through a thermal camera that, in the hands of D'Agata, becomes a prosthetic device able to capture traces of humanity and care. The unexpected result of an artist's practice is to make us understand that care should not necessarily be other than technology, that care includes both technologies and embodied practices.²⁵

The practice of photographers, filmmakers and other artists is well represented in this special issue which creates intellectual space for the objects and methods proper to the arts and humanities, putting them on equal epistemic terms with the scholarly debates animating the field of the critical medical humanities. According to Fitzgerald and Callard, who have been engaged in collaborative work with artists, those working in the medical humanities either as scholars or practitioners should ask

*what a more critical medical humanities would look like: how might the methodological and intellectual legacies of the humanities intervene more consequentially in the clinical research practices of biomedicine – situating accounts of illness, suffering, intervention and cure in a much thicker attention to the social, human and cultural contexts in which those accounts, as well as the bodies to which they attend, become both thinkable and visible?*²⁶

This special issue shows how to start taking this call seriously.

It is encouraging to see that articles using a variety of critical approaches from disparate fields (film and media studies, philosophy, visual and cultural studies, to name just a few) ultimately ask readers: why keep making images, still and moving? What purpose do they serve? The answers to these questions, albeit not explicitly formulated, are a recurring motif in many authors' contributions. Borrowing Biernoff's own words, film (the film in question is *Dirty God*) is 'a way of figuring things out, a way of coping'.²⁷ One could say that still and moving images are transformative, sometimes even therapeutic and lifesaving. This power of images seems to depend more on their emancipatory potential rather than on their indexicality. Sabatino discusses the potential of patient's empowerment when given the opportunity to move from being passive consumers of images they do not control to become image-makers. In her essay on the visual narratives of eating disorders, Nicastro credits moving images with the possibility of interrupting a chain of self-harming repetitive gestures; Miglio-Galimberti recognise how the interaction with medical visualisations

possesses a self-reflexive power in so far as it prompts us to explore ways in which our bodies can be reconfigured and thought anew.

PANDEMIC TRAUMAS

A large frame encloses, sometimes explicitly, sometimes latently, the contributions in this special issue: the fracture generated by the Sars Covid-19 pandemic, still perceived at a social level as an experience without historical precedent. In fact, the memory of past experiences could have provided the keys to interpreting the viral contagion, as well as tools to repair collective grief. This phenomenon has also made clear the manifestation of an actual transcultural trauma. For the first time, the whole world found itself, to a large extent, simultaneously on the side of those suffering and on the side of those who were observing the suffering of others.

As well known, the subject of individual and collective suffering, the different ways of recounting and representing it, and trauma of various kinds and scales, has always been the prerogative of Trauma Studies.²⁸ By taking its etymology from ancient Greek, the concept of trauma itself draws on the figure of the wound, a laceration produced by a collision between outside and inside not always understood in the event, but experienced with time as a psychological and physical violation. The body is, in fact, the object of interest where Medical Humanities and Trauma Studies converge, with different but complementary attitudes. It will come as no surprise that, just recently, to explain the symbolic processing of trauma, Nick Hodgkin and Amit Thakkar contrasted the concept of the wound with the scar, clarifying the difference in strictly medical terms.²⁹ While the wound refers to the tearing of tissue due to the traumatic event, the scar 'is not identical to the original tissue but a simulacrum of it'.³⁰ Furthermore, the mark possesses a plastic-visual nature that differs in colour, elasticity and shape, even changing over time. This does not mean that all scars are visible to the naked eye; rather, the idea is to conceive of the traces of trauma not as the reproduction of the wound itself, but as the sign of having been wounded.

Over the years, the visibility of breaches has changed with the use of different technologies capable of passing through tissues and detecting multiple layers of organic matter, sometimes even showing traces of psychiatric trauma at the neurological level (e.g. PTSD). Medical tropes or motifs applied to trauma discourses thus raise the need for a deeper understanding of the agent instances that shape cultures of remembrance and representations of the individual and collective traumatised body.³¹ As Amit Pinchevski states, 'the concept of trauma might then be regarded against the cultural techniques of its making: the alignment and interrelation of bodies, knowledge, technologies and practices — from the clinic to the lab, from the "talking cure" to the MRI scan — that have given rise and sustained the traumatised condition'.³² In this sense, each historical epoch and culture constructs its own narrative of trauma not only in line with institutional rhetoric, but also about medical insights into

the injured body and mind, as well as the technologies to treat them, including visual devices.

The visual representation of the COVID-19 pandemic and its iconography, as it has been constructed and conveyed by the media (television, newspapers, web, etc.), has been consolidated, on the one hand, through the popularisation of medical-scientific imagery. The collective exposure to the traumatic event, in its twofold dimension of exhibiting and undergoing, was in fact often played out through the global proliferation of images dedicated to the isolation of the virus, the tracing of bodies, and the representation of the disease effects on the bodies affected by the contagion. On the other hand, the hypertrophic production of visualised scientific data has attempted to compensate for the blind spots of this traumatic event. The thresholds of the unrepresentable have been redefined not so much by the assumption of an ethics of the gaze towards the sick, but rather by the impossibility of accessing the spaces of the cure, in the most tragic situations condemning the bodies overwhelmed by the virus to disappearance. For this reason, borders between visible and unseen, between scientific and non-scientific imagery, have been constantly challenged and traversed.

Within this volume, the contributions by Alexander Sedzielarz and Samuel Antichi, together with the essay mentioned above by Donghi-Pezzano, specifically address the figures of suffering and the experiences of care related to the recent trauma caused by the COVID-19 pandemic. In particular, Sedzielarz and Antichi identify the filmic form and, specifically, documentary production as the privileged place to observe the representability of traumatic facts and the discourse of the traumatised body as the object of care. Alexander Sedzielarz focuses on the analysis of two documentaries — Wang Nanfu's *In the Same Breath* (2021) and Waad Al-Kateab's *For Sama* (2021) — to show the complexity of a biopolitical apparatus capable of determining and shaping the life and death of vulnerable subjectivities in different geopolitical and cultural contexts affected by a state of crisis. On the one hand, the author explains how, in documenting the realities and effects of catastrophe, the films work on the traumatic scene not only in spatial, but also in temporal terms: by creating interconnections between heterogeneous temporal levels, the filmmakers propose an act of resistance to that perpetual repetition, both symbolic and concrete, of the original event that prevents the wound from healing. On the other, these cinematic works show how trauma is subjected to the dominant discourse elaborated by the state in order to manage emergency. Indeed, the spaces of care (i.e., hospitals), technologies and representations become the cogs in an institutional system in which the visible order of trauma is regulated and distributed.

By questioning documentary realism in the pandemic age, Samuel Antichi reflects on pandemic imagery, considering the function assumed by data visualisations and infographic material in representing and rendering the devastating effects of viral propagation intelligibly. As the author points out, a large part of the Trauma Studies debate takes on a visual-aesthetic view, as it questions the ways and possibilities to represent trauma through images and

narrations, which are considered the primary mediators for historical knowledge, private and cultural memory and human healing.³³ However, central within pandemic mediation processes of trauma is a shift in the indexical paradigm, in which the contours of reality are reworked through testimonial strategies that oscillate between the storytelling of experienced dramas and the progressive replacement of photographic representation, that is, images of quantitative and biological digital renderings. These media artefacts are created without visual reference to give evidence and credibility to invisible and elusive objects such as the SARS-CoV-2 particle.

In consolidating the discourse of the body as an object of care, contemporary media culture shapes its narratives around certain key concepts, now recurrently used to understand and respond to the collective state of suffering and traumatic experiences, namely the idea of resilience, of regaining good health, and well-being. Not by chance, the articles in this issue recall these recent traumatic events, reflecting on how they tested the resilience of community formations.

In following this prompt, visual culture and media scholars can also question this renewed connection between the representation of illness and the horizon of resilience. Susan Sontag, Donna Haraway, and more recently Jeffrey Olick, all argued that in the face of disease and the experience of trauma, we need to reflect on the ideological substratum that aims to promote positive thinking at all costs, as the outcome of a neo-liberal logic in which the individual and society must strive to overcome difficulties by demonstrating strength, a vocation for struggle and a commitment to overcoming one's vulnerabilities.³⁴

The pandemic has forced global society to look at the vulnerabilities of the body and mind with greater awareness, recalling the duty not to impose a closure of the experience of trauma in the illusion of a definitive cure. However, other difficult experiences, such as those analysed, for instance, in Biernoff and Nicastro's essays, also testify to the capacity of images to foster processes of healing, through which the relationship with the original trauma is continuously developed, thanks to the recovery of other representations, both scientific and non-scientific, documentary and fictional.

To conclude, this special issue of *Cinema & Cie* traces a novel cross-disciplinary framework to conceptualise care work in relation to the sick and injured body. Ultimately, the aim is to foreground the healing potential of art and media practices capable of emancipating the body vulnerable to illnesses, as well as to forms of visual scrutiny and intervention. Scholars in the critical medical humanities have invited to widen the scale and sites of the 'primal scene', that is of the doctor-patient encounter.³⁵ Distributing care work across a network of humans, images, and technologies means inscribing care into the materiality of these circuits instead of side-lining care to the doctor-patient encounter.

Notes

¹ The three authors shared their contents, methodological approaches and the entire editorial work through a constant exchange of ideas. For the introduction to the volume, Deborah Toschi wrote the paragraph *Rethinking the body through new disciplinary trajectories*, Silvia Casini *Moving Beyond a Representational Framework: The Transformative Power of Medical Images*, and Alice Cati *Pandemic Traumas*.

² *Imagining Illness. Public Health and Visual Culture*, ed. by David Serlin, (Minneapolis: University of Minnesota Press, 2011), XIII.

³ Lisa Cartwright, *Screening the Body. Tracing Medicine's Visual Culture* (Minneapolis: University of Minnesota Press, 1995). In this trajectory but closer to Cultural Studies, see: *Wild Science. Reading Feminism, Medicine and the Media*, ed. by Janine Marchessault and Kim Sawchuk (London, New York: Routledge 2000); Catherine Waldby, *The Visible Human Body. Informatic Bodies and the Posthuman Medicine* (London, New York: Routledge, 2000).

⁴ Elaine Scarry, *The Body in Pain. The Making and Unmaking of the World* (New York, Oxford: Oxford University Press, 1985).

⁵ *The Face of Madness. Hugh W. Diamond and the Origin of Psychiatric Photography*, ed. by Sander L. Gilman (New York: Brunner-Mazel, 1976); John Tagg, *The Burden of Representation. Essays on Photographies and Histories* (Minneapolis: University of Minnesota Press, 1988); Allan Sekula, 'The Body and the Archive', *October*, 39 (1986), 3-64; Martin Kemp, "'A Perfect and Faithful Record": Mind and Body in Medical Photography Before 1900', in *Beauty of Another Order: Photography in Science*, ed. by Ann Thomas, (New Haven: Yale University Press, 1997), 120-49; Tom Gunning, 'In Your Face: Physiognomy, Photography, and the Gnostic Mission of Early Film', *Modernism/Modernity*, 4.1 (1997), 1-29.

⁶ Bettyann Holtzmann Kevles, *Naked to the Bone. Medical Imaging in the Twentieth Century* (New Brunswick: Rutgers University Press, 1997); Jose van Dijck, *The Transparent Body. A Cultural Analysis of Medical Imaging* (Seattle: University of Washington Press, 2015); Silvia Casini, *Giving Bodies Back to Data. Image Makers, Bricolage, and Reinvention in Magnetic Resonance Technology* (Cambridge, MA: The MIT Press, 2021).

⁷ Paul Crawford, Brian Brown, and Victoria Tischler, Charley Baker, 'Health humanities: the future of medical humanities?', *Mental Health Review Journal*, 15.3 (2010), 4-10.

⁸ William Viney, Callard Felicity and Angela Woods, 'Critical medical humanities: embracing entanglement, taking risk', *Medical Humanities*, 41.1 (2015), 2-7; *The Edinburgh Companion to the Critical Medical Humanities*, ed. by Anne Whitehead, Angela Woods (Edinburgh: Edinburgh University Press, 2016).

⁹ Ludmilla Jordanova, 'Medicine and Visual Arts', in *Medicine, Health and the Arts. Approaches to the medical humanities*, ed. by Victoria Bates and Alan Bleakley, Sam Goodman (London, New York: Routledge, 2014), 41-64.

¹⁰ Deborah Toschi, 'Prenatal Portraits. Ultrasound imagery in expectant mothers' autobiographical narrative', in *Body Images in the Post-Cinematic Scenario. The Digitization of Bodies*, ed. by Alberto Brodesco and Federico Giordano (Milano: Mimesis International, 2017), 63-72.

¹¹ Sarah Kember, 'Medical diagnostic imaging: the geometry of caos', *New Formations*, 15 (1991), 55-66 (59).

¹² Lorraine Daston, 'Beyond Representation', in *Representation in Scientific Practice Revisited*, ed. by Cateljine Coopmans and others (Cambridge, MA: The MIT Press, 2014), 319-323 (320).

¹³ Technical images are either based on instruments or obtained through image-making procedures or they are themselves tools. Although the locution is used to describe images that originate in the field of science, technology and medicine, it can also encompass images from the arts. See *The Technical Image. A History of Styles in Scientific Imagery*, ed. by Horst Bredekamp, Vera Dünkel, and Birgit Schneider (Chicago, London: The University of Chicago Press, 2015).

¹⁴ For an analysis of images (artistic and scientific) that work at the limits of representation see James Elkins, *Six Stories from the End of Representation* (Stanford: Stanford University Press, 2008).

¹⁵ The literature in STS and visual culture is rich. See Bernike Pasveer, 'Representing or Mediating. A History and Philosophy of X-Ray Images in Medicine', in *Visual Cultures of Science. Rethinking Representational Practices in Knowledge Building and Science Communion*, ed. by Luc Pauwels (Lebanon, New Hampshire: University Press of New England, 2006), 41-62; Steve Woolgar and Javier Lezaun, 'Missing the (Question)

Mark? What Is a Turn to Ontology?', *Social Studies of Science*, 45.3 (2015), 462–67. Two comprehensive edited collections on scientific images beyond representation that combine STS with anthropology and philosophy are: *Visualization in the Age of Computerization*, ed. by Annamaria Carusi and others (New York: Routledge, 2015); *Representation in Scientific Practice Revisited*, ed. by Catelijne Coopmans and others (Cambridge, MA: The MIT Press, 2014). For a visual culture study that introduces some of the terminologies and debates see Andrea Pinotti and Antonio Somaini, *Cultura Visuale. Immagini, Sguardi, Media, Dispositivi* (Torino: Einaudi, 2016).

¹⁶ Sander Gilman, 'Representing Health and Illness: Thoughts for the Twenty-First Century', *Medical History*, 55.3 (2011), 295–300 (299).

¹⁷ See Ilana Löwy, 'Historiography of Biomedicine "Bio", "Medicine" and In Between', *Isis*, 102 (2011), 116–122; Anneke Smelik and Nina Lykke, *Bits of Life: Feminism at the Intersections of Media, Bioscience, and Technology* (Seattle: University of Washington Press, 2008).

¹⁸ The shift from the molar to the molecular body is theorised in Nikolas Rose, *The Politics of Life Itself: Biomedicine, Power, and Subjectivity in the Twentieth-First Century* (Princeton, NJ: Princeton University Press, 2006).

¹⁹ Bruno Latour, 'Visualization and Cognition: Thinking with Eyes and Hands', in *Knowledge and Society: Studies in the Sociology of Culture Past and Present*, ed. by Elizabeth Long and Henrika Kuklick, (Greenwich, CT: JAI Press, 1986), 1-40.

²⁰ See, for example, Anne Beaulieu, 'A Space for Measuring Mind and Brain: Interdisciplinarity and Digital Tools in the Development of Brain Mapping and Functional Imaging, 1980–1990', *Brain and Cognition*, 49.1 (2002), 13–33.

²¹ See Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham: Duke University Press, 2007). The work of Wilson is also relevant to new materialism. See Elizabeth A Wilson, *Gut feminism* (Duke University Press, 2015). Both Barad and Wilson contribute to feminist theory and science studies by calling for feminist materialist scholarship to engage more directly with physics (Barad) and biology (Wilson).

²² van Dijck, *The Transparent Body*.

²³ See Michel Foucault, *Discipline and Punish: The Birth of the Prison 2nd edition*, trans. by Alan Sheridan (New York: Vintage Books, 1995). For a phenomenological reading of corporeality using a Foucauldian framework see Francisco Ortega, *Corporeality, Medical Technologies and Contemporary Culture* (London, New York: Routledge, 2014). Moving beyond a Foucauldian framework, Wilson reads recent developments in biology through a new feminist materialist approach. See Elizabeth A. Wilson, 'Organic empathy: Feminism, psychopharmaceuticals, and the embodiment of depression', in *Material Feminisms*, ed. by Stacy Alaimo and Susan Hekman (Bloomington, Indianapolis: Indiana University Press, 2008), 373-399.

²⁴ Annemarie Mol, *The Body Multiple: Ontology in Medical Practice* (Durham, NC: Duke University Press, 2002), 6.

²⁵ See *Care in Practice. On Tinkering in Clinics, Homes and Farms*, ed. by Annemarie Mol, Ingunn Moser, and Jeannette Pols (Bielefeld: Transcript, 2010).

²⁶ Des Fitzgerald and Felicity Callard, 'Entangling the Medical Humanities', in *The Edinburgh Companion to the Critical Medical Humanities*, ed. by Anne Whitehead and others (Edinburgh: Edinburgh University Press, 2016), 35-49 (35).

²⁷ Susannah Biernoff, *Sacha Polak's Dirty God and the Politics of Authenticity*, *infra*, 32.

²⁸ Since the Eighties, by harmonizing humanistic, psychological and cultural approaches, this field of research helped to formulate a series/corpus of theories concerning an analysis of trauma as an interpretative model. Accordingly, trauma studies have internally developed various perspectives of research, as a confirmation of an intrinsic multidisciplinary vocation: critic-cultural approach [Jeffrey C. Alexander and others, *Cultural Trauma and Collective Identity* (Berkeley: University of California Press, 2004); *Critical Trauma Studies. Understanding Violence, Conflict and, Memory in Everyday Life*, ed. by Monica J. Casper and Eric Wertheimer (New York: New York University Press, 2016)]; affect theory [Ruth Leys, *Trauma: A Genealogy* (Chicago: University of Chicago Press, 2000); Ruth Leys, 'The Turn to Affect: A Critique', *Critical Inquiry*, 37.3 (2011), 434-472], neuro-cognitive approach [*The act of remembering: Toward an understanding of how we recall the past*, ed. by John H. Mace (Hoboken, NJ: Blackwell, 2010)]; post-colonial approach [*Decolonizing Trauma Studies: Trauma and Postcolonialism*, ed. by Sonya Andermahr (Basel: MDPI, 2016)]. Moreover, the transcultural turn has been crucial in explaining in a more systematic way how contemporary

culture is increasingly characterised by cultural practices that transcend national borders and foster the action of cultures of remembrance at a multidirectional level, i.e. across both space (geo-political contexts) and time (historical periods). See Michael Rothberg, *Multidirectional Memory: Remembering the Holocaust in the Age of Decolonization* (Stanford: Stanford University Press, 2009) and *Transcultural Memory*, ed. by Rick Crownshaw (London, New York: Routledge, 2014).

²⁹ *Scars and Wounds. Film and Legacies of Trauma*, ed. by Nick Hodgkin and Amit Thakkar (London: Palgrave-Macmillan, 2017).

³⁰ *Ibidem*, 16.

³¹ Mediation processes of trauma are usually associated to therapeutic models (*working through, acting out, replacement, re-enacting*) in order to demonstrate the reparative potential of media representations and practices. See *Trauma. Explorations in Memory*, ed. by Cathy Caruth, (Baltimore: The John Hopkins University Press, 1995), *Trauma and Cinema. Cross-Cultural Explorations*, ed. by E. Ann Kaplan and Ban Wang (Hong Kong: Hong Kong University Press, 2004), Alice Cati, *Immagini della memoria. Teorie e pratiche del ricordo tra testimonianza, genealogia, documentari* (Udine, Milano: Mimesis Edizioni, 2013).

³² Amit Pinchevski, 'Screen Trauma: Visual Media and Post-traumatic Stress Disorder', *Theory, Culture & Society*, 33.4 (2016), 51–75 (53). See also the recent volume by the same author, reviewed here: Amit Pinchevski, *Transmitted Wounds. Media and the Mediation of Trauma* (Oxford: Oxford University Press, 2021).

³³ On this aspect, the following volumes are fundamental: *Interrogating Trauma. Collective Suffering in Global Arts and Media* ed. by Mick Broderick and Antonio Traverso (London, New York: Routledge, 2011) and *Trauma Theory*, ed. by Susannah Radstone, Janet Walker, Noah Shenker (Oxford: Oxford University Press, 2013).

³⁴ Jeffrey K. Olick, 'The poverty of resilience: On memory, meaning, and well-being', *Memory Studies*, 9.3 (2016), 315–324.

³⁵ Viney, Callard, and Woods, 2