In this companion, a diverse, international, and interdisciplinary group of contributors and editors examine the rapidly expanding, far-reaching field of mobile media as it intersects with art across a range of spaces—theoretical, practical, and conceptual.

As a vehicle for—and of—the everyday, mobile media is recalibrating the relationship between art and digital networked media and reshaping how creative practices such as writing, photography, video art, and filmmaking are being conceptualized and practised. In exploring these innovations, *The Routledge Companion to Mobile Media Art* pulls together comprehensive, culturally nuanced, and interdisciplinary approaches; considerations of broader media ecologies and histories and political, social and cultural dynamics; and critical and considered perspectives on the intersections between mobile media and art.

This book is the definitive publication for researchers, artists and students interested in comprehending all the various aspects of mobile media art, covering digital media and culture, internet studies, games studies, anthropology, sociology, geography, media and communication, cultural studies, and design.

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THE ROUTLEDGE COMPANION TO MOBILE MEDIA ART

Edited by Larissa Hjorth, Adriana de Souza e Silva, and Klare Lanson
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**Paulien Dresscher** is, since 1994, an independent curator, researcher, writer and educator in the field of culture and digital media on the cross roads of theory and practice. Currently, she is part of the Steering Committee of PublicSpaces and curates the interactive programme of the Nederlands Film Festival and the art programme Into the Great Wide Open. Since 2015, she has been affiliated with Utrecht University, teaching Media Philosophy and Screen Cultures, and she joined the Fontys School of Fine and Performing Arts in 2018 as a researcher on Creative Industries. She is also part of the Advisory Board of the Dutch Literature Fund, Amsterdam Art Fund (AFK), and Stichting Cultuur Eindhoven. Dresscher has worked as a commissioner and curator with artists like Marshmallow, Laser Feast, Rosa Menkman, Theodore Watson, Emily Watson, Daito Manabe, Kyle McDonald, Ruairi Glynn, Chris Sugrue, Golan Levin, Zach Lieberman, and many others.

**Kate Durbin** is a Los Angeles-based artist and writer. She makes films, new media work, and does performance art in public spaces and online. Works include *Hello Selfie* (2012–2015), which she performed for the Pulse Art Fair in Miami with Transfer Gallery, in Union Square with Transfer Gallery, in Los Angeles with Perform Chinatown, and with Arts Queensland in Australia. Other recent work includes: *Unfriend Me Now!* (2019) about Facebook’s rhetorical wars over the 2016 US Presidential election; *The Supreme Gentleman* (2015–2016) about Isla Vista shooter Elliot
Contributors


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Ragan Glover-Rijkse is a doctoral student in the Communication, Rhetoric, and Digital Media (CRDM) program and an affiliate of the Mobile Gaming Research Lab at NC State University. Her research focusses on the intersections between mobile media, mobilities, infrastructures, and space/place. She is the co-editor of the book Hybrid Spaces: Crossing Boundaries in Game Design, Player Identities, and Play Spaces (2020, with Adriana de Souza e Silva). In addition to her research, Glover-Rijkse teaches courses on mobile media, media history and theory, and media writing in the Department of Communication at NC State.

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Helen Grace established the MA Program in Visual Culture Studies at the Chinese University of Hong Kong and then moved to National Central University, Taiwan, where she taught cinema studies and new media studies. She is a photographer, filmmaker, and new media producer. Her books include Culture, Aesthetics and Affect in Ubiquitous Media: The Prosaic Image (2014) and she co-edited Technovisuality: Cultural Re-Enchantment and the Experience of Technology (2016).

Jaz Hee-jeong Choi is the Director of the Care-full Design Lab and Vice-Chancellor’s Senior Research Fellow in School of Design, RMIT, Australia. As a transdisciplinary researcher, her approach to urban sustainability recognises play and care as the core of transformational encounters in cities as complex cyberphysical networks. Her current research and practice explore care-full design for liveable and equitable urban futures across three inter-related domains: self-care and mutual aid, creative and impactful research methods, and co-creative urban transformation. Choi has published in books and journals across disciplines, and given keynote presentations at major international conferences including the inaugural Global Social Economy Forum in 2013 and the 2010 UNESCO Creative Cities Conference.

Leah Heiss is a designer and RMIT researcher working at the nexus of design, health, and technology. Her wearable health technologies include Diabetes Jewellery, biosignal sensing emergency jewellery, and swallowable devices to detect disease. Facett, the world’s first modular hearing aid that Leah designed for Blamey Sauber’s ears won the 2018 Good Design Award and the CSIRO Design Innovation Award. Leah’s work is part of Museums Victoria heritage collection, and she has exhibited at galleries locally and globally. She teaches at RMIT’s Master of Design Futures, and her teaching practice focusses on health sector innovation.
Drew Hemment is an artist, designer, and academic researcher. He is a Chancellor’s Fellow at Edinburgh Futures Institute and has been recognized by awards from the arts, technology, and business sectors including the STARTS Prize, Lever Prize and Prix Ars Electronica. He founded *FutureEverything* in 1995 and was Creative Director for 23 years. Drew develops collaborative and interdisciplinary forms for research, in which building communities of interest are integral. He is an Editorial Board member for *Leonardo* journal of art, science and technology, and member of the Citizens’ Observatories Community Activity of the intergovernmental Group on Earth Observations (GEO), which is leading a worldwide effort to build a Global Earth Observation System of Systems (GEOSS).

Julia M. Hildebrand is an Assistant Professor of Communication at Eckerd College in St. Petersburg, Florida. She holds a PhD in Communication, Culture, and Media from Drexel University. Her research lies at the intersection of critical media studies and mobilities research with a special interest in visual communication and mobile technologies. She has published in journals such as *Media, Culture & Society*, *Digital Culture & Society* and *Mobile Media & Communication*.

Sam Hinton is a senior lecturer in digital media and runs the digital media program at the University of Canberra, Australia. With Larissa Hjorth, he is co-author of the second edition of *Understanding Social Media* (2019). His work relates to the social and technical aspects of games, game production and social media.

Larissa Hjorth is a digital ethnographer, artist, Distinguished Professor and director of the Design & Creative Practice ECP platform at RMIT University. Hjorth studies the socio-cultural dimensions of mobile media and plays practices in the Asia-Pacific region with an emphasis on interdisciplinary, collaborative, and cross-cultural approaches. She has published a dozen co-authored books, edited over a dozen Handbooks/Companions and has over 40 journal articles. Hjorth’s books include *Creative Practice Ethnographies* (with Harris, Jungnickel and Coombs 2020), *Ambient Play* (with Richardson 2020), *Haunting Hands* (with Cumiskey 2017), *Screen Ecologies* (with Pink, Sharp, and Williams 2016), *Digital Ethnography* (Pink et al. 2016), *Gaming in Locative, Social and Mobile Media* (with Richardson 2014), *Understanding Social Media* (with Hinton 2013, 2019), *Online@AsiaPacific* (with Arnold 2013), *Games & Gaming* (2010), and *Mobile Media in the Asia-Pacific* (2009).

Cat Hope is a composer, sound artist, musician, and performance artist whose practice examines the corporeality of sound in different ways. Hope founded and co-edited *Sound Scripts: Proceedings of the Inaugural Totally Huge New Music Festival Conference* (2005), and her subsequent paper “Mobile Art/Sound Art” (2007) was one of the first on sound art in mobile media. Hope has also created a range of mobile media sound art works exhibited worldwide, as well as instrumental music works that engage digital graphic notations and related technologies that have been featured at ISEA and other festivals worldwide. Hope is the co-author of *Digital Art—An Introduction to New Media* (2014) and Professor of Music at Monash University in Melbourne, Australia. http://www.cathope.com/.

Brian House is an artist who investigates more-than-human temporalities. His work has been exhibited by New York’s Museum of Modern Art (MoMA), Los Angeles based The Museum of Contemporary Art (MOCA), Cincinnati Contemporary Arts Center, Beall Center, Center for Art and Media Karlsruhe (ZKM), Ars Electronica, and Transmediale, among others, and has been featured in publications including *The New York Times* Magazine, *TIME, WIRED, Neural, Creative Applications, Hyperallergic, and Creator’s Project*. He is currently a Mellon Associate Research Scholar at Columbia University’s Center for Spatial Research. http://brianhouse.net.
Erkki Huhtamo is a media archaeologist, historian, and exhibition curator and works as a professor at the University of California Los Angeles (UCLA), Departments of Design Media Arts, and Film, Television, and Digital Media. He received his PhD in cultural history from the University of Turku, Finland. Huhtamo is an internationally renowned media historian and theorist and is also a specialist in the history and aesthetics of media arts. He is one of the founders of media archaeology. Recent books include *Media Archaeology: Approaches, Applications, and Implications* (edited with Jussi Parikka, University of California Press 2011), *Illusions in Motion: Media Archaeology of the Moving Panorama and Related Spectacles* (The MIT Press 2013), and *How to Dismantle a Fairy Engine? Media Archaeology as Topos Study* (forthcoming).

Lee Humphreys, is an Associate Professor of Communication at Cornell University where she studies the social uses and perceived effects of communication technology.

Troy Innocent is an artist, academic, and educator investigating playful wayfinding to reimagine cities. His non-objective art practice explores abstractions drawn from urban space expressed in works of code, sculpture, animation, sound, and installation. Innocent’s interactive artworks use invented languages to create constructed worlds, exploring the potential of mixed realities to manifest new ways of being. This approach is also central to his public art practice through “urban codemaking”—a system he developed for situating play in cities such as Melbourne, Istanbul, Sydney and Hong Kong. He co-founded the digital arts collective Cyber Dada in 1989, and through pioneering works such as Idea-ON>!, has significantly contributed to the Australian new media arts practice during the 1990s. Innocent is represented by Anna Pappas Gallery.

Kat Jungnickel is a senior lecturer in the sociology department at Goldsmiths, University of London, where she teaches critical social theory, science and technology studies, and practises research methods. She codirects the Methods Lab and Digital World Making groups, which experiment with inventive ways of doing social research. Her research is concerned with invention, mobilities (particularly cycling), gender, DIY and DIT (do-it-together) technology cultures, and creative research transmissions. Recent publications include *Bikes & Bloomers: Victorian Women Inventors and Their Extraordinary Cycle Wear* (Goldsmiths Press 2018) and *Transmissions: Critical Tactics for Making and Communicating Research* (The MIT Press 2019). She is currently working on a five-year European Research Council funded project called Politics of Patents: Re-imagining Citizenship via Clothing Inventions 1820–2020. More about her research can be found at www.katjungnickel.com.

Fumitoshi Kato, is a Communication Professor at the Faculty of Environment and Information Studies, Keio University, Japan. His research interests include communication theory, media studies, socio-cultural impacts of new technologies, and qualitative research methods. He is especially interested in the use of camera phones in the context of place-making and community development. For the past 15 years, he has been conducting field research in various local communities in Japan, with a primary focus on the notion of mobile learning.

Sybille Lammes is a Professor of New Media and Digital Culture at Leiden University’s Centre for the Arts in Society (LUCAS). She has been a visiting Senior Research Fellow at The University of Manchester and has worked as a researcher at the Centre for Interdisciplinary Methodologies at the University of Warwick, as well as the media-studies departments of Utrecht University and the University of Amsterdam. Her background is in media-studies and play-studies, which she has always approached from an interdisciplinary angle, including cultural studies, science and technology studies, postcolonial studies, and critical geography.
Contributors

**Klare Lanson** is a performance poet and artist researcher. In the 1990s, Lanson was a curator of artist-run spaces, helped set up Australia's first internet café, worked on the visual arts program for the Adelaide Festival of the Arts, and directed the contemporary arts organization Umbrella Studios. Her PhD research at RMIT University investigates the mobility of digital parenting through speculative creative practice methods, mobile media studies, and the philosophy of sound and listening. Recent collaborative art projects are #wanderingcloud (2012–2015), Commute (2013–2017), and a mobile media art ethnography entitled TouchOn/TouchOff (2017). Publications include Digital Cultures & Society (2019), Min-a-rets Poetry Journal (2018), thephonebook.com (2002), Cordite Poetry Review, Overland Journal, Realtime Arts, and she was also co-editor of the 40-year-old Australian literary anthology Going Down Swinging.

**Amparo Lasén** is Professor of Sociology at the University Complutense de Madrid and member of the research group Sociología Ordinaria. Her research focuses on digital mediations, especially in relationship with mobile media, affectivity, the configuration of contemporary subjectivities, intimacies, and everyday life. Prior to her current position, she was the Vodafone Surrey Scholar at the Digital World Research Centre (DWRC) of Surrey University, where she conducted cross-cultural research on mobile phone uses and practices. She has been academic visitor at the Department of Sociology of the LSE and researcher of the CEAQ (Centre d’Études de l’Actuel et du Quotidien) Paris V-La Sorbonne.

**Jacina Leong** is an artist-curator. Over the past decade, she has worked in a range of hybrid new media spaces—to vision, develop, and deliver a diverse range of transdisciplinary engagement program via collaborative, experimental, and site-responsive processes. Most recently, Leong was curator for Robotronica (Brisbane), project lead and founding member (with Linda Knight) of the Guerrilla Knowledge Unit (Brisbane and Linz), guest facilitator of the Future Innovators Summit (Ars Electronica Tokyo Initiative 2018), and co-curator of the provocation, Curating in the Age of Automation as part of the Doing Digital Methods: Interdisciplinary Interventions Conference in Kyoto (2018). She is currently a PhD candidate at RMIT University.

**Golan Levin** is an artist, composer, performer, and engineer with an interest in new modes of reactive expression. Levin focuses on the design of systems for the creation, manipulation, and performance of audiovisual works, as part of his interest in formal languages of interactivity and nonverbal communication in cybernetic systems.

**Brian Massumi** is the author of numerous works across philosophy, political theory, and art theory. His publications include 99 Theses on the Revaluation of Value: A Postcapitalist Manifesto (University of Minnesota Press 2018), Semblance and Event: Activist Philosophy and the Occurrent Arts (MIT Press 2013), and Parables for the Virtual: Movement, Affect, Sensation (Duke University Press 2002).

**Nancy Mauro-Flude** is an artist driven by the demystification of technology and the “mystification” that lie in and through the performance of the machinic assemblage. “Gray magics, hijackings, driftings and seizures of power are many of the sensitive and subversive subterfuges by which her projects urge, twist and explore the aesthetic politic of the open source spirit” (Goldenburg 2014). She has published, devised, and curated extensively within the field of experimental art. Mauro-Flude is also a founder of the feminist server stack Despoinas Media Coven and faculty member of the Digital Media programme at the School of Design, RMIT Australia. http://sister0.org/.
Lauren McCarthy is an LA-based artist examining social relationships in the midst of surveillance, automation, and algorithmic living. She is the creator of p5.js, an open-source programming language with over 1.5 million users, for learning creative expression through code online.

Kelli McCluskey and Steve Bull are co-artistic directors of pvi collective, founded in Perth, Australia in 1998. pvi is a tactical media art group that creates agitational participatory artworks intent on the creative disruption of everyday life. They use gameplay alongside emerging, familiar, and DIY technology to explore the social dynamics of the urban experience. Over the years, they have created playfully subversive performances and interventions that invite genuine engagement, transforming perceptions of space, cities, and environment. Recent artworks include tiny revolutions (2019) and disobedience rules (2018). https://pvicollective.com/.

Caitlin McGrane is a feminist researcher and activist. She is a PhD candidate in the Digital Ethnography Research Centre at RMIT University. Her research investigates the gendered uses, practices, and impacts of locative media for women's feelings around security. McGrane has previously researched how witnessing anti-feminist harassment can affect individuals' willingness to participate in online spaces and publicly identify as feminist. As an activist, she leads Gender Equity Victoria’s Online Active Bystander Project, which helps to challenge gendered harassment and online abuse by encouraging bystanders to take an active role on social media.

Shannon McMullen and Fabian Winkler work as an artist duo whose collaborative art practice engages issues in contemporary culture at the intersection of nature, technology, and social enquiry. They combine their backgrounds in new media art and sociology to produce speculative social spaces and time-based installations. In 2016, Ars Electronica listed their collaborative practice in an international overview of artist working at the intersection of Art and Science. McMullen and Winkler are Associate Professors at Purdue University in West Lafayette, IN, USA, with appointments in the Department of Art and Design (McMullen, Winkler) and the American Studies Program (McMullen).

Joshua McWhirter is a writer, audio producer, and urbanist based in Brooklyn, NY. He is an editor for Failed Architecture, an independent foundation and digital publication seeking to reconnect architecture with the real world.

Daniel Palmer is Professor and Associate Dean of Research and Innovation in the School of Art at RMIT University, Melbourne. His books include Photography and Collaboration: From Conceptual Art to Crowdsourcing (Bloomsbury 2017); Digital Light (Open Humanities Press, 2015), edited with Sean Cubitt and Nathaniel Tkacz; The Culture of Photography in Public Space (Intellect 2015), edited with Anne Marsh and Melissa Miles; Twelve Australian Photo Artists (Piper Press 2009), co-authored with Blair French and Photogenic (Centre for Contemporary Photography 2005).

Luisa Paraguai is an artist and researcher at the Master Program in Language, Media and Arts, and faculty member at the Faculty of Visual Arts, Pontifical Catholic University of Campinas, Brazil. She studied Civil Engineering and Computing at the University of São Paulo and received her masters and doctoral degree at the Department of Multimedia, Institute of Arts, Unicamp, Brazil. Previously a post-doctoral Advanced Research Associate in the M-Node Planetary Collegium, NABA, Italy, Paraguai has also participated in many exhibitions such as #EmMeio8.0 2016 and #EmMeio10.0 2018, 4D Interactive Computational Art 2004, Cinetic_Digital—Itaú Cultural 2005,
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Esther Polak and Ivar van Bekkum are the artist-couple PolakVanBekkum. Routed in the history of the Dutch realistic landscape depiction, they express personal experiences of movement and space. Their projects are often informed by collaborations with participants, be it humans, animals or even the rays of the sun. Over recent years, the pair have developed a cinematographic method for synchronizing audio recordings with mapped routes. www.polakvanbekkum.com/.

Gilbertto Prado is an artist and coordinator of the Group Poéticas Digitais. He studied Engineering and Visual Arts at the University of Campinas, Brazil and in 1994 obtained his PhD in Arts at the University Paris I Panthéon-Sorbonne. Prado has participated in several art exhibitions in Brazil and abroad. Prizes include 9º Prix Móbius International des Multimédias (Beijing 2001) and 6º Prêmio Sergio Motta de Arte e Tecnologia (2006). He works with art in networks and interactive installations. Currently, he is Professor at the Post-Graduate Programs of Visual Arts at the Communication and Arts School at the University of São Paulo and Design at the University Anhembi Morumbi. www.gilberttoprado.net/.

Ingrid Richardson is Associate Professor in the School of Arts at Murdoch University, Western Australia. She has a broad interest in the human-technology relation and has published on the cultural and phenomenological effects of games and mobile media, digital ethnography and innovative research methods, urban screens, wearable technologies, virtual and augmented reality, remix culture, and web-based content creation and distribution.

Martin Rieser is both an academic and visual artist. His interactive film installations and mobile media works have been shown around the world, including Understanding Echo shown in Japan 2002, Hosts Bath Abbey 2006, Secret Door Invideo Milan 2006, The Street RMIT Gallery Melbourne 2008/ISEA Belfast 2009, Secret Garden Phoenix Square 2012/Taipei 2013, and RUR at Glyndebourne in 2014 for REFRAME at the University of Sussex. He has taught extensively since 1998 and was visiting Professor in the Digital Creativity Research Cluster at the University of the West of England 2012–2014, and Professor of Digital Creativity at De Montfort University’s Institute of Creative Technologies 2007–2012. Rieser edited New Screen Media: Cinema/Art/Narrative (BFI/ZKM 2002), which combined a DVD of current research and practice in this area together with critical essays, and The Mobile Audience: Media Art and Mobile Technologies (Rodopi 2011). www.martinrieser.com

Matthew Riley, is a designer, researcher, and academic in animation, games, and interactivity at RMIT University, Melbourne, Australia who has received international and national recognition for his practice and research. Riley has exhibited at galleries and events including Australian Centre for the Moving Image, Monash University Museum of Art, Centre for Contemporary Photography, and Field 36. He been invited to speak at numerous conferences, festivals, and institutions including the London College of Communication (United Kingdom), xCoAx (Porto), the Society for Animation Studies (Melbourne), CODE (Melbourne), Digital Interventions (Perth), Freeplay Independent Games Festival (Melbourne), ISEA (Dubai and Hong Kong), NHK Japanese Broadcasting Corporation (Tokyo), Kajanni University of Applied Sciences (Finland), and the Milia Conference (Cannes).

Teri Rueb is an artist whose work combines sound and site using mobile media. She is best known for having established the form of GPS-based interactive installations, sometimes referred to as “locative
Contributors

media,” as early as 1997. Rueb’s work became a reference for generations of newer locative media artists interested in exploring the relationship between spaces, location-based technologies, and mobility. She has lectured and presented her work worldwide at venues including Ars Electronica, SIGGRAPH, Transmediale, The New Museum of Contemporary Art, Kiasma Museum, and IRCAM. She has been nominated for numerous awards including the CalArts Alpert Award, Rockefeller New Media Fellowships, and the Boston ICA Foster Prize. Rueb completed her doctoral degree at the Harvard University Graduate School of Design in 2011, where her research addressed constructions of landscape and subjectivity in mobile network culture. She is currently Professor and Chair of the Department of Critical Media Practices at the University of Colorado, Boulder.

Max Schleser is Senior Lecturer in Film and Television at Swinburne University of Technology (Melbourne, Australia), Adobe Education Leader, Co-founder of the Mobile Innovation Network & Association (www.mina.pro), and Screening Director of the International Mobile Innovation Screening & Festival. Max’s expertise is Immersive Media and Creative Arts 4.0 with a focus on Cinematic VR and interactive filmmaking. His research explores Screen Production, Emerging Media and smartphones for community engagement, creative transformation, and transmedia storytelling.


Mimi Sheller, is Professor of Sociology and founding Director of the Center for Mobilities Research and Policy at Drexel University in Philadelphia. She is founding co-editor of the journal Mobilities and past President of the International Association for the History of Transport, Traffic, and Mobility. She helped to establish the interdisciplinary field of mobilities research. She is author or co-editor of ten books, including most recently Mobility Justice: The Politics of Movement in an Age of Extremes (Verso 2018), Aluminum Dreams: The Making of Light Modernity (MIT Press 2014), and forthcoming Island Futures (Duke University Press).

Duncan Speakman is a composer and sound artist based at the Pervasive Media Studio in Bristol. He creates narrative sound-led experiences that engage audiences in uncontrolled public and private space. He regularly creates bespoke work internationally including installations on trains in Guangzhou, loudspeaker symphonies in New Zealand, audio walks in Saitama, and sound installations in Porto; he has also recently developed a number of hybrid print/digital experiments. His current research is in the relationship between locative urban audio experiences and contemporary ecology, wrapping the questions in melancholy and romance. He set up and directed the arts collective Circumstance from 2010 to 2017 with Sarah Anderson and Emilie Grenier, later joined by Tom Abba. He continues now as a solo artist and researcher.

Victoria Szabo is an Associate Research Professor of Visual and Media Studies at Duke University. She studies and creates digital archives, apps, and extended reality experiences for cultural heritage and artistic applications. She is a member of the Wired! Lab for Digital Art History & Visual Culture, the Psychasthenia Studio art collective, and currently leads the ACM SIGGRAPH Digital Arts Community.
**Contributors**

**Charlie Todd** is the director of Improv Everywhere in New York City, operating since 2001. The comedy performance collective has successfully energized thousands of performers with over 150 projects involving tens of thousands of undercover performers. Highlights include making time stop with the project Frozen Grand Central (2006), thousands of people listening to synchronized instructions over the years for The Mp3 Experiment (2004–), The No Pants Subway Ride (2002–), where participants become random passengers who board the New York Subway in winter without wearing any pants. Improv Everywhere also collaborate with industry, winning the Ex Award for their public artwork The Giant Boombox (2016), where unsuspecting New Yorkers who plugged it in were surprised by a massive holiday dance party with 100 acrobatic dancers, thousands of Christmas lights placed on historic ships and ten hidden snow machines.

**Nanna Verhoeff** is Associate Professor at the department of media and culture studies of Utrecht University. She specializes in screen and interface theory and has written on early cinema as well as mobile screens and media architecture. Her publications include “Urban Cartographies: Mapping Mobility and Presence” (2017); a special issue for *Television & New Media*, edited with Heidi Ray Cooley and Heather Zwicker; *Mobile Screens: The Visual Regime of Navigation* (Amsterdam University Press 2012); and *The West in Early Cinema: After the Beginning* (Amsterdam University Press 2006). With Sigrid Merx and Michiel de Lange she is co-editor of *Urban Interfaces: Media, Art, and Performance in Public Spaces*, a special issue for *Leonardo Electronic Almanac* (MIT Press 2019).

**Rowan Wilken**, is an Associate Professor in Media and Communication and Principal Research Fellow in the Digital Ethnography Research Centre (DERC), RMIT University, Melbourne, Australia. He has published widely on mobile and location-based media. His co-edited and authored books include *Cultural Economies of Locative Media* (forthcoming), *Location Technologies in International Context* (with Gerard Goggin and Heather Horst, 2019), *The Afterlives of Georges Perec* (with Justin Clemens, 2017), *Locative Media* (with Gerard Goggin, 2015), *Mobile Technology and Place* (with Gerard Goggin, 2012), and *Teletechnologies, Place, and Community* (2011). At present, he is preparing two co-authored books: *Digital Domesticity* (Oxford University Press) and *Wi-Fi* (Polity, under contract).

**Clancy Wilmott** is an Assistant Professor in Geography at UC Berkeley. Previously, she was a Lecturer in Human Geography at the University of Manchester. She has published widely on topics such as critical cartography, mobile media and spatial data, and is the author of *Mobile Mapping: Space, Cartography and the Digital* (2018) with Amsterdam University Press.

**Emile Zile** is an artist, filmmaker, and performer. In the darkly comic and critical re-use of online platforms, his work reflects a distributed humanity, a yearning for transcendence and the limits of language. Building on a background of live and single-channel video, his practice utilizes site-specific performance, photography, and filmmaking. Emile has an MFA degree from the Sandberg Institute and in 2012 completed a two-year studio residency at the Rijksakademie van beeldende kunsten, Amsterdam. In 2018, he commenced a practice-based PhD at Digital Ethnography Research Centre, RMIT Melbourne. His work is profiled in *Australiana to Zeitgeist: An A to Z of Australian Contemporary Art* (Thames and Hudson 2017). emilezile.com/.
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<thead>
<tr>
<th>Abbreviation</th>
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<tr>
<td>ABCD</td>
<td>Asset-Based Community Development</td>
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<td>AI</td>
<td>Artificial Intelligence</td>
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<td>ANAT</td>
<td>Australian Network for Art and Technology</td>
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<td>AR</td>
<td>Augmented Reality</td>
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<td>ARC</td>
<td>Australian Research Council</td>
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<td>AIMIA</td>
<td>Australian Interactive Media Industry Association</td>
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<td>AV</td>
<td>Audio Visual</td>
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<td>CCTV</td>
<td>Closed-circuit Television</td>
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<td>DARPA</td>
<td>Defence Advanced Research Projects Agency</td>
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<td>DIY</td>
<td>Do it Yourself</td>
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<td>Do-it-Together</td>
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<td>dLux</td>
<td>Media Arts</td>
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<td>European Research Council</td>
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<td>ETET</td>
<td>Every Thing Every Time</td>
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<td>FM</td>
<td>Frequency Modulation</td>
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<td>FutureEverything Singapore</td>
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<td>Ghana Think Thank</td>
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<td>GDPR</td>
<td>General Data Protection Regulation</td>
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<td>GPS</td>
<td>Global Positioning System</td>
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<td>GUI</td>
<td>Graphical User Interface</td>
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<tr>
<td>HCI</td>
<td>Human Computer Interaction</td>
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<tr>
<td>IoT</td>
<td>Internet of Things</td>
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<tr>
<td>ICT</td>
<td>Information Communication Technology</td>
</tr>
<tr>
<td>ISEA</td>
<td>International Symposium of Electronic Art</td>
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<tr>
<td>IRL</td>
<td>In Real Life</td>
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<tr>
<td>keitai</td>
<td>Mobile Phone</td>
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<tr>
<td>LAN</td>
<td>Local Area Network</td>
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<tr>
<td>LIDAR</td>
<td>Light Detection and Ranging</td>
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<td>MCVR</td>
<td>Mobile Cinematic Virtual Reality</td>
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<tr>
<td>Mhz</td>
<td>Mega Hertz</td>
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<td>MP3</td>
<td>MPEG Audio Layer III</td>
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<td>MR</td>
<td>Mixed Reality</td>
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<td>MSRIR</td>
<td>Media Society Research Institute</td>
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<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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<td>OP</td>
<td>Open Prototyping</td>
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<tr>
<td>PAR</td>
<td>Participatory Action Research</td>
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<td>QS</td>
<td>Quantified Self</td>
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<tr>
<td>SI</td>
<td>Situationist International</td>
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<td>SNS</td>
<td>Social Networking Sites</td>
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<td>shanzhai</td>
<td>fake, copy</td>
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<td>sumaho</td>
<td>smartphone</td>
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<tr>
<td>UCC</td>
<td>User Created Content</td>
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<td>URL</td>
<td>Uniform Resource Locator</td>
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<td>VOIP</td>
<td>Voice over Internet Protocol</td>
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<tr>
<td>VR</td>
<td>Virtual Reality</td>
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<tr>
<td>WAP</td>
<td>Wireless Application Protocol</td>
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<td>Wi-Fi</td>
<td>Wireless Fidelity</td>
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<td>WLAN</td>
<td>Wireless Local Area Network</td>
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<tr>
<td>XR</td>
<td>Extended Reality/Crossing Reality</td>
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MOBILE MEDIA ART
An Introduction

Klare Lanson, Adriana de Souza e Silva, and Larissa Hjorth

Organizing The Companion for Mobile Media Art is a choreography of collaboration, process, and debate. It is a challenging endeavour, to say the least. Unpredictable connections occur when combining the fields of mobile media, creative practice, and contemporary art. With the continuing rise in artists turning towards social practice this century, the role of mobile media as a vehicle for social and critical enquiry and intervention becomes heightened. Mobiles become a way not only to engage alternative publics but also as a way to intercept circuits of culture in which the digital is all-pervasive. Through this turn, we can consider societal impacts on community, subjectivity, and environment. Art historian Claire Bishop considers the holistic role of the digital in relation to contemporary art practice:

Performance art, social practice, assemblage-based sculpture, painting on canvas, the ‘archival impulse,’ analog film, and the fascination with modernist design and architecture … their operational logic and systems of spectatorship prove intimately connected to the technological revolution we are undergoing … the digital is, on a deep level, the shaping condition—even the structuring paradox—that determines artistic decisions to work with certain formats and media.

Far from being a widely accepted and established term, mobile media art is an emerging field that over the years has received multiple overlapping and contradictory definitions. This process complicates mobile media art in ways that are invigorating, contested, and dynamic. The term mobile media art has gained popularity after the locative media boom in the early to mid-2000s. In 2004, Drew Hemment wrote the famous manifesto “Locative Dystopia” that popularized the term locative media, as the social and critical art movement that emerged with the use of positioning technologies—such as global positioning systems (GPS)—as interfaces for artmaking. Followed by artists like Anne Galloway, Marc Tuters, and Kazys Varnelis, and a whole special issue of Leonardo Electronic Almanac in 2006, locative media became a well-known and established term. Over the years, the term mobile media art slowly engulfed locative media as its subset and simultaneously developed to encompass art with diverse forms of mobile media—not only locative.

Mobile media art has relationships with, and genealogies within, other forms of media art—such as video art, electronic poetry and literature, internet art, sound art, film, performance art, game design, and locative media art. It emerges fundamentally from the use of different mobile media as interfaces for artmaking. However, as argued elsewhere, defining mobile media art as art made with mobile technologies is to ignore its most important characteristics. In essence, mobile media art practices critique and support new social, political, cultural, and spatial relationships.
As Mimi Sheller points out, mobile media art activates new practices that unfold in hybrid spaces, that is, spaces that emerge when people, equipped with mobile technologies connected to the internet, are mobile and able to socialize with each other. In short, hybrid spaces blur the boundaries between the physical and the digital. But mobile media art—via its practices, artworks, and performances—also blurs boundaries and creates other types of hybrids and assemblages, such as bodies and information, playful/creative and ordinary spaces, creators and audiences, and public and private, to name a few. In this sense, following Sheller, we understand mobile media art as a way to explore how mobile medialities are creating new affordances for people to navigate public places and built or natural environments through hybrid socialites that are produced by a kind of ‘moving with:' moving with connected technologies, moving with mobile social networks, moving with an awareness of locational relations.

Just like mobile media, mobility is an essential part of mobile media art. Mobile media art as a creative practice can also be understood as mobility itself—having extensive mobility across many academic fields and disciplines of study. However mobilities, as outlined by Sheller, Hannan, and Urry, does not only mean constantly moving around—it includes immobilities, moorings, and the politics of mobility, that is, relationships of power and visibility over who moves and who is able to move. As such, mobile media art is as much about movement and using mobile media, as it is about the lack of movement and access to mobile media. It is about understanding and forgoing our relationships with each other and with the spaces in which we live. It is also about questioning and understanding our relationships to the technologies we use and the power relationships that emerge from their production, use, and appropriation. Thinking through these relations is currently spotlighted by the global COVID-19 pandemic. As we navigate through mobile media practices to work remotely, home-school our children, and stay connected with family and friends during intense periods of physical lockdown, these questions around access and the digital divide become intensely more visible.

Mobile media seems to permeate all aspects of our lives today but interestingly, as media archaeologist Erkki Huhtamo notes, the term mobile media has been absent from most media histories up to the twenty-first century. However, mobile media antecedents can be traced back to the nineteenth century and before. From portable cameras to pocket watches, media has been mobile much earlier than boom boxes, mobile phones, and GPS devices.

And so, what is different now? First, the way new mobile media is appropriated and repurposed for artmaking. Second, the way mobile media became the main interface to connect us to digital networks, and therefore embed digital information into physical spaces. And finally, the way that mobile media plays multiple roles in our lives, as devices used for communication, information access, interacting with urban spaces, and, of course, artmaking.

Mobile media art uses the vehicles of the “mobile” and “media” to frame art practice and intervention. As technologies emerge—from locative media to now automation—mobile media art is literally and metaphorically on hand to provide commentary, encounter the strange, and intervene in debates around intimacy, privacy, placemaking, and the ethics of communication, visibility, and careful practice. It provides both an intimate and public lens for contextualizing lived experience with speculative possibilities. It helps us navigate the uncertainties and ubiquity of networked media as indivisible from the social, material, and environmental. It highlights the role of art to provide a critical space for quotidian inquiry.

In recent decades, artists have continued to expand the boundaries of art as they experiment and engage with an increasingly networked, mobile, and copresent socio-material world. This pluralistic approach to artmaking entangles a range of environmental and political issues, many
revealed within the pages of this book. It is the understanding of these issues through an intersectional and creative approach to sociality, mobility, and technology that enable us to understand how we can activate change and perhaps better prepare ourselves for the future—through process-based methods of seeing, listening, doing, and making. Importantly, artists are generating lively, playful, and imaginative ways of being in a digitally saturated world by performing and experimenting with the everyday; therefore, enhancing dialogue and creating new possibilities for making futures that move across—and through—creative disciplines, vibrant matter, and the affective qualities of more-than-human relationships.

In the face of datafication, automation, and artificial intelligence (AI), mobile media art can provide us with a creative and critical space for reflecting on the role of quotidian agency. An example can be found in Trevor Paglen and Kate Crawford’s #ImageNetRoulette (2019), which subverts a leading facial recognition database to remove more than half a million images. The project seeks to make people aware of the facial recognition biases and to change people’s minds about AI. The project resonates with a subgenre of artists working to creatively subvert social and mobile media technology to make more public awareness. Another example is Egor Tsvetkov’s Your Face is Big Data (2016). In this project, Tsvetkov photographed strangers on St Petersburg’s metro and then used facial recognition software (FindFace2) to identify them on social media.

Mobile media art, in this way, can be understood to highlight the social and cultural dimensions of new automation technologies in ways that put the everyday at the centre.

By collaborating with various forms of mobile technology, people, places, and things, mobile media art attempts to communicate the movement of particular forms of sociality in ways that are often multisensorial in nature, traveling through disparate fields of enquiry such as geography, environment, gender, computer science, sociology, and other areas of the digital humanities. Artists and writers continue to situate mobile media artmaking to be one composed of both material and virtual elements, seeking to create affective modes and alternative ways to consider how lifeworlds flow through a lively balance of social aesthetics and ideals.

Mobile media has also influenced art to shift away from the traditional gallery construct; instead, it incorporates a more dynamic participation within an everyday sociality brought about by digital connectivity. Through playful mobile methods where “pre-existing cultural artifacts are remixed and reformatted, generating a mise-en-abyme of references to previous historical eras,” it can also provide narratives of understanding the affective digital experiences of the past, present, and future. Our general understanding of how we participate temporally within, and over, mobile media platforms is being enhanced through the process of making, signalled through art as an active and mobile methodology. Due to obvious mobility in smartphone usage, no perceptual event or experience can be reduced to one category. Mobile media highlights this idea of diversity more than any other form of digital media because the smartphone is simultaneously co-existing and collaborative.

Understanding the Companion

Mapping mobile media art reveals multiple contested histories, genealogies, and definitions. It is an interdisciplinary field shaped by different factors—cultures, societies, technologies, and practices to name a few. This Companion seeks to engage with some of the many complexities and intricacies as a starting point for further discussion. We have framed some key themes around mobile media art today in ten sections featuring writing from recognized scholars and practitioners in the field. Each section begins with an artist interview to situate and contextualize the key role practice plays in our understanding of mobile media art.

We begin with Mobile Media Art Forerunners in Section one. As stated above, mobile media art has many histories and this section includes relevant historical perspectives on the
development of the field. It starts with Klare Lanson interviewing Golan Levin, who in 2001, developed and performed *Dialtones* at Ars Electronica. *Dialtones* is, up to this day, considered one of the first attempts to use mobile phones as interfaces for artmaking with a focus on sonic and visual patterning. Levin presents a critical view of his early work and looks forward, contemplating future directions for the field.

This interview is followed by media archaeologist Erkki Huhtamo, who argues that mobile media art can be traced through early mobile media interventions spanning a few centuries. He follows the archaeological trail of mobile media art back to portable, wearable, and vehicle-mounted media developed as early as the sixteenth century. Then, Giselle Beiguelman—considered one of the first mobile media artists in Brazil and in the world—takes us on an historical overview of Brazilian and South American early mobile media art in the specific context of emerging economies. While Beiguelman’s work is mostly visual, Cat Hope, in Chapter 4, maps the importance of sound in early mobile media art and how the escalating field of sound studies shifts our listening perceptions. From the early recorded soundscapes of Canadian sound artist Barry Truax to the complex sound-based multimedia walks of British artist Janet Cardiff, Hope outlines early trends that established a path for the way sound is engaged in mobile media art today.

In Section two, *Practicing Mobile Media Art*, Rowan Wilken interviews Matt Adams from Blast Theory, exploring the affective tensions around being lonely in a crowd, feelings of togetherness and isolation, being drawn to interact with others while also desiring to break away, and how these tensions are enacted through mobile media art making with the aim of disrupting public space. For art collectives like Blast Theory, mobile media art is at the intersection of urgent interdisciplinary discussions we need to have about urban public life, surveillance, and agency. Disruption continues in Amparo Lasen and Massimiliano Casu’s chapter that highlights the important role of shared listening practices in public art sound projects in Madrid, through a discussion of *La Romería de los Voltios* (The Pilgrimage of the Volts), an artist collective of collectives, band(width)ing together to celebrate the rise of the portable sound system. Subversion also features in Chapter 7, where Nancy Mauro-Flude turns up the tactics of an activist performance artist in *Bag Lady 2.0* (2007), who roams, collects knowledge and transmits data to an autonomous feminist server for realtime broadcasting. Caitlin McGrane continues the critique of technology in playing out biases and inequalities through an exploration of feminist locative art via the case study of Melbourne-based BE. collective’s *Amplify Your Feminism* (2019) project.

In Section three, *Hybrid Realities*, authors consider the importance of hybrid spaces in constituting understandings and practices of mobile media art. Adriana de Souza e Silva interviews locative media artist Teri Rueb who has for decades made work around wayfaring, including locative media audiowalks that focus on bridging digital location information to physical environment—charting the vital act of listening to place and highlighting the importance of experiential soundings and the subjective “heard.” In Chapter 10, de Souza e Silva and Ragan Glover-Rijkse analyse early telepresence and telecommunication-based art as predecessors of mobile media art practices that engaged the audience in the construction of hybrid spaces—before the emergence of locative media artworks.

In Chapter 11, Shannon McMullen and Fabian Winkler describe their evocative installation *Algorithmic Gardening* (2018) as a way to probe the hybrid infrastructural arrangements that emerge from nature/technology and humans/machines. As such, they speculate how hybrid ways of navigating spaces reveal insights into the future of algorithmic agriculture. Then, in Chapter 12, Joshua McWhirter presents alternative genealogies for augmented reality (AR) practices—from the *Situationist Internationale* (SI) to net art—as early experiments which sought to use geospatial technologies to interrogate the increasing mediation of urban space through networked technologies. McWhirter proposes an alternative view of “hybrid” cities composed of physical and digital elements. This section concludes with a chapter by Brian Massumi, who poetically recounts an
Mobile Media Art

experiment in urban guerrilla interventions that evolved around Rafael Lozano-Hemmer’s large-scale projections on building façades, as part of his early millennial master workshop HUge and MOBILE (HUMO).

Section four takes us into the art of Selfies. As a key subfield of mobile media, selfies have highlighted the ambiguous role of social technology—both exploiting and empowering, both about individual self-expression and socio-cultural politics. This section begins with Lanson interviewing new media performance artist and writer Kate Durbin who takes a snapshot of Hello Selfie (2012–2015) and develops her intention to create a vehicle for critiquing the many gendered aspects of online behaviour and performance rhetorics in relation to social media. Chelsea Butkowski and Lee Humphreys continue the exploration around gender and representation by connecting self-portrait paintings and photographic self(ie) portraits as forms of qualified self. They emphasize the centuries-long process of self-editing and deliberate on the selfie development of “massified” app-based creative filtering in gendered ways, further problematizing visual representations of networked culture. The politics of representation, especially in light of facial recognition and its inherent bias, is powerfully situated in Theresa M. Senft’s Chapter 16, which is a deep dive into Erving Goffman’s “face-work,” creative face mapping, meta-data up for grabs via Google Art, and the poignant case of how this type of face-work affects individuals who live with the condition of Autism. This section concludes with Grant Bollmer’s fascinating investigation of selfies and drones, where the binaries of “figure-ground” and “transparency-obfuscation” are used to discuss how the visual culture of selfies emphasizes social forms of communication, and the material roles of digital culture.

In the next section we turn to Play and Games. Here, the role of mobile media art to push the social, cultural, and political dimensions of play is crucial. The chapters in this section reflect upon play as a multitude of possibilities from a mode of critical enquiry, a set of practices, performative cartography, and creative intervention. We begin with Lanson interviewing Kelli McClusky and Steve Bull from pvi collective, in which they discuss how playful agitation and participatory art can act as a tool for social change, which creatively challenges how power continues to impact society.

We then move to Sybille Lammes and Clancy Wilmott’s considerations of the ongoing entanglement of art and mapping, with a particular focus on mobility. They argue that with the emergence of digital mapping technologies, such as GPS, satellite imaging, wearable interfaces, and Google Earth, there has been a cultural development of artistic mapping practices, embedded in situated locative art performances, and engaged by digital cartographic systems. In Chapter 20, Hugh Davies and Will Balmford tap into playful mobile media art in Australia, including artist workshops run by the Australian Network for Art and Technology (ANAT) and UK collective the-phone-book Limited. Set up in 2000, Ben Jones, Fee Plumley, and Ben Stebbing set about empowering artists, writers, and poets from around the world to come together and create work via their mobile phones. Following this, Ingrid Richardson considers the notion of “ambient play” as a way to critically interpret the complex, creative, and diverse practices emerging from our use of mobile phones as portable game devices. The section ends with Matthew Riley, Troy Innocent, and Rowan Wilken, who invite us into the context of bushland (rather than the default urban setting) to extend the role of location-based augmented reality (AR) mobile gameplay.

Section six explores ideas around Co-Design and Space related to mobile media art. It begins with Lanson interviewing Duncan Speakman who articulately speaks to the poetics of combining narrative-driven sound works specifically composed for uncontrolled public and private spaces. Then, Jacina Leong, Larissa Hjorth and Jaz Hee-jeong Choi expand on debates around self-tracking practices by focussing on how creative interventions are addressing these concerns and changing the conversations. They focus on the work of pioneer locative media artist Hajime Ishikawa who began self-tracking nearly 20 years ago with the introduction of GPS devices.
In Chapter 25, Hemment, Joanna Bletcher, and Saskia Coulson discuss the role of mobile media art as a vehicle for Open Prototyping (OP) and innovation in smart cities. Then, Gretchen Coombs explores how Studio REV co-designs mobile media art projects with their communities, and how mobile apps are created and valued by the carers that use them. In doing so, she proposes an understanding of mobile media in terms of transport vehicles and explores how this changes the way we understand mobile media art. Further complicating the idea of more-than-human, this section concludes with Futomishi Kato’s exploration of mobile media methods as a way for co-designing inventive social practice. For nearly two decades, Kato and his students have visited towns in rural Japan to co-design with older adults as a process of revitalization. Equipped only with the mobile phone for designing and editing purposes, the projects have evolved in sync with the technology.

In Section seven we turn to Sensing New Visualities to consider how mobile media art is changing how we feel about photography with the rise of quotidian visuality apps such as Instagram. Lanson interviews futurist Drew Hemment—one of the key figures to shape digital media and culture—who understands mobile media art as a critical response to phenomenon such as networked, locative media, and the rise of smart cities, and he heralds the crucial role of co-design and collaboration in relation to the innovation lab, FutureEverything. Daniel Palmer then walks us through the museum to reflect how networked media like Instagram are being deployed by artists for political intervention.

In Chapter 30, Edgar Gómez Cruz takes us to the street to consider the role of mobile media in street photography. For example, how does Instagram—and the “instagrammable” moment—change how we experience and see urban spaces? Helen Grace then transports us to the streets of Hong Kong and through the trope of the shanzhai (copy) she asks us to ruminate on the “affective assembly” of this “technovisuality.” This section is concluded by an interview with video and performance artist Emile Zile, who waxes lyrical on the re-coding and re-performance of key works from art history through his dark and humorous breed of platform poetics.

Section eight, Performing the Mobile, takes us to the space of performance and the performative role of the mobile. Lanson interviews Charlie Todd, director of renowned New York-based urban comedy collective Improv Everywhere, who muses on the chaotic joy of unexpected public performance “missions” that amplify the importance of inclusivity. This is followed by discussions on film—Marsha Berry considers “Mobile Films as Mobile Art,” asserting a more than representational experience, while Max Schleser brings us up to speed in relation to the Mobile Cinematic VR (MCVR). Then, in Chapter 36, Camille Baker discusses the paradoxical role of artists in designing around “wearing data” as both a source for inspiration and exploitation. Finally, Martin Rieser extends this line of proprioception by considering how the “networked experience” of mobile media art offers a space for “continual re-orientation.”

In Section nine, we move towards the role of mobile media art in Urban Interventions. We begin with Leong interviewing artist Lauren McCarthy, who talks about her play with automated sensing technologies such as Amazon’s virtual home assistant Alexa. This is followed by sound artist Brian House who critically reflects on his piece Quotidian Record (2013). In this work, House interprets a year’s worth of his own geolocation data, gathered via the mobile phone, as a musical composition presented on a vinyl record.

In Chapter 40, artists Esther Polak and Ivar van Bekkum—who collaborate under the name PolakVanBekkum—develop a new lexicon to think through how film and mobile media art can transform the city into a performative object, a project they developed during 2016–2018 that focuses on the performativity of movement in relation to self. In Chapter 41, Luisa Paraguai and Gilbertto Prado consider the role of borders and mobility (and immobility) in understandings of place. They explore these ideas via their mobile media artwork Encontros (Meetings) (2015), inspired by the confluence of waters from the Negro and Solimões rivers that form the Amazon.
River. To conclude this section, Victoria Szabo explores the affordances of AR technologies for urban experience design, drawing upon historic and current practices for urban exploration apps, as well as emerging possibilities for Digital Cultural Heritage.

We conclude the Companion with Section ten, Critical Making and Future Directions. In this section, authors explore how mobile media art can be both creative and critical, offering space for speculative and applied dimensions. We begin with Hjorth interviewing Kat Jungnickel who discusses how social research and creative practice synergies are being redefined as part of doing critical research, which has recently seen the role of creative practice (or “research creation”) as central in doing impactful research within community and industry. Following this interview, Julia M. Hildebrand and Sheller contemplate the impact camera drones are having on the already contested field of mobile media art through the exploration of “Mobile LIDAR Mediality” as an “Artistic Anti-Environment.” They use the film Where the City Can’t See (2016) as a pertinent example of perhaps the first speculative fiction film shot entirely with Light Detection and Ranging (LIDAR) laser scanning technology, to bring their thinking around mediality home.

Nanna Verhoeff and Paulien Dresscher then explore how augmented reality (AR) projects publicly hack with the intent of “Artivism,” and then encourage us to run full pelt into the space of extended reality (XR) or as they conceptualize, crossing reality, as a way to reimagine artistic media spaces. Then, Leah Heiss, Matiu Bush, and Marius Foley explore the role of mobile media art, through co-designed tactile tools, to offer ways to create and curate difficult conversations—especially around ideas of dying and grief. This section ends with the role of mobile media art to provide a space for critical intervention in and around datafication. As Hjorth and Sam Hinton investigate through the idea of “playful resistance” in “data futures,” artists are using mobile media art to comment on quotidian technology phenomenon in ways that asks publics to reflect upon the ethical and social implications of being in the world.

This Companion does not seek to include every aspect constituting mobile media art. Rather, it seeks to provide a diversity of perspectives, disciplinary frames, practices, and theories from a variety of contributors spanning all continents across the world. We have sought to curate some of the key themes, approaches, practices, and philosophies informing this interdisciplinary area. And as mobile media goes forth in its ubiquity and pervasiveness, it provides new platforms and contexts for art to be expanded and extended across conceptual terrains, disciplines, modes of enquiry, and creative and critical practices.

Notes
1 Claire Bishop, Participation (Cambridge, MA: MIT Press, 2006); Nicholas Bourriaud, Relational Aesthetics (Dijon: Les Presses du reel, 2009 [1998]).
8 Larissa Hjorth, “Mobile Art: Rethinking Intersections between Art, User Created Content (UCC), and the Quotidian,” Mobile Media & Communication 4, no. 2 (2015): 169–85, doi: 10.1177/205157915619210; Adriana de Souza e Silva, Fernanda Duarte, and Cristiane S. Damasceno, “Creative Appropriations in


18 See Chapter 47 in this companion for a critique of Tsvetkov’s project.


21 Giselle Beiguelman’s #QR_Comms, 2015, is featured on the front cover of this companion. Photography: Maya Messina.


1 See Golan’s website, http://flong.com/

2 See http://studioforcreativeinquiry.org/

3 See http://flong.com/projects/telesymphony/


5 Lauren McCarthy’s interview introduces Section 9 of this book.

6 T1 is the North American term that refers to the digital carrier that transmits a digital signal. E1 is the European term, which was used for Dialtones. Each E1 line has 32 channels at the speed of 64 Kbps, with two channels reserved for (1) signalling and (2) controlling. The rest are used to carry simultaneous voice calls; therefore, allowing for 30 voice calls or data to be transferred simultaneously.

7 See http://flong.com/projects/scribble/

8 See www.theguardian.com/music/tomserviceblog/2013/apr/23/contemporary-music-guide-xenakis.


10 Ibid.

11 See www.haque.co.uk/skyear.php and archive site http://www.haque.co.uk/skyear/ for full project description.


16 See www.flong.com/projects/miw/

17 See for example, Sander Veenhof and Mark Skwarek, MoMa NYC augmented reality exhibition, 9 October 2010, http://sndrv.nl/moma/


4 Ibid., 164.


6 See introduction, “The Coming of Jap Herron,” in the extraordinary Jap Herron: A Novel Written from the Ouija Board (New York: Mitchell Kennerley, 1917), 7–8, 11. The work is claimed to be a post-mortem work by Mark Twain. Another book purportedly “received” with a Ouija board is Katherine Mardon Davis, Light from Beyond as Taken Over the Ouija Board (New York: W. J. Watt & Company, 1919).


8 John Urry, Mobilities (Polity Press, 2007).

9 For telegraphy as a private means of communication, see Carolyn Marvin, When Old Technologies were New: Thinking About Electric Communication in the Late Nineteenth Century (New York & Oxford: Oxford University Press, 1988), 94–95.

10 Various visual formats that preceded the picture postcard have been discussed by Frank Staff, The Postcard and Its Origins (London: Lutterworth Press, 1979 [1966]); Martin Willoughby, A History of Postcards (London: Bracken Books, 1994); George and Dorothy Miller, Picture Postcards in the United States 1893–1918 (New York: Clarkson N. Potter, Inc., 1976). The Chicago World’s Fair (1893) and the Paris Universal Exposition of 1900 were important in popularizing the postcard as a medium. The remarkable interactive installation The Postcard Trail (1996) by George Legrady was a kind of archaeology of postcard culture.


12 Ibid., 72–73.

13 Ibid., 200.

14 Televisual media was not ubiquitous in Robida’s vision. An imbalance prevailed between Paris and the provinces. Although l’Époque had mostly abandoned paper editions, special typographic and photographic paper editions were published for provincial readers. Ibid., 201–02.

15 Ibid., 201.


18 Ibid., 548.


20 Tesla is reported to have told his admirer Katharine Johnson:

The time will come when crossing the ocean by steamer you will have a daily paper on board with the important news of the world [...] and by means of a pocket instrument and a wire in the ground, you can communicate from any distance with friends at home through an instrument similarly attuned.

“The Newspaper of the Future,” The International Wood-Worker 14, no. 6 (Chicago, June 1904), 244. The publication referred to Scientific American as the source.

Nicola Tesla, “The Problem of Increasing Human Energy, With Special Reference to the Harnessing of the Sun’s Energy,” The Century Magazine LX, no. 2 (June 1900), 207 (article 184–211). The expression “World System” is not yet mentioned. In their Tesla: Master of Lightning (New York: Fairfax Publishers/Metrobooks, 1999) Margaret Cheney and Robert Uth erroneously claim that Tesla included television and telephone in the Century text (99). They must have quoted a later source. Tesla wrote about “Television” as a possibility to “see as well as hear by means of electricity” in his contribution to “Famous Scientists Forecast Future of Wireless” in the 50th Anniversary Issue of Popular Science Monthly 100, no. 5 (May 1922), 28. He did single out portable devices, although he wrote that “[l]t will be possible to see as well as to hear either by wireless telephone or over the regular wire circuits” (ibid.)


Ibid.


See Harry Grant Dart’s cartoon, “We’ll All Be Happy Then” in the cover of Media Archaeology, edited by Huhtamo and Parikka. Originally published in Life LVIII, no. 1591 (7 December 1911), 1007. Another example of the discontents of new technology is the “wrong number” topos that appeared in connection with the Telectroscope in Robida’s Vingtième siècle (75) and later in another cartoon by Dart. “A Possible Drawback of Television,” Judge, 1929 (issue not known). The gender roles have been reversed: in the former, a group of men peep at a woman dressing up, while in the latter a modern woman surprises a man taking a shower after having been given a wrong connection by the operator.

For a detailed discussion, see Grant Wythoff, “Pocket Wireless and the Shape of Media to Come,” Grey Room no. 51 (Spring 2013), 40–63.

“Pocket Telephone,” Electrical World and Engineer XXXVI, no. 15 (13 October 1900), 579.


“The Pocket Telephone in Germany,” Telephony 62, no. 9 (2 March 1912), 280. Some sources that relayed this information said that similar systems operated in other German cities too.

Although “one misses the privacy of the telephone booth … the pocket telephone is so delicately constructed that one need speak in only a very low tone of voice” (ibid.). The receiver and transmitter fit into a circular nickel case two and half inches in diameter and three-quarters of an inch thick.


C. 1902. The author’s example bears the patent numbers 24792 (Swiss), D. R. G. M. 192177 (German) and S.G.D.G. (French, no number given). According to Christie’s, the Swiss patent refers to “Exposé d’invention, brevet No. 24792, [Arnold] Schweizer-Schatzmann, Chaux-de-Fonds, 22 juillet 1902.” [Earlier patent, 24340, Dec. 23, 1901]. Another portable device in the shape of the pocket watch, “The Panorama Watch,” was sold in France by M. L. Bienfait, 7 Place de la Nation, Paris. It contained a rotating disc with 12 minute photographic images (Stephen Herbert, “Nouvelles Scientifiques,” The New Magic Lantern Journal 6, no. 1 (January 1989), 7. The information is from the supplement to La Nature between 1891 and 1907 (exact issue unknown). An example marked “Montre 1900 Diorama, K.B.B. SGDG” was sold on eBay France in February 2005. The glass disc had ten tiny photographs of nude or scantily dressed ladies, some on bicycles.

The pocket Fonoscope recorded a short moving image sequence on a rotating sensitized disc and could also be used for viewing developed (positive) discs. The only known example is in the collection of the Musée du Cinéma of the French Cinématheque. Mikiphone was patented by Vadász brothers, Génève, in Nov. 1924 and manufactured in 1926–1927 by Paillard in Ste-Croix, Switzerland, www.portablegramophone.com/mikiphone_gramo.ws. Last accessed 25 August 2015.

Ibid., 45.

Ibid.

Ibid.

Hugo Gernsback imagined in 1938 a portable radio in the shape of the pocket watch, which would have instead of batteries a “watchspring-driven electric generator.” “Radio in the Future,” Radio-Craft IX, no. 9 (March 1938), 613. In the same article, he suggested that portable radios would be used as pagers that would allow “physicians, contractors, business men, and others” reach the user (613).
43 I am working on a study on the rise and fall of Google Glass.
46 Ibid., 18. For examples of such parody videos, search “Google Glass” on YouTube.
47 Ibid., 39.
48 Ibid., 29–30. The topos of the magic mirror also appears, 137, 144.
52 In *Short Wave Craft*, October 1936.
54 Ibid., 613.
55 Ibid.
56 Ibid.
59 Ibid., 69.
61 Henry J. De N. McCollum, “Stereoscopic-Television Apparatus for Individual Use,” US Patent 2,388,170, filed April 15, 1943, granted October 30, 1945. McCollum had several other patents. He was from Chicago, and the executrix was his widow Thelma McCollum.
62 Ibid., 1.
63 Ibid.
64 In our time, devices like the Supine Reading Glasses or the Lazyglasses (sold by ThinkGeek) re-embodi the same idea. According to *Daily Mail*, “‘Lazyglasses’ allow apathetic telly addicts and lethargic book worms to kick back and watch their favorite shows lying down.” “A Couch Potato’s Dream,” *Daily Mail*, 16 August 2013.
65 Morton Heilig, “Stereoscopic-Television Apparatus for Individual Use,” US Patent 2,955,156, filed May 24, 1957, granted 4 October 1960. The prototype and much related documentation was salvaged in November 2018 by Scott Fisher and the author, together with surviving Sensorama Simulators and other Heilig items, and placed in the collection of the University of Southern California, Los Angeles.
68 Ibid., 134.
69 Ibid., 100.
1 Wireless Application Protocol (WAP) is a technical standard for accessing information over a mobile wireless network. Introduced in 1999, it had been superseded since 2010.
4 The Southern Cone is a macro region of Latin America and includes Argentina, Brazil, Chile, Paraguay, and Uruguay. The concept of Global South, despite being known since the late 1960s, was popularized after the first decade of 2000. In 2004, the term “Global South” appeared in just 19 publications in the humanities and social sciences, but by 2013, the number had grown to 248. See Heike Pagel, Karen Ranke, Fabian Hempel, and Jonas Köhler, “The Use of the Concept ‘Global South’ in Social Science & Humanities,” in Symposium Globaler Süden / Global South: Kritische Perspektive, Institut für Asien & Afrikawissenschaften, Humboldt-Universität zu Berlin, 11 July 2014, www.academia.edu/7917466/The_Use_of_the_Concept_Global_South_in_Social_Science_and_Humanities; Andrea Wolvers, Oliver Tappe, Salverda Tijó, and Schwarz Tobias, “Concepts of the Global South—Voices from Around the World.” Global South Studies Center, University of Cologne, Germany, 2015, https://kups.ub.uni-koeln.de/6399/1/voices012015_concepts_of_the_global_south.pdf.


12 For a detailed description and comments about the projects, see Giselle Beiguelman, “Public Art in Nomadic Contexts,” in Urban Screens Reader, edited by Scott McQuire, Meredith Martin and Sabine Niederer (Amsterdam: Institute of Network Cultures, 2009), 179–89.

13 In Berlin, Poetrica was presented indoors at the digital poetry exhibition P0es1s, at Kulturforum, and in open space. In the museum space, Poetrica consisted of a set of large dimensions prints, a video projection, and a website. In public space, Poetrica was displayed on the Kurfürstendamm (Kudamm avenue) electronic billboard and in the movies, in trailer format, announcing the P0es1s exhibition through the series “ad_oetries’ (ads + poetry) conceived specially for this venue by invitation of Friedrich Block, P0es1s curator. See Giselle Beiguelman, Poetrica, 2003, http://desvirtual.com/poetrica/.


21 See, for example, the Light Creature project by Brazilian architect Guto Requena that changes color as noise increases on a major avenue in São Paulo, allowing to interpret through a mobile application those colors as information about environmental pollution. The higher the number of cars, the greater the intensity of the sound, which corresponds to higher air pollution: Guto Requena, Light Creature, 2015, https://gutorequena.com/light-creature.
26 Ibid.
35 French philosopher Michel Foucault used the panopticon to explain, in Discipline and Punishment(1975), how the disciplinary model developed to control society in the nineteenth century. In this control system there is an asymmetrical system of surveillance where the subject is seen, but never sees who watch him/her. In the neo-panoptical system described by Timothy Druckery, there is a compulsory desire to watch and being watched. Timothy Druckrey, “Instability and Dispersion,” in Overexposed: Essays on Contemporary Photography, edited by Carol Squiers (New York: The New York Press, 2000), 94, 93–104.
42 Unlooping Film (2014) presented at The Web at 25, an exhibition organized by the Webbys Awards, was sponsored by Sesc-SP and exhibited as an installation in the Multitude show, curated by Lucas Bambozzi. See Giselle Beiguelman, Unlooping Film, 2014, http://desvirtual.com/multitude/.
43 The 10Comms are: I am the Net who linked thee out of the purgatory of thy Interface; Thou shalt have no other Net before me; Thou shalt take every name in vain; Honour thy codes and thy sources, that thou mayst be longlived upon the no-man’s-land which thy Web will give thee; Thou shalt kill all spam; Thou shalt adulterate everything; Thou shalt not be inspired; Remember that thou keep thy passwords that thou mayst be logged in thy network; Thou shalt not bear false consciousness in all media environments; Thou shalt covet thy neighbors’ source code. See Giselle Beiguelman, #QR-Comms, Vimeo, 2015, https://vimeo.com/136340534.
44 The impeachment of President Dilma Roussef was a controversial process that resulted in a coup d’état widely publicized in the international press. See, for example: Amanda Taub, “All Impeachments Are Political. But Was Brazil’s Something More Sinister?” The New York Times, 31 August 2016, https://nyti.ms/2loe5b0.

2 Narrowcasting, as opposed to broadcasting, is the transmission of information to a niche or smaller audience, rather than the broader public at large, usually facilitated by small transmission units.


11 Ibid., 47.


14 See Golan Levin’s interview in this Companion, introducing this section.


28 Please see Blast Theory interview in section two of this Companion for further project discussion.


30 Ibid.


33 Gaye et al., Sonic City, 1.
35 Ibid.

1 For further detail on Blast Theory and their activities, see: www.blasttheory.co.uk/
9 Bull, Sound Moves, 28.
13 Simmel, The Sociology, 418.
14 See: www.blasttheory.co.uk/projects/uncle-roy-all-around-you/.
15 See: www.blasttheory.co.uk/projects/rider-spoke/.
16 See: www.blasttheory.co.uk/projects/i-like-frank/.
17 See: www.blasttheory.co.uk/projects/can-you-see-me-now/.
18 See: www.blasttheory.co.uk/projects/a-machine-to-see-with/.
19 See: www.blasttheory.co.uk/projects/ulrike-and-eamon-compliant/.
22 The trolley problem is generally framed in the following terms. There is a runaway trolley speeding along railway tracks. In the path of this runaway trolley, five people are tied to the tracks. You are standing some distance away, next to a lever. If you pull the lever, the trolley will switch tracks, where it will now be in the path of one person. You are faced with a choice: do nothing, and the trolley kills five people; or, pull the lever, diverting the trolley away from the five, where it will kill one person. This is the ethical dilemma: Which is the correct choice? See: Philippa Foot, “The Problem of Abortion and the Doctrine of the Double Effect,” Oxford Review 5 (1967), 5–15.
1 Christopher Small, Musicking: The Meanings of Performing and Listening (Hanover: Wesleyan University Press, 1998).
8 Lasén, “Disruptive ambient music.”
15 Ayuntamiento de Madrid, Zonas de Protección Acústica Especial, 2019, www.madrid.es/portales/munimadrid/es/Inicio/El-Ayuntamiento/Publicaciones/Listado-de-Publicaciones/Zonas-de-proteccion-acustica-y-ambiental-de-Madrid/?vgnextfmt=default&vgnextoid=5b3498f267cc410VgnVCM1000000b205a0aRCRD&vgnextchannel=18ea5b6997010VgnVCM100000d0ca8c0RCRD.
22 Ars Herejé, 1ª Procesión Amplificada, 20 September 2007, www.youtube.com/watch?v=3ACFyL-m3Vk.
30 Foro por la memoria de la Comunidad de Madrid “Vecinos de Villaverde Alto (Madrid capital) denuncian que el ‘Cara el Sol’ suena por megafonía en una pista deportiva municipal,” Foros por la memoria, 28 August 2013, www.foroporlanmemoria.info/2013/08/vecinos-de-villaverde-alto-madrid-capital-denuncian-que-el-cara-el-sol-suena-por-megafonia-en-una-pista-deportiva-municipal/. See also the comments to the same post shared in this other website, where some of the participants ask for content moderation in order to prevent this kind of songs to be played: www.meneame.net/story/vecinos-villaverde-alto-denuncian-cara-sol-suena-megafonia-pista.
32 Some of the tactics used during these social protests, such as the “Human Microphone,” where people listening to a speaker loudly repeat each sentence, or the caceroladas in which gatherings of protesters hitting cooking pots are based on the same idea: decentralize the sound emission in order to avoid law restrictions and to strengthen the protester’s active role.


34 Francesco Careri, Walkscapes, el andar como práctica estética (Barcelona: Editorial Gustavo Gili, 2002).


40 Pablo Durango, from the film La Romería de los Voltios, 2017.

41 Eva Zaragoza, from the film La Romería de los Voltios, 2017.

42 Jaque, “15M and YES WE CAMP.”

43 Jesús Bravo, from the film La Romería de los Voltios, 2017.


2 Cosmography is the knowledge and study of the universe especially important for this chapter is its simultaneous embrace of terrestrial and celestial subjects … the theatre of Nature, the local scale of individual experience, and the universal scale of the divine plan … descriptions … often demand simultaneous attention to different scales,” Jeremy Kargon, “One City’s Urban Cosmography,” Planning Perspectives 29, no. 1 (2014): 103–20, doi: 10.1080/02665433.2013.860880.


4 James D. Walsh, “Ten Years On, Foursquare Is Now Checking in to You: Even the Company is Still Trying to Figure Out Whether that’s ‘Cool or Creepy’,” Intelligencer, 27 August 2019, http://nymag.com/intelligencer/amp/2019/08/ten-years-on-foursquare-is-now-checking-in-to-you.html.


8 For further elaboration on communication technologies relationship to necessity as mother of invention Doug Kahn describes “The British forces called the helter-skelter results of such makeshift means cosmic airlines”. Earth Sound Earth Signal: Energies and Earth Magnitude in the Arts (Berkeley: University of California Press, 2013), 78.

9 Containing atmospheric substances, Aether ἀθέρ (aithēr) means “pure, fresh air” or “clear sky” akin to the air we breathe, a mixture mainly of oxygen and nitrogen; for the Homeric Greeks it “was thought to be the pure essence that the gods breathed, filling the space where they lived, analogous to the air breathed by mortals,” in “Aether,” www.greekmythology.com/Other_Gods/Aether/aether.html.


11 The literature on rays, light metaphysics, and light speculation is important but immense and beyond summary for this chapter, for a general treatment, see N. H. Clulee, John Dee’s Natural Philosophy, Between Science and Religion (London, New York: Routledge, 1988).
17 In this context, the word internet refers specifically to its role as a communication technology. For further reference see Lorenzo Cantoni, and Stephano Tardini, Internet (London; New York: Routledge, 2006).
24 It is important to note that it is mentioned that “no such gesture of thanks has come from the Australian authorities to those numerous souls” who partake in the role of “computer.” See Tony Wright, “The Modest Spy and Monterey, Australia’s Bletchley Park,” 6 July 2017, www.smh.com.au/opinion/tony-wright-column-the-modest-spy-and-monterey-australias-bletchley-park-20170706-gx5mxu.html.
30 The function of such peer production is still not well understood beyond mainstream art world discussions around participation and relational aesthetics that are completely disarticulated from net.art and other twenty-first-century mediums. For a comprehensive discussion of Net Art, see Josephine Bosma, Nettitudes: Let’s Talk Net Art (Rotterdam: Institute of Network Cultures, NAI, 2011).


This was initially in a clandestine publication, for further elaboration see Michel de Montaigne, The Essays: A Selection, translated by M.A. Screech (London: Penguin Books, 2004).


Cited in Foley, Oral Tradition and the Internet, 163.


Foley, Oral Tradition and the Internet, 157.

Ibid., 158.

Musiol, “Metaphors of Decryption,” 166.


Ibid.


10 Kanai, “Between the Perfect.”
12 Zeffiro, “A Location of One’s Own.”
13 Ibid., 252.
14 Russell, “Headmap Manifesto.”
15 Leorke, “Know Your Place.”
16 Ibid., 6.
28 Green, “A Plague on the Panopticon.”


46 Ibid.


49 Ibid.

50 Jethani and Leorke, “Ideology, Obsolescence.”


52 Fernback, “Sousveillance.”


54 Brown et al., “#sayhername.”


2 As the years unfolded, I could increasingly create reliable responsive sound works in dense urban areas, but other factors also determined the form and location of the work. For example, even in 2009 it was still too soon to assume that visitors would commonly have a smartphone with location services in their pocket, which meant that there needed to be some central point where they could go to borrow equipment. While this didn’t dictate that I work in urban or non-urban areas, it did shape the context of interaction and accessibility of the work, making it a more rarefied experience than what has now become reduced to the banal launching of an “app.” The particular set of contemporary design conventions and expectations of what an “app” is as a typically commercial entertainment experience has radically re-shaped the mode of distribution, reception and interpretation of my work, which is now largely delivered as free “apps” that can be downloaded from two primary commercial platforms. This, along with the proliferation of associated headphone and earbud listening practices and cultures, has become reified to the point that I am currently focused on making “mobile media art” that defies these conventions and expectations, directing our attention to collective listening experiences and invitations to slow down, observe and reflect upon the movements held within stillness.


11 Ibid.
13 Ibid.
14 Personal communication with Adriana de Souza e Silva in the Electronic Café in Santa Monica, California, 15 November 2003.
20 Ibid., 226.
21 Shuhei Hosokawa, Der Walkman-Effekt (Berlin: Merve Verlag, 1987).
23 For additional discussion on the Walkman Effect and mobile media art, see Drew Hemment’s interview in this collection.
24 Hosokawa, Der Walkman-Effekt, translation to English by the authors. Original: Die praktische Bedeutung des Walkman besteht in der Distanz, die er zwischen der Wirklichkeit und dem Realen, der Stadt und dem Urbanen und insbesondere zwischen den Anderen und dem Ich entstehen lässt. Er zerstört den Kontext des bestehenden Textgefüges der Stadt und stellt gleichzeitig jedwede zusammenhanglose Situation in einen Kontext.
28 “Can You See Me Now?” Blast Theory, www.blasttheory.co.uk/projects/can-you-see-me-now/.
29 Can You See Me Now? was nominated for an Interactive Arts BAFTA in 2002 and has won the 2003 Prix Ars Electronica Golden Nica for Interactive Arts.
1 A reference to speculative fiction writer Philip K. Dick’s 1968 novel, which became the basis for the film Blade Runner.
4 Democratic candidate Barack Obama would defeat Republican candidate John McCain to become the President-Elect in November 2008.

As media archeologist Jussi Parikka explains, this does not mean that geologic time has no connection to technology. Through a “geology of media,” he argues that the seeming immateriality of digital media relies extensively on the geologic materiality of metallic ores like Coltan which resulted from deep time processes. Furthermore, the breakdown of electronic devices that contain elements extracted from Coltan (e.g., tantalum), plastics and the “after products”—many environmentally hazardous—resulting from extraction and production will only progress at a geologic scale of time.


Through this work, the Harrisons created a provocative image for environmental degradation by making the disappearing citrus trees in the California landscape reappear in an indoor gallery setting. However, if looked at critically, this project considers ecological questions in a narrow historical scope—not addressing how orange trees were imposed onto an ecosystem prone to water shortage or the politics of industrial agriculture.


Boetzkes, “Techniques of Survival.”


This act of automated gardening work also raises provocative labor issues. After all, we see a shift in the use of robots in factories and fields: while robots once have assisted humans in their work, humans today (at least the few that kept their jobs) are more likely to support the robots in their work (see: Sheetal Kolhatkar, “Dark Factory: The Robotics Revolution Is Changing What Machines Can Do. Where Do Humans Fit In?” *The New Yorker*, 23 October 2017, 70–81.). In addition, we were also intrigued by the metaphorical complexity of the word “weed” that can range in its scope from undesired plants to undesired humans. These issues may be explored in a separate discussion, in the scope of this essay they unfortunately needed to be relayed to a footnote.


In a related context, New Aesthetic is grappling with increasing manifestations of the visual language of digital and virtual worlds in the physical world. In works such as *Activations and Autonomous Trap* (both 2017) artist and writer James Bridle shows the unique visual perception of self-driving cars and manifestations of their flaws in the physical world. In the context of architecture and urban architecture, see, for example: Guillermo Fernández-Abascal and Urtzi Grau, “Becoming Digital—Learning to Live Together,” in *e-flux architecture*, www.e-flux.com/architecture/becoming-digital/248074/learning-to-live-together/.


12 Gordon and de Souza e Silva, “Mobile Annotations.”
20 Ibid.
21 Ibid.
29 Ibid.
30 Tuters and Varnelis, “Beyond Locative Media.”
32 Reub, “Restless.”


Thompson, “Beyond Beyond.”


Ibid., 67.

See acknowledgment above for full list of artists involved.

The HUMO workshop utilized the BP12 projector from PANI Austria. This projector has a 12,000-Watt HMI lamp that can produce images with over 100,000 ANSI lumen intensity.


Virilio, “The Overexposed City.”


See www.katedurbin.la.

See http://archive.rhizome.org/anthology/scandalishous/.


Ibid.


Humphreys, The Qualified Self, 18.


Humphreys, The Qualified Self, 52.


Humphreys, The Qualified Self, 53.


Humphreys, The Qualified Self, 26–28.


Gita May, Élisabeth Vigée Le Brun: The Odyssey of an Artist in an Age of Revolution (New Haven, CT: Yale University Press, 2005), 175.

Ibid.


Ibid., 120.


Kardashian West, *Selfish*, 293.


Ibid.


Ibid.


Edkins, *Face Politics*, 3.

Edkins. *Face Politics*, 55.

*The Selfie City* web site can be found at http://selfiecity.net. The methodology used is discussed at http://selfiecity.net/#findings.

4. Ibid., 840.
5. Edkins, Face Politics, 2.
6. Ibid., 16.
7. The Google Arts & Culture web site can be found at https://artsandculture.google.com/. The app can be downloaded for the iPhone at https://apps.apple.com/au/app/google-arts-culture/id1050970557.
12. Ibid.
16. Edkins, Face Politics, i.
18. Ibid.
19. Ibid.
20. Ibid.
21. Ibid.
25. Ibid.
27. Ibid.
28. Ibid.
29. Ibid.
30. Ibid.
31. Ibid.
32. Edkins, Face Politics, x.
33. Ibid.
34. Ibid.
35. Ibid.
36. Ibid.
38. Ibid.
41. Ibid.
42. Manning, Always More Than One: Individuation’s Dance, 151.
43. Ibid.
Ibid.
Edkins, Face Politics, 4.
Ibid.
Ibid.
Ibid.
Ibid.
Ibid.
Ran and Trope, “Facing Faces,” 850.
Manning, Always More than One, 156.
Edkins, Face Politics, 3.
Ibid.
Cf. Chamayou, A Theory, 34.
Azoulay, Civil Imagination, 3.
Ibid., 5.
Arendt, Human Condition, 22–78.
Azoulay, Civil Imagination, 3.
Ibid., 24.
Bollmer, Materialist Media Theory, 51–78.
Azoulay, 60.
Azoulay, 35.
Rancière distinguishes between the “politics of aesthetics,” which, properly speaking, refers to what is or is not judged as “art,” and what I’ve suggested here—which is that the political inherently involves an aesthetic dimension. “Politics” refers less to an ontological domain (like “the political”) than to a process of setting, regulating, and debating the boundaries of particular domains or spaces. See Grant Bollmer, Theorizing Digital Cultures (London: Sage, 2018), 155–73.

Admittedly, I think Azoulay is making a very similar point in her discussion of judgment, though her comments are more about what Rancière would think of as the politics of aesthetics rather than the aesthetics of politics.


Bollmer and Guinness, 166.

Ibid., 170. Similar arguments to ours have been advanced by Ana Peraica, in her Culture of the Selfie: Self-Representation in Contemporary Visual Culture (Amsterdam: Institute of Network Cultures, 2017).

The arguments here are strongly influenced by Sara Ahmed’s Queer Phenomenology: Orientations, Objects, Others (Durham, NC: Duke University Press, 2006).


Garrett and McCosker, 16.

Chamayou, 34.

For extensive information on Harvey’s project, and images of the CV Dazzle project, see https://cvdazzle.com/. On the relation of these artists to the history of masking, see S. Yiğit Soncul, “Facial Politics of Images and Media: Mask, Body, Immunity” (Doctoral Thesis, University of Southampton, 2019).


See deviator project description at https://pvicollective.com/project/deviator/.


See http://steve.berrick.net.

See https://mccormick.cx/.


See Chapter 45 within this Companion for a curatorial discussion on artivism.

14 Anna Davis, “Mobilizing Phone Art,” 28.
16 Anna Davis, “Mobilizing Phone Art,” 28.
17 Ibid.
21 Mizuko Ito, “Mobiles and the Appropriation of Place.”
27 Hugh Davies, interview with former phone-book Limited participant.
28 Ben Jones in Anna Davis, “Mobilizing Phone Art,” 28.
32 Anna Davis, “Mobilizing Phone Art.”
35 Ibid.
37 Ibid.
44 PVI Collective, “PVI Collective,” https://pvicollective.com; see also the artist interview introducing this Section.
2 All ethnographic participant names used in this chapter are not their own.
6 Chess, “A time for play.”
9 Alharthi et al., “A Taxonomy.”
10 Fizek, “Interpassivity,” 137.
12 Hjorth and Richardson, “Playing the Waiting Game.”
17 Hjorth and Richardson, *Ambient Play*.
24 Ibid., 99.
26 Ibid., 71.
28 Ibid., 18.
30 Hjorth and Richardson, “Playing the Waiting Game.”
33 Bogost, “Cow Clicker.”
36 Ibid.
39 Mejia and Bulut, “The cruel optimism,” 162.
41 Fizek, “Interpassivity.”
42 Ibid., 151.
46 Sicart, Play Matters.
47 Wajcman, Pressed for Time.
48 Farman, Delayed Response.
50 Ibid., n.p.
51 Chess, “A Time for Play.”
53 Sicart, Play Matters.

5 Bruce Pascoe, Dark Emu (Broome, WA: Magabala Books, 2014).
6 Pervasive games have been defined as games that “extend the gameplay out into the real world—be it on city streets, in the remote wilderness, or in the living room.” Steve Benford, Carsten Magerkurth, and Peter Ljungstrand, “Bringing the Physical and Digital in Pervasive Gaming,” Communications of the ACM 48, no. 3 (March, 2005), 54, doi: 10.1145/1047671.1047704.
8 Here we are thinking of games such as Wayfinder Live, TimeWarp, and Viking Ghost Hunt, as well as commercially available games such as Ingress Prime, Harry Potter: Wizards Unite, and, of course, Pokémon GO.

Darren Tofts, Interzone: Media Arts in Australia (Fishermans Bend, Victoria: Craftsman House, 2005).


See: http://visarts.ucsd.edu/people/faculty/brett-stalbaum.html.

See: http://scotthessels.com/.


Whitelaw, “Landscape.”


See: http://jonmccormack.info/artworks/.

See, for example: www.perditaphillips.com/current-projects/the-sixth-shore/.


See: http://troyinnocent.net/noemaflux.htm.


Leeorke, *Location-based Gaming*.


See: http://troyinnocent.net/noemaflux.htm.


http://pmstudio.co.uk/.

http://duncanspeakman.net.

https://platformlondon.org/p-multimedia/and-while-london-burns/.

http://terirueb.net/core-sample-2007/.

www.anthampton.com/about.html.

https://planbtheatre.org/.

See http://sndrv.nl/.

http://uninvited-guests.net/home.

https://orenambarchi.com/.

http://salomevoegelin.net.

http://wearecircumstance.com/as-if-it-were-the-last-time/; www.youtube.com/watch?v=FY6S4GkCZ9c.

http://wearecircumstance.com/a-hollow-body/.


1 Jacina Leong, personal experience.


48 Kranstauber et al., “The Movebank data model for animal tracking.”
49 Ibid.
51 Leong, interview with Hajime.
52 Ibid.
53 Ibid.
55 Ingold, *The Life of Lines*.


38 ETET, Technology partner respondent, 1.

39 Ibid.

40 FSG, General Audience Respondent, 1.

41 ETET, Artist.

42 ETET, Technology Partner Respondent, 1.


44 ETET, Artist.

45 ETET, Technology Partner Respondent, 1.

46 ETET, Technology Industry Audience Respondent, 1.

47 Chattr, Audience Respondent, 1.

48 Chattr, Audience Respondent, 2.

49 ETET, Technology Industry Audience Respondent, 2.

50 ETET, Artist.

51 ETET, Technology Industry Audience Respondent, 1.

52 ETET, Government Minister, Singapore.

53 See http://futureeverything.org/.


2 Ibid.


4 Ibid.

5 Ibid, 342.

6 Ibid, 343. “how” emphasis author; “why” emphasis Lippard.

7 This chapter is also inspired by the important work of Mimi Sheller. In particular, “Mobile Art: Out of Your Pocket,” in The Routledge Companion to Mobile Media, edited by Gerard Goggin, and Larissa Hjorth (New York: Routledge, 2014, 197–205. In this chapter, Sheller calls for a more expansive understanding of mobile art, one that encompasses socially engaged public art (among other forms such as performance). She sees this, along with Claire Bishop’s “relational antagonism” as critical elements to expanding and interpreting mobile art in the public realm.

8 The art collective Temporary Services compiled a “mobile resources” collection on their website. In it they detail structures ranging from mobile art galleries, lending libraries, services for homeless people and architectural services. This resource provides an extensive archive and exemplifies the proliferation of mobile projects in social and public practice. Please visit the site for a more thorough overview of this type of work. My purpose is to extend them within Lippard’s Trojan Horse activist art framework. www.temporaryservices.org/mobile_struct_rsrace.html, accessed June 2019.


13 Ibid, 196.

14 Model: forward control, body type: P3500, vehicle ID# 1GDHP34R0K3501306, as of June 2013 the most recent odometer reading was: 214,398 miles.

15 See www.theblackfactory.com/truck.html.


19 Email correspondence with the artist, Misael Diaz, 20 June 2019.
20 Ibid.
21 Ibid.
27 See www.studiorev.org.
29 Ibid.
30 Author’s correspondence with the artists, July 13, 2019.
31 Ibid.
33 Author’s correspondence with the artists, July 13, 2019.
34 Elyse Gonzales and Sara Reisman, eds. 2019, Mobilizing Pedagogy, Art, Design & Architecture Museum, University of California, Santa Barbara.11.
35 http://pablolhelguera.net/2006/06/the-school-of-panamerican-unrest/.
38 www.tacticalmagic.org/CTM/project%20pages/TICU.htm.
39 Ibid.
2 Mobile Society Research Institute (MSRI), Keitai riyou Hakusho (Trends in the use of keitai and su-maho), (Tokyo, Chuokeizai-sha, 2018).
4 Kretzmann and McKnight, Building Communities, 2.
5 See https://vanotica.net/smaco/ for details.
7 The project was held in Tamashima, Okayama, Japan (June 2019). For an illustration, a digest video is available at: www.youtube.com/watch?v=Mn4hWFKUAIw.
5 See https://futureeverything.org/portfolio/entry/mobile-connections/.
6 See https://v2.nl/archive/works/sonic-interface.
9 See www.youtube.com/watch?v=pCX7A6kIr78.
11 See https://shoshanzuboff.com/.
Ibid.

1 See https://growobservatory.org/.


3 See https://www.wired.com/2005/01/the_locative_ar/.


5 Coasts, openstreetmap.


8 "Liberate Tate,” www.liberatetate.org.uk.


11 “Liberate Tate,” www.liberatetate.org.uk.


15 Ibid.

16 Ibid.

17 www.artistscommittee.com/about.

18 De Vietri, “Protest as Practise.”

19 Ibid.

20 De Vietri, “Protest as Practise.”

21 De Vietri, “Protest as Practise.”

22 De Vietri, “Protest as Practise.”

De Vietri, “Protest as Practise.”


Personal email with De Vietri, 6 March 2019.


Frosch, “Eye, Flesh, World,” 121–35.

See the 2017 exhibition by Noa Jansma at Kuli Alma Gallery in Tel Aviv, Israel. Jansma’s work has a precedent in Laurie Anderson’s remarkable photo–narrative installation *Fully Automated Nikon (Object/Objection/Objectivity)* (1973). In that work, Anderson took pictures of men who made unsolicited sexual comments to her on the streets of Lower Manhattan over the course of a single day.

Sheller, “Mobile Art,” 201.


Que, “Securing the State Art Museum.”


Duckett, *Mastering Street*.


Ibid.


Facebook post, September 2017, collected by the author.


Ibid., 22.

18 See https://youtu.be/Gb1AZheeylU.
22 www.flickr.com/cameras.
25 Ibid.
27 See http://erickimphotography.com/blog/2019/05/07/a-camera-that-also-happens-to-be-a-phone/.
28 Westerbeck and Meyerowitz, Bystander: A History.
32 John Berger, Jean Mohr, and Nicolas Philibert, Another Way of Telling (New York: Pantheon, 1982), 95.
36 Ibid., 2.
38 Ibid., 25.
41 Howarth and McLaren, Street Photography Now, 9.
42 Ibid., 10.
45 https://9-eyes.com/.
1 All images within this chapter are courtesy of the author.
3 Ackbar Abbas, Hong Kong Culture and the Politics of Disappearance (Hong Kong: Hong Kong University Press/University of Minnesota Press, 1997), 9.
5 Abbas, Hong Kong Culture, 98; see Hong Kong Memory site: www.hkmemory.hk/index.html; for a more contemporary “recovery” see Hoi Shan Anson Mak, ed. From the Factories (Hong Kong: kaitak, Centre for Research and Development, Academy of Visual Arts, Hong Kong Baptist University, 2014).
6 Ibid.
8 Ibid., 14.
9 Ibid., 15.
11 Ibid., 4.
19 Ibid., n.p.
22 Ibid., 43.
23 Ibid.
24 Ibid., 39.
26 Ibid.
27 Ibid., 30.
28 Ibid., 31.
29 Ibid., 32.
30 Ibid.
35 Ibid.


Fernandez, *Now + Here = Everywhere*.


Özkul, “Placing Mobile Ethnography,” 222.

Ibid., 230.


Ibid., 8.


Ibid., 136.


Ibid., 55.

Husserl, *The Crisis of European Sciences*.

1 www.humaneyes.com/.

2 www.threesixtycameras.com/360-degree-camera-comparison/.

3 As an entry point one could consider the free Google Cardboard Camera app, which creates 360° pictures with audio or apps like Pie (www.pie.video/) for sharing short ten second or less 360° videos or pictures.


7 www.mina.pro.

8 *Vega Island*, directed by Mellingen (9th International Mobile Innovation Screening, 2018), www.mina.pro/screenings.


10 *Before I Sleep*, directed by Chan (9th International Mobile Innovation Screening, 2018), www.mina.pro/screenings.

11 PND, directed by Ross (9th International Mobile Innovation Screening, 2018), www.mina.pro/screenings.

12 *A Little Negro Boy’s Prayer*, directed by Adelheim (9th International Mobile Innovation Screening, 2018), www.mina.pro/screenings.


18 Here one could point toward Rasa Smite and Raitis Smiths, Experiences, Art and Ecologies in Immersive Environments (RIXC Publisher: Riga, 2019).


21 http://opendoclab.mit.edu/virtually-there/.

22 http://vrdocumentaryencounters.co.uk/.


28 For example, Cannes Marché du Film’s NEXT (France), HotDocs (Canada), Toronto IFF POP programs (Canada), DOK Leipzig VR screenings (Germany), Melbourne IFF (Australia), RIDM (Canada), Festival du nouveau cinéma—FNC (Canada), Dubai IFF Different Reality (U.A.E.), European Film Market (Berlin IFF), VR Theatre (Venice Film Festival), FIVARS (Canada), Screen4all (France), RAINDANCE (UK), TAMPERE FILM FESTIVAL (Finland), Atlanta IFF and SXSW (USA). See KALEIDOSCOPE VR (Online network) http://about.kaleidoscope.fund/, Steamer Salon (Israel), EMC VR Film Festival (Russia), MIXAR VR Film Fest (Russia), VR FEST | Stockholm (Sweden), VIK: Cinema VR Day within LISTAPAD IFF (Belarus), LICHTER Filmfest (Germany), CINEQUEST (USA) and Geneva Tous Ecrans (Switzerland).

29 On IMDb Herzog has 71 Director credits, 55 Writer credits and 36 Producer credits. www.imdb.com/name/nm0001348/.

30 https://vr.google.com/jump/.

31 www.youtube.com/watch?v=Ahonv4cNvgc.

32 https://ami.withgoogle.com/.

33 https://join.vimeo.com/360/.

34 www.wired.com/2013/02/beck-360-degree-online-video/.

35 For example, the Samsung 360 gear was launched in 2016 and updated in 2017. The Samsung 360 gear integrates with the Samsung Galaxy S9, S9+, Note8, S8, S8+, S7, S7 edge, Note5, S6 edge+; S6, S6 edge, A8 (2018), A8+ (2018), A5 (2017), A7 (2017) *Android 5.0 or later.

36 www.youtube.com/channel/UCzuqhhs6NWbgTzMuM09WKDQ.

37 https://join.vimeo.com/360/.

38 www.facebook.com/Facebook360/.

39 www.youtube.com/watch?v=KV6hEQnCPAc&t=1195s.

40 For example, the Samsung 360 gear was launched in 2016 and updated in 2017. The Samsung 360 gear integrates with the Samsung Galaxy S9, S9+, Note8, S8, S8+, S7, S7 edge, Note5, S6 edge+, S6, S6 edge, A8 (2018), A8+ (2018), A5 (2017), A7 (2017) *Android 5.0 or later.

41 www.youtube.com/channel/UCzuqhhs6NWbgTzMuM09WKDQ.

42 https://join.vimeo.com/360/.


46 Unsane, directed by Steven Soderbergh (USA, 2018), www.imdb.com/title/tt7153766/.


56 In the context of co-presence, the work of Larissa Hjorth is a key reference; Larissa Hjorth and Sun Sun Lim “Mobile Intimacy in an Age of Affective Mobile Media,” Feminist Media Studies 12, no. 4 (2012): 477–84. doi: 10.1080/14680777.2012.741860; Larissa Hjorth and Sarah Pink, “New Visualities and the Digital Wayfarer: Reconceptualizing Camera Phone Photography and Locative Media,” Mobile Media & Communication 2, no. 1 (2014): 40–57. doi: 10.1177/2050157913505257; Kathleen Cumiskey and Larissa Hjorth, Mobile Media Practices, Presence and Politics: The Challenge of Being Seamlessly Mobile (Routledge: London, 2013). The scope of this chapter and its focus could not facilitate the detailed discussion, but its references are key. As mentioned in this chapter, Michael Saker and Jordan Frith discuss the relationship between co-presence in mobile communication studies (MCS), while this chapter approached the discussion from a mobile media art perspective.

57 www.wondavr.com/.


59 Baker, New Directions.

60 Ibid., 12.


64 It is a prominent example of VR’s capacity to capture scale and the large dimensions of the distinctive street artist Rone. The cinematic VR doc reveals the abandoned spaces in which he creates his street art and murals such a paper mill, a theater, or a house set for demolition. See www.ronevr.com/.

65 www.electricsouth.org/.


68 Ibid., 109.

69 Schaufen für fast nichts: Inside the Garment Industry in Bangladesh, directed by Empathic Media (Bangladesh, 2017), www.ematheticmedia.com/360-video/.


71 La Paz en 360 (Peace in 360 Degrees), directed by Empathic Media (Columbia, 2017), www.ematheticmedia.com/360-video/.


73 Ibid., n.p.

74 Ibid., n.p.

75 La Jetée, directed by Chris Marker (France, 1962).

76 The present progressive or present continuous is used for actions or events in progress, being repeated, or of a temporary nature or to express the future. This has some similarities to VR experiences. Present continuous is used for “storytelling, something which is changing, growing or developing, something which is new and contrasts with a previous state or something which we think is temporary,” see https://learnenglish.britishcouncil.org/english-grammar/present-continuous.

77 Meshes of the Afternoon, directed by Maya Deren (USA, 1943).

Voice-over in *A Little Neger Boy’s Prayer*, directed by Adelheim (9th International Mobile Innovation Screening, 2018), www.mina.pro/screenings.


*Man of Aran*, directed by Robert Flaherty (Ireland 1934).

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4. Isabel Pedersen in her article, “BodyNets: Datafied Bodies and Critical Approaches to Body Area Networks” (February 2019, 4) points out:

   Depending on your viewpoint, Bluetooth is either the invisible lifeline or the prison chain between people, embodied devices, and highly profitable corporations […] Embodied communication is on the brink of exponential change and moving toward networking the body directly to the cloud.

5. Information can be found on for-managers.com and personeltoday.com.


8. Moore, and Robinson, “The Quantified Self,” 2277. They also say Amazon and Tesco [UK] warehouses monitor every minute zero-hour contracted workers spend on the performance console using arm-mounted terminals. The ‘wearable terminal’ is in effect a streamlined replacement for the clipboard […] Information from barcodes, or location information is listed on the upper section of the terminal that is strapped to the forearm.


16. This worldwide community that uses wearable devices monitor their own health and bodily functions, as a way to improve fitness and health, as a hobby, or as a narcissistic preoccupation. Official definitions can be found here https://quantifiedself.com; https://qsinstitute.com/about/what-is-quantified-self.
This is paired with social media tools to “out” or shame citizens into good behavior (like in Netflix’ Black Mirror Season 3, Episode 1, “Nosedive,” 2016, written by Charlie Brooker) and discussed in Wired UK (Oct 2017) www.wired.co.uk/article/chinese-government-social-credit-score-privity-invasion.


“Ingestible devices, for example, are being developed to travel inside the body, collect information, and send it to servers to report on an individual […] They are intended to visualize, monitor, and diagnose internal processes such as blood pressure, PH balance, core body temperature (Nikita, 2014), and ultimately report to an external receiver.” (Pedersen, 2019, 21).

The definition of “e-textiles” from WEAR glossary, https://legacy.wearsustain.eu/about/wearables-e-textiles/.


“[…] ingestible technology is a new frontier under much development in the sphere if visceral computing […] The idea of swallowing a computer device, allowing it to either act on or surveil the body from within […]” (Pedersen, 2019: 28) The European Commission wrote a paper in December 2016 on this and a feedback paper in 2017, confirming these insights by Pedersen, found here https://ec.europa.eu/digital-single-market/en/news/feedback-stakeholders-smart-wearables-reflection-and-orientation-paper.

“Cognitive experiences will not only be used for digital telepathy (i.e. moving computer interfaces with the brain), they could be stored by third parties, or they could be used in predictive models to draw conclusions about thoughts and feelings (Nick, Berman, and Barnehama 2015).” (Pedersen, 2019: 24).


Taken critically, personal cloud computing involves a depoliticized ideology that rhetorically justifies bodily surveillance and […] the “the subjugation of the body through the acquisition and assimilation of data.” (Manley et al. 2012, 313 in Pedersen, 2019, 11).

‘Sousveillance’ is a term coined by wearable-computing pioneer Steve Mann in 2004 to describe inverse surveillance […] Mann suggests that societies may employ sousveillance “as a way to balance the increasing (and increasingly one-sided) surveillance.” More on this here http://wearcam.org/acmnn2004sousveillance/mann.pdf.


“Seamless interaction with cognitive processes, if networked, would risk parasitic relationships where humans (i.e., thoughts, ideas, memories, lies, etc.) are the source for data, rather than positioning humans as the benefactor of (seamless) services.” (Pedersen, 2019, 26, my italics).

Pedersen points out that:

Connecting wearables, implantables, and ingestibles, through body networks would eventually treat them as one data system [...] that would funnel data to and from the body to third parties. It would also require human users committed to the practice of sharing bodily data in everyday life (e.g., working, staying healthy, playing, shopping, dating, etc.).

(February 2019, 10)


Originally, this concept was inspired by Judith Butler in Gender Trouble: Feminism and the Subversion of Identity (New York: Routledge, 1990).

See the full WEAR Sustain project website here https://wearsustain.eu/dashboards/home about the project https://wearsuitute Good Data in this stais.eu/static/about and the legacy website http://legacy.wearsustain.eu/.

Term and practice instigated by Matt Ratto as described here https://current.ecuad.ca/what-is-critical-making.

Baker, New Directions.


See http://milkproject.net/index.html and www.nomadicmilk.net/full/.


“Location-based social networks offer a form of intersubjective embodiment that gives participants a sense of social proprioception: a sense of embodied integrity that is aware of the self’s place as that which is always already situated in relationship to the location of others” in Jason Farman, “Embodiment and the Mobile Interface,” Mobile Interface Theory: Embodied Space and Locative MEDIA (New York: Routledge, 2012), chap. 1, Kindle.


Performing Space Arts and Humanities Research Council Seminar at Nottingham Trent University February 2008.


18 See: www.blasttheory.co.uk.
19 See www.blasttheory.co.uk/projects/a-machine-to-see-with/.
22 Pereira Dias, “A Machine to See With.”
24 See: http://34n118w.net/34N/.
25 Curator Daphne Dragona and participating organizer Dimitris Charitos (University of Athens), technical support from Phil Sparks (Cuttlefish Multimedia) and Jackie Calderwood (PhD, Candidate De Montfort University), additional technical support Haris Rizopoulos, Aris Tsakoumis (University of Athens), empedia.info/maps/41, accessed June 2014.
30 There are several “people’s parks” that were squatted by locals to thwart the city’s plan to turn them into parking lots.
35 Ibid.
A line of thinking. The challenge for rethinking gender categories outside of the metaphysics of substance will have to consider the relevance of Nietzsche’s claim in On the Genealogy of Morals that ‘there is no “being” behind doing, effecting, becoming; “the doer” is merely a fiction added to the deed—the deed is everything.’ In an application that Nietzsche himself would not have anticipated or condoned, we might state as a corollary: There is no gender identity behind the expressions of gender identity is performatively constituted by the very ‘expressions’ that are said to be its results.”

I could not find Butler using this term “gender act” herself, but instead found it used in descriptions of her theories. For example, “Gender here is the effect of reiterated acting, producing the effect of a static or normal gender, at the same time obscuring the instability of any single ‘gender act,’” n.p. https://introducing-performativity.fandom.com/wiki/Judith_Butler_and_%27Performativity%27.


I propose to call it a performative sentence or a performative utterance, or, for short, ‘a performative’.”

John Austin, How To Do Things with Words: The William James Lectures Delivered at Harvard University (Oxford: Clarendon Press, 1955 [1962]), 12. “What are we to call a sentence or an utterance of this type? The question will have to consider the relevance of Nietzsche’s claim in On the Genealogy of Morals that ‘there is no “being” behind doing, effecting, becoming; “the doer” is merely a fiction added to the deed—the deed is everything.’ In an application that Nietzsche himself would not have anticipated or condoned, we might state as a corollary: There is no gender identity behind the expressions of gender but that identity is performatively constituted by the very ‘expressions’ that are said to be its results.”

9 “The Meeting of Waters (Portuguese: Encontro das Águas) is the confluence between the dark (blackwater) Rio Negro and the pale sandy-colored (whitewater) Amazon River or Rio Solimões, as the upper section of the Amazon is known in Brazil upriver of this confluence. For 6 km (3.7 mi) the two rivers’ waters run side by side without mixing. It is one of the main tourist attractions of Manaus, Brazil. The same also happens near Santarém, Pará (where the Encontros project was developed) with the Amazon and Tapajós rivers. This phenomenon occurs in other regions of the world with differing characters of rivers; the phenomenon is also seen in other locations in the Amazon region, as Iquitos, Peru. This phenomenon is due to the differences in temperature, speed, and water density of the two rivers. The Rio Negro flows at near 2 km/h (1.2 mph) at a temperature of 28 °C (82 °F), while the Rio Solimões flows between 4 and 6 km/h (2.5–3.7 mph) at a temperature of 22 °C (72 °F).”


11 Anthony Elliot and John Urry, Mobile Lives (New York: Routledge, 2010), 45.


17 Hui, On the Existence of Digital Objects, 163.


26 Hui, On the Existence of Digital Objects, 183.


10 Ibid.


15 Feldman, “Agency and Governance.”


20 Ibid.


25 Ibid.


27 Ibid.


40 Ibid.

41 Duncan Speakman, A Hollow Body, http://wearecircumstance.com/a-hollow-body/; For a discussion on this project, see Speakman’s interview in Section 6 of this Companion.

42 Ibid.


49 Ibid.


55 Ibid.


58 Ibid.


1 See Kat Jungnickel, DIY WIFI: Re-imagining Connectivity (Houndmills, Basingstoke, Hampshire: Palgrave Macmillon Pivot, 2014).

2 The ESRC funded project (ES/K008048/1) can be found at www.bikesandbloomers.com.

3 The ERC funded project (#819458) can be found at www.politicsofpatents.org.


9 See www.unmakingstudio.se.


11 A predecessor of this innovative format is the 2007 music video House of Cards by Radiohead. The clip similarly uses 3D plotting technologies to visualize colorful cloud points of bodies, infrastructures, and environments.


16 McLuhan, Media Research.


18 Hjorth, “Mobile Art”; Sheller, “Mobile Art: Out of Your Pocket.”; Adriana de Souza e Silva, “From Cyber to Hybrid: Mobile Technologies as Interfaces of Hybrid Spaces,” Space and Culture 9, no. 3 (1 August 2006): 261–78, doi: 10.1177/1206331206289022; Adriana de Souza e Silva and Daniel M.

Sheller, “Mobile Art: Out of Your Pocket.”

Sheller, 276.

de Souza e Silva, “From Cyber To Hybrid”; Farman, Mobile Interface Theory; Sheller, “Mobile Art: Out of Your Pocket.”


Aceti, Iverson, and Sheller.

Ibid.


See examples of mobile locative art projects discussed in Aceti, Iverson, and Sheller; and Freeman and Sheller.


Ibid.


McLuhan, Media Research, 71.


McLuhan, Media Research, 114.

McLuhan, 111.

Brantner, “New Visualities of Space and Place.”


Saunders.


McLuhan, The Book of Probes, 305.


McLuhan, The Book of Probes, 92.

The development of the theoretical foundations of this chapter builds on Verhoeff’s earlier work and is enriched and further developed in conversations with, and inspired by, the work of theorist Iris van der Tuin, specifically her writings on diffraction and diffractive reading.


Ibid.


Ibid., 143; emphasis in original.

Here, we formulate interference using terms that are traditionally seen as poststructuralist. See also Karen Barad, “Quantum Entanglements and Hauntological Relations of Inheritance: Dis/continuities, SpaceTime Enfoldings, and Justice-to-Come,” Derrida Today 3, no. 2 (2010), 240–68, doi: 10.3366/E1754850010000813.

On the principles of plotting, tagging, and stitching of mobile Augmented Reality, see Nanna Verhoeff, Mobile Screens, and more recently on the principle of marking, see William Uricchio, “Augmenting Reality: The Markers, Memories, And Meanings Behind Today’s AR,” in Urban Interfaces: Media, Art and Performance in Public Spaces, edited by Verhoeff, Nanna, Sigrid
Psychogeography is “the investigation of everyday urban life through emerging artistic, technological and social practice.” From the festival’s website http://confluxfestival.org/about.


This interpretation is inspired by a series of conversations between Paulien Dresscher, Klasien van de Zandschulp and Ali Eslami held in 2019.


As a curator, Paulien Dresscher has been involved in the writing of the Dutch funding application for Sacred Hill. There the artists have elaborated on their inspirational sources.


7 Broad et al., “Where Do People Die?”

Nickolich et al., “Discussing the Evidence for Upstream Palliative Care.”


Marc Stickdorn and Jakob Schneider, This is Service Design Thinking (Hoboken, NJ: John Wiley & Sons, 2011), 178.


All participant names have been de-identified for ethical considerations.

Heiss, “Designing Emotional Technologies.”


Yoko Akama, “Tao of Communication Design Practice: Manifesting Implicit Values Through Human-Centred Design” (PhD diss., RMIT University, 2008), 166.


Zoom is video conferencing software.


Rodaway, Sensuous Geographies, 45.

Ibid.


Baker, New Directions, 46.


Ibid.


LaMarre, “Platformativity,” 25.


14 Swan, “The Quantified Self.”

15 See http://quantifiedself.com/.


22 Lupton, “The Diverse Domains”; Swan, “Quantified Self.”


25 Crawford et al., “Our Metrics, Ourselves”; Fuchs et al., “I Think It Worked.”


28 Sicart, *Play Matters*.


33 Frissen et al., Playful Identities, 10.
34 Ibid., 36.
35 Ibid., 29.
37 Sicart, Play Matters, 6.
45 See Figure 3.
47 Sicart, Play Matters, 29.
54 Abend and Fuchs, “Introduction”; Subramonyam, “Magic Mirror.”
59 Min et al., “Pretty Pelvis.”
60 Ibid.
85 Weiss et al., “WagTag.”
89 Ibid.
92 Abend and Fuchs, “Introduction”; Calvo and Peters, “The Irony and Re-Interpretation.”