Performance and Technology
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Practices of Virtual Embodiment and Interactivity

Edited by

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and

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2. In *Chameleons 4: The Doors of Serenity*, the fusion of digitally manipulated video imagery with live performance conjures a form of ‘synergetic alchemy’ to explore and evoke Artaudian conceptions of the double, cruelty, and the body. Clockwise from top left: Steve Dixon, Wendy Reed, Anna Fenemore, and Barry Woods.

3. The Chameleons Group utilise the stage and screen spaces to conduct ‘doubled’ experiments with Artaud’s notions of ‘physical hieroglyphs’ (top 4 photos) and surrealist conceptions of comedy and insults (bottom 4 photos) in *Chameleons 4: The Doors of Serenity*.

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Notes on Editors

**Susan Broadhurst** is a writer and practitioner in the creative arts. She is Reader in Drama and Technology, Head of Drama Studies and Head of Performance of the BitLab Research Centre at Brunel University, West London. She is also the author of *Liminal Acts: A Critical Overview of Contemporary Performance and Theory* (London/New York: Cassell/Continuum, 1999) and *Digital Practices: A Critical Overview of Performance and Technology* (forthcoming, 2007). Her various articles include ‘Interaction, Reaction and Performance: The Jeremiah Project,’ which was commissioned by *The Drama Review* (MIT Press 48 (4) (December 2004): 47–57), and she is Co-editor of the *Body, Space & Technology* online journal <http://www.brunel.ac.uk/bst/>. Susan is currently working on a series of collaborative practice based research projects entitled, ‘Intelligence, Interaction, Reaction and Performance’, which involve introducing various interactive digital technologies into live performance, including artificial intelligence, 3D film, modelling and animation, and motion tracking.

**Josephine Machon** is Programme Director for Physical Theatre, and a lecturer in Drama and Performance Studies at St. Mary’s College, University of Surrey, West London. On her topic (syn)aesthetics and performance, she has published various writings. Among her multimedia works, Josephine has authored ‘To Deliver Us from (Syn)aesthetics’, an interactive document in *Flesh & Text*, a CD ROM marking 10 years of Bodies in Flight (October 2001). She is in the process of writing *(Syn)aesthetics – Towards a Definition of Visceral Performance* (forthcoming 2007) and is co-authoring *British Physical Theatre – Practice & Practitioners* (forthcoming 2006). As a practitioner she has a broad range of experience including her current collaborations, which explore the fusion of embodied practice and the written text within *playful* performance encounters. Josephine is Sub-Editor for the online journal *Body, Space & Technology*. 
Notes on Contributors

Philip Auslander teaches Performance Studies in the School of Literature, Communication, and Culture of the Georgia Institute of Technology (Atlanta, Georgia, USA). He contributes regularly to journals such as TDR: The Journal of Performance Studies and is on the editorial board of that journal, Performance Research, the International Journal of Performance Arts and Digital Technology, and others. He is the author of five books, most recently Performing Glam Rock: Gender and Theatricality in Popular Music (2006). In addition to his work on performance and music, Auslander writes on the visual arts for ArtForum and other publications.

Johannes Birringer is an independent choreographer and media artist. As artistic director of AlienNation Co., an ensemble based in Houston (www.aliennationcompany.com), he has created numerous dance-theatre works, video installations, and digital projects in collaboration with artists in Europe, the Americas, and China. He is the author of several books, including Media and Performance: Along the Border (1998), Performance on the Edge: Transformations of Culture (2000), and Dance Technologies: Digital Performance in the 21st century (forthcoming). Founder of the Interaktionslabor Göttelborn in Germany (http://interaktionslabor.de), he is currently Professor of Drama and Performance Technologies at Brunel University, West London.

Carol Brown is a choreographer, performer, and writer. Originally from New Zealand, she has been based in London since 1995. Her company, Carol Brown Dances, is renowned for its cross-art form works for theatre, installation, and screen, and has performed throughout the world. Carol has one of the first doctorates by practice from the University of Surrey in England and is a senior research fellow at Roehampton University where she is part of the Centre for Dance Research. Her current cycle of work is concerned with new bodily perspectives and spectral effects emerging at the confluence of technology and mythology. Recent awards include a Ludwig Forum International Prize for Innovation (2003) and a NESTA Dream Time (2004).
Christie Carson is a senior lecturer in the Department of English at Royal Holloway University of London. Prior to this appointment, she worked as Research Fellow in the Department of Drama and Theatre at Royal Holloway and was Director of the Centre of Multimedia Performance History there from 1996 to 2003. She is the co-editor of *The Cambridge King Lear CD-ROM: Text and Performance Archive* (Cambridge, 2000) and author of ‘King Lear in North America’, an article on this CD. Dr Carson has also completed a large AHRB-funded research project entitled *Designing Shakespeare: An Audio-visual Archive, 1960–2000*, which documents the performance history of Shakespeare in Stratford and London. This database is freely available on the web at www.ahds.ac.uk/performingarts/designing-shakespeare.

Oron Catts is an artist/researcher and curator, and co-founder and Artistic Director of SymbioticA, The Art & Science Collaborative Research Laboratory at The School of Anatomy and Human Biology, University of Western Australia. Catts founded the Tissue Culture and Art Project (TC&A) in 1996. The Tissue Culture and Art Project is an ongoing artistic research and development project into the use of tissue technologies as a medium for artistic expression.

Mark Coniglio is a composer/media artist and creates large-scale performance works that integrate music, dance, theatre, and interactive media. With choreographer Dawn Stoppiello he is Co-founder of the New York City-based dance theatre company Troika Ranch, which for the last decade has been created numerous multidisciplinary performances. Coniglio is particularly interested in creating custom interactive systems that allow the movement or vocalizations of the performers to generate and/or manipulate video, sound and other digital media. Coniglio is also the creator of real-time media manipulation software *Isadora®*, which is used by artists worldwide to realize their interactive performances and installations.

John Cook, PhD, is an independent scholar located in Istanbul, Turkey. He currently runs his own performance and consulting company, Perishable Produce, dedicated to preserving the environment through sustainable practices and utilizing alternative energy resources. Dr Cook has organized two international dance film festivals and taught courses in the Fine Arts at Bosphorus University and Koc University in Istanbul, Ohio University and DePaul University, and Columbia College and Northwestern University in Chicago.
Steve Dixon is Professor of Performance and Technology at Brunel University, where he is also Head of School of Arts, and Deputy Director of the BitLab Research Centre. His creative practice includes international multimedia theatre tours as Director of The Chameleons Group (since 1994), two award winning CD-ROMs, interactive Internet performances, and telematic arts events. He has published extensively on subjects including performance studies, film theory, digital arts, robotics, artificial intelligence, and pedagogy. He is Associate Editor of The International Journal of Performance Arts and Digital Media, and Co-director of The Digital Performance Archive.

Barry Edwards is Director of Optik. Directing credits also include new writing, classic adaptation, object and puppet theatre, experimental film, and musicals. University experience includes Concordia Montreal, Sofia, London University of the Arts, Central School, and Brunel University. His work has been produced in Alexandria, Berlin, Sao Paulo, Montreal, Helsinki, and many other cities worldwide.

Ben Jarlett, MSc BEng, is a research assistant at Brunel University and undertaking PhD research at Bath Spa University into programming and interface design for computer-based improvisation and live performance using Max, MSP, and Jitter. He has been performing with Optik since 2000.

Petra Kuppers is Associate Professor in the English Department at the University of Michigan, Ann Arbor, where she teaches in performance, cultural, and disability studies. She is the author of Disability and Contemporary Performance: Bodies on Edge (2003), The Scar of Visibility: Medical Performances and Contemporary Arts (in press) and Community Performance: An Introduction (forthcoming 2007). This last volume has a companion edition, Community Performance: A Reader, which she is co-editing with Gwen Robertson (2007). Petra Kuppers is also the Artistic Director of The Olimpias Performance Research Projects (www.olimpias.net).

Susan Melrose is Professor of Performance Arts and Research Convenor for Performing Arts, in the School of Arts, Middlesex University. After completing her doctoral research in performance analysis at the Sorbonne Nouvelle in the early 1980s, she established and ran post-graduate profession/vocation-linked theatre and performance studies courses at Central School of Speech and Drama and Rose Bruford

**Sarah Rubidge** is a practitioner-scholar whose work has been published in journals and books since 1981. She is a choreographer and digital installation artist and currently Reader in Digital Performance at the University of Chichester. The focus of her artistic work lies in the dialogue between the body, movement and new technologies, in particular in interactive installations. Sarah is especially interested in developing installation spaces which are read through the haptic/kinaesthetic senses. She is also interested in developing performative installation spaces in which participants’ movements become an integral element of the installation event. Sarah is on the editorial board of *Dance Theatre Journal* and *Body Space Technology*.

**Gretchen Schiller** explores physical and visual vocabularies by conjugating qualitative movement with video, performance, and interactive participatory environments. Her research includes aesthetic mapping, multiple video projection and non-linear dynamic forms. Her work has toured in Canada, the United States, England, Germany, and France. She has recently joined the School of Arts at Brunel University after teaching at the University of Montpellier for seven years. She received her BA from the University of Calgary, Canada, MA from the UCLA University of Los Angeles, California, and PhD from the University of Plymouth, UK. She is the artistic director of Mo-vi-da, http://www.mo-vi-da.org, which supports the creative research in the areas of media dance.

**Robert Wechsler** is a performing artist and researcher in the use bio-sensor and video-based motion tracking. He is artistic director of Palindrome, an award winning performance group specialized in interactive performance. A Fulbright Fellow, he is the author of articles in *Leonardo, Ballet International, Dance Magazine*, and *Dance Research Journal*. He was Designer and Head of the Masters Degree Programme in Digital Performance at Doncaster College from 2004 to 2005. In 2006, he worked with composer Dan Hosken and choreographer Helena Zwiauer on *A Human Conversation*, an ongoing project to explore the relationship
between human movement and speech. Mr Wechsler leads seminars and workshops in motion tracking at institutions worldwide.

**Ionat Zurr** is an artist in residence in SymbioticA and a co-founder of the Tissue Culture and Art Project. She has studied photography and media studies, and is currently a PhD researcher looking at the ethical and philosophical implications of biological art.
Introduction: Body, Space, and Technology

Susan Broadhurst and Josephine Machon

Habit expresses our power of dilating our being in the world, or changing our existence by appropriating fresh instruments... the body is our general medium for having a world.

– Merleau-Ponty (1962: 143–6)

In Performance and Technology: Practices of Virtual Embodiment and Interactivity, we offer a collection of writings from international contributors who specialise in digital performance practices. These performances cross and blur the boundaries between dance, film, theatre, installation, sound, and biotechnology. They also employ a diverse range of new technologies.

Motion tracking is one such technology that currently uses magnetic or optical motion capture and has been utilised widely in performance and art practices. It involves the application of sensors or markers to the performer or artist’s body. The movement of the body is captured and the resulting skeleton has animation applied to it. This data-projected image then becomes some part of a performance or art practice (see Chapters 5 and 6). Another technology highlighted in these practices is artificial intelligence, where the challenge is to demarcate the delimited human body from an artificially intelligent life form, such as Jeremiah, the avatar (see Chapter 11). In other words, there is an emphasis on the play between the human and technological exchange in such interaction.

Again, there is a proliferation of performances that utilise electronic sound technology for real-time interaction. A performance group who explores the use of this technology is Optik, who have performed at various national and international venues and now prioritise the use of digitally manipulated sound in their movement-based performance (see Chapter 10). Furthermore, in recent years, there has been a preponderance of art works that incorporate biotechnology within their creative experimentation that carries with it challenging ethical implications. Such ventures are commonly referred to as ‘Bioart’. The Tissue, Culture and Arts Project are such a group, whose tissue engineering exploration is integral to their art installations, resulting in works of varying