Relational Architectural Ecologies

Architecture, nature and subjectivity

Edited by
Peg Rawes

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Relational Architectural Ecologies

Examining the complex social and material relationships between architecture and ecology which constitute modern cultures, this collection responds to the need to extend architectural thinking about ecology beyond current design literatures. This book shows how the 'habitats', 'natural milieus', 'places' or 'shelters' that construct architectural ecologies are composed of complex and dynamic material, spatial, social, political, economic and ecological concerns.

With contributions from a range of leading international experts and academics in architecture, art, anthropology, philosophy, feminist theory, law, medicine and political science, this volume offers professionals and researchers engaged in the social and cultural biodiversity of built environments, new interdisciplinary perspectives on the relational and architectural ecologies which are required for dealing with the complex issues of sustainable human habitation and environmental action. The book provides:

- sixteen essays, including two visual essays, by leading international experts and academics from the UK, USA, Australia, New Zealand and Europe, including Rosi Braidotti, Lorraine Code, Verena Andermatt Conley and Elizabeth Grosz;
- a clear structure: divided into five parts addressing biopolitical ecologies and architectures; uncertain, anxious and damaged ecologies; economics, land and consumption; biological and medical architectural ecologies; relational ecological practices and architectures;
- an exploration of the relations between human and political life;
- an examination of issues such as climate change, social and environmental wellbeing, land and consumption, economically damaging global approaches to design, community ecologies and future architectural practice.

Peg Rawes is Senior Lecturer at the Bartlett School of Architecture, UCL, London. Her teaching and research focus on interdisciplinary links between architectural design, philosophy, technology and the visual arts. Publications include: *Space, Geometry and Aesthetics* (2008) and *Irigaray for Architects* (2007).

Contributors

Anita Berlin has been an inner city GP for over twenty years. She is a Senior Clinical Lecturer at University College London. Her academic interests are medical education, and quality and governance of educational and clinical institutions. Her work focuses on doctor–patient and student–patient relationships, and leadership for learning exploring the practical application of theoretical models to address educational challenges. She is lead for the Social Determinants of Health theme in the curriculum and has worked on international educational development projects principally in Spain and Latin America.

Rosi Braidotti is Distinguished University Professor at Utrecht University and founding Director of the University's Centre for the Humanities. She is the leading feminist poststructuralist and interdisciplinary thinker in Europe whose work examines issues including: new materialisms (including info- and bio-technologies), ecology, nomadic thought, subjectivity and ethics. Her publications include: *Patterns of Dissonance* (Polity Press 1991); *Nomadic Subjects: Embodiment and Sexual Difference in Contemporary Feminist Theory* (Columbia University Press 1994 and 2011); *Metamorphoses: Towards a Materialist Theory of Becoming* (Polity Press 2002); *Transpositions: On Nomadic Ethics* (Polity Press 2006); *Nomadic Theory: The Portable Rosi Braidotti* (Columbia University Press 2011), and *The Posthuman* (Polity Press 2013).

Lorraine Code is Distinguished Research Professor Emerita in Philosophy at York University in Toronto, and a Fellow of the Royal Society of Canada. She is the author of *Epistemic Responsibility* (Brown University Press 1987) and *What Can She Know? Feminist Theory and the Construction of Knowledge* (Cornell University Press 1991). In *Rhetorical Spaces: Essays on Gendered Locations* (Routledge 1995), she addresses incredulity, empathy, relativism and the epistemic power of gossip. *Ecological Thinking: The Politics of Epistemic Location* (Oxford University Press 2006) develops an 'ecological naturalism', which looks to ecological science as a place – literal and metaphorical – where knowledge is 'naturally' made. She is currently working on issues of testimony, ignorance and vulnerability, especially as these pertain to climate-change

scepticism. In 2011 she was a Visiting Research Fellow at the Institute for Advanced Study in the Humanities at Edinburgh University.

Verena Andermatt Conley teaches in the Departments of Comparative Literature, and Romance Languages and Literature at Harvard University, Massachusetts. Her recent work deals with critical and cultural theories and their intersections with ecology. Publications include *Rethinking Technologies* (University of Minnesota Press 1993); *Ecopolitics: the Environment in Poststructuralist Thought* (Routledge 1997); *The War against the Beavers: Learning to be Wild in the North Woods* (University of Minnesota Press 2003); and *Spatial Ecologies: Urban Sites, State and World-Space in French Cultural Theory* (Liverpool University Press 2012).

David Cross is an artist and Reader at the University of the Arts, London. Informing his research, practice and teaching is a critical engagement with the relationship between visual culture and the contested ideal of 'sustainable development'. David has given lectures internationally, and chaired events including at the South London Gallery, Tate and Whitechapel. As an artist, he has collaborated with Matthew Cornford since they studied at St Martins School of Art, London, in 1987. David graduated from the Royal College of Art in 1991. The book *Cornford & Cross* (Black Dog Publishing 2009) includes critical essays by John Roberts and Rachel Withers, and sets out a chronology of the artists' projects as a basis for examining the aesthetic and ethical concerns of their practice. Cornford and Cross respond to the intrinsic problems of particular contexts and situations as a way to stimulate discussion on issues of public concern, including environment, development and social justice. (See www.cornfordandcross.com)

Rebecca Empson is a Lecturer in Social Anthropology at UCL, London. She has carried out fieldwork for the past fifteen years among the Buriad in Mongolia. Her recent monograph, *Harnessing Fortune* (OUP 2011), was concerned with the morality of wealth accumulation among nomadic pastoralists along the Mongolian–Russian border. She is currently working on a new project concerned with forms of subjectivity emerging in relation to predicted economic growth in Mongolia as an outcome of recent mineral extraction in the country.

Elizabeth Grosz teaches feminist theory at Duke University, North Carolina, in the Women's Studies Program. She is the author of *Architecture from the Outside* (The MIT Press 2001) and *Chaos, Territory, Art* (Columbia University Press 2008) which both address architecture's relations with philosophy. Her most recent publication on life, politics and art is *Becoming Undone* (Duke 2011).

Bronwyn Hayward is a Senior Lecturer in Political Science at the University of Canterbury NZ. Bronwyn is also a trustee of the Foundation for Democracy and Sustainable Development (London) and visiting fellow of the RESOLVE Research

Group on sustainable lifestyles, values and environment and the Sustainable Lifestyles Research Group, both based at the University of Surrey. Bronwyn is also a co-lead researcher for the Norwegian government funded Voices of the Future about children in a changing climate. Outside her academic work, Bronwyn has worked in children's media, film, television and radio production and served as a member of the New Zealand Broadcasting Standards Authority and is trustee for Life in Vacant Spaces, a trust to develop community, arts and green space in the aftermath of the Christchurch city earthquakes.

Rachel Jones is Assistant Professor in Philosophy at George Mason University, Virginia. She is the author of *Luce Irigaray: Towards a Sexuate Philosophy* (Polity Press 2011) and co-editor of *The Matter of Critique: Readings in Kant's Philosophy* (with Andrea Rehberg, Clinamen Press 2000). She has published articles on Irigaray, Kant, Lyotard and aesthetics, including: 'Adventures in the abyss: Kant, Irigaray and earthquakes' in *Symposium: Canadian Journal of Continental Philosophy* (forthcoming 2013); 'Irigaray and Lyotard: birth, infancy, and metaphysics', in *Hypatia* (2012); and 'Lyotard, Chadwick and the logic of dissimulation' in *Gender after Lyotard* (SUNY 2007).

Katie Lloyd Thomas trained as an architect and is a Lecturer in Architecture at Newcastle University where she has set up a new Masters programme in Architectural Theory and Criticism. She is the editor of *Material Matters: Architecture and Material Practice* (Routledge 2007) and completed her PhD on concepts of materials and the architectural specification at the CRMEP, Middlesex University in 2010. Katie is also a founder member of *taking place*, a group of artists and architects concerned with feminist spatial practice, whose most recent project is a series of artworks 'The other side of waiting' for the Mother and Baby unit at Homerton Hospital, Hackney (see www.takingplace.org.uk). 'The excessive materiality of Stock Orchard Street: towards a feminist material practice' in *Around and About Stock Orchard Street*, edited by Sarah Wigglesworth (Routledge 2011) brings together Katie's main research interests in materiality, the production of building and feminist theory and practice.

Nathan Moore completed a PhD in 2006, at Birkbeck College, School of Law, London, where he is now employed as a law lecturer. In 2012 he began a second PhD at the Bartlett School of Architecture, UCL, London. He has published a number of law related articles under his own name, and in co-authorship with Anne Bottomley of Kent Law School.

Michelle Murphy is a feminist technoscience scholar and historian of the recent past. She is the author of *Sick Building Syndrome and the Problem of Uncertainty* (2006) and *Seizing the Means of Reproduction* (2012), both from Duke University Press. Her current project is called the Economization of Life.

She is Associate Professor of History and Women and Gender Studies at the University of Toronto.

Doina Petrescu is Professor of Architecture and Design Activism at the School of Architecture, University of Sheffield. Her research focuses on three main strands: 'gender', 'resilience' and 'participation' in architecture, all with a strong international dimension. She is also co-founder of *atelier d'architecture autogérée* (aaa), an award winning collective practice conducting research-actions in Paris, which engage citizens in processes of reclaiming and resilient transformation of the city. Her edited publications include: *Trans – Local – Act: Cultural practices within and across* (co-ed., aaa-peprav 2010); *Agency: Working with Uncertain Architectures* (co-ed., Routledge 2009); *Altering Practices: Feminist Politics & Poetics of Space* (Routledge 2007); *Urban Act: handbook for alternative practice* (aaa-peprav 2007); *Architecture and Participation* (co-ed., Spon Press 2005). She is currently working on a book titled *Micropolitics of Architecture*.

Peg Rawes is Senior Lecturer at the Bartlett School of Architecture, UCL, London. Her research has focused on spatiotemporality and embodiment; 'minor' traditions in geometric and spatial thinking; aesthetic and material practices. Publications include: *Space, Geometry and Aesthetics: Through Kant and Towards Deleuze* (Palgrave Macmillan 2008); *Irigaray for Architects* (Routledge 2007); 'Spinoza's Geometric Ecology', *Interstices: Journal of Architecture and Related Arts* (December 2012); 'Spinoza's architectural passages and geometric comportments', in B. Lord (ed.) *Spinoza Beyond Philosophy* (University of Edinburgh 2012); 'Sonic Envelopes', *The Senses and Society*, 3, 1 (2008).

Gail Schwab is Professor of French at Hofstra University, New York, where she also serves as Senior Associate Dean for Curriculum and Personnel in the Hofstra College of Liberal Arts and Sciences. Recent articles on Irigaray include: 'Mothers, sisters, and daughters: Luce Irigaray and the female genealogical line in the stories of the Greeks', in E. Tzelepis and A. Athanasiou (eds) *Rewriting Difference: Luce Irigaray and "the Greeks"* (SUNY Press 2008); and 'Beyond the vertical and the horizontal: spirituality, space, and alterity in the work of Luce Irigaray', in M.C. Rawlinson, S.L. Hom and S.J. Khader (eds) *Thinking with Irigaray* (SUNY Press 2011). She has also translated the major Irigaray collection, *To Speak is Never Neutral* (Continuum 2002). Gail is collaborating on an edited anthology of articles on Irigaray and pursuing her new-found research interest in sustainability and food studies.

Kate Soper is Emerita Professor of Philosophy attached to the Institute for the Study of European Transformations at London Metropolitan University, and a Visiting Humanities Professor at Brighton University. She has published widely on environmental philosophy, aesthetics of nature, theory of needs and consumption, and cultural theory. Her more recent writings include *What is*

Nature? Culture, Politics and the Non-Human (Blackwell 1995), *To Relish the Sublime: Culture and Self-Realisation in Postmodern Times* (with Martin Ryle, Verso 2002); *Citizenship and Consumption* (co-ed., Palgrave 2007) and *The Politics and Pleasures of Consuming Differently* (co-ed., Palgrave 2008). Her study on 'Alternative hedonism and the theory and politics of consumption' was funded in the ESRC/AHRC 'Cultures of Consumption' programme (www.consume.bbk.ac.uk). She has been a member of the editorial collectives of *Radical Philosophy* and *New Left Review* and a regular columnist for the US journal, *Capitalism, Nature, Socialism*.

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Introduction

Peg Rawes

Relational Architectural Ecologies examines the complex architectural and ecological relationships which constitute modern human cultures and environments. The collection responds to the Greek etymology of the word 'eco' (*oikos*) that Ernst Haeckel's 1866 term 'ecology' defines as the science of 'the household of nature'.[1] It shows how the 'habitats', 'natural milieus', 'places' or 'shelters' that construct architectural ecologies are composed of complex material, spatial, social, political and economic concerns. Its emphasis on these more sociopolitical understandings of ecological thinking and practice therefore contrast with the architectural profession's leading interpretations of *oikos* as the basis for building designs, technologies and material typologies that achieve environmental efficiency; for example, by reducing CO_2 emissions or repurposing renewable energies (e.g. Steele 2005; van Uffelen 2009).

The book has three key aims: first, to extend architectural thinking about ecology beyond current professional sustainable architectural design practices that have developed over the past thirty years, and are defined variously as; 'green building design', 'sustainable architecture', 'sustainable building design technologies' or 'environmentally responsive design'. Second, it explores architectural ecologies by interdisciplinary scholarship from inside architectural practice and theory, and outside the discipline in the visual arts, humanities, social sciences, medicine and in law. Third, it examines how these ecologies are *relational* because they are *co-constituted* by spatiotemporal and sociopolitical values and, importantly, by sex difference. It argues that these relations are essential for enabling communities engaged in producing our built environment (including the architectural and built environment professions) to tackle the environmental and human-related crises that affect our cities, towns and homes today; for example, to address overconsumption, resource depletion and pollution, and the environmental rights of communities. Thus, the definition of architecture presented here is not directed exclusively towards the professionals who design our built environments: instead, the term 'architecture' encapsulates a broader set of environmentally focused questions about the value of the social and material formation of our 'built' environments *for all*.

The essays show that a legacy of ecological thinking and practice since the 1960s environmental movement by women, environmental campaigners, scientists, philosophers and activists is required by architecture, especially because these are not sex-neutral or value-free forms of ecological knowledge. Given the failure of global technocratic and market-led approaches to deal with the issues, the book suggests that such *interdisciplinary* architectural, ecological and relational approaches may be even more urgently required for dealing with the complexities in protecting and creating biodiversity in our architectures and environments.

Importantly, the book's title is not just intended as a poetic transposition of the term 'ecology' from one place to another, or a simplistic appropriation of it. Rather, it shows that critical and environmentally directed 'architectural' thinking and practice is already a 'living' field of practices shared between communities within and outside formal professional architectural boundaries. Again, in this respect, the book does not employ the more familiar discourses and terminology that the profession tends to use (which, since the 1987 UN Brundtland Report, have been led primarily by technological imperatives and markets). Instead, its aim is to rethink these boundaries so that new understandings of built, material and immaterial architectures can be explored. By drawing attention to the reflexivity between material and cultural 'biodiversity' in our built environments, the relationship between architecture and ecology is shown to extend well beyond traditional definitions of environmentally responsive architectural design. Relational architectural ecologies therefore highlight important political, poetic and material differences that constitute our biological and environmental relations, especially, sexed difference or the biopolitical structures of power that construct our biological and cultural differences.

Sexed difference – or sexed biodiversity – is a central matter for this collection and reflects the ongoing innovations in feminist thinking and practice for questioning the social justice and ecological health of our societies, and our built and natural environments. The book has two strands that underpin its approach: first, it brings together contributors who took part in the conference *Sexuate Subjects: Politics, Poetics and Ethics* at UCL in London, December 2010 (www.ucl.ac.uk/sexuate-subjects). Second, it reflects feminist philosophy's critical 'sexual' and 'sexuate' difference discourses (Irigaray 1985, 1993, 2004), which have productively shown that subjectivity is biologically and culturally produced. Thinkers, such as Luce Irigaray, have shown that positive physical and psychic expressions of sexed identity difference for women and men, are essential for ecological thinking if serious changes are to be developed for conserving depleted resources, and for reducing pollution and unfettered consumption by developed and rapidly developing nations. The benefits of sexual and sexuate difference are firmly identified here with the value of real

political difference for *all members of a society* (i.e. not just those who have access to improved ecological wellbeing via the market), and with the politics of difference that ecological research and activism since the 1960s has established. Relational architectural ecologies are therefore the 'places' that form the built environment in modern global cultures *and* the specific 'lives' that construct these places, reflecting the complex biodiversity of our social and material environments. Moreover, the essays underscore the need for cultivating and protecting ecological biodiversity in human and non-human cultures, versus the pernicious consumption, pollution and waste that unethical forms of advanced capitalism perpetuate, despite significant recent scientific and cultural evidence that these are disastrous on a global scale.

Nature, technology and sustainability in the modern built environment

Contemporary ecological debates in the built environment sectors reflect environmental awareness of human–nature relations following the 1960s environmentalist movements, but discourses about the relationship between human-designed environments and nature are also present in historical analyses of premodern and vernacular architecture (e.g. Zeiher 1996).

Modern architectural discussions about nature have also inherited seventeenth- and eighteenth-century Romantic ideas of the tension between the natural world's positive, aesthetic powers and its destructive, sublime powers, together with Enlightenment desires that nature's beneficial physical powers of progress can be controlled by human design (e.g. Soper 1995). Since the late nineteenth century, these dialectical anthropocentric (human-centred) and non-anthropocentric (non-human) characteristics of nature have been focused in architectural discourses; beginning with 'landscape', and leading to the use of the term, 'environment', from the 1880s, and to 'environmental' discourses in the 1920s (Hawkes 2008: xv). More recently, since the 1980s, this dynamic human–nature relationship has developed into 'sustainable' and 'green' architecture.

Frank Lloyd Wright's term 'organic architecture' coined a modern formulation for employing nature's physical, spatial and aesthetic capacities in the design of modernist buildings (e.g. *The Natural House* 1954; *The Living City* 1958). A series of 'organic' or 'environmental' traditions also evolved during the late nineteenth and twentieth centuries, including designs by Louis Sullivan, Frei Otto, Antoni Gaudi and Buckminster Fuller, which were based on nature's complex geometries, and Hans Scharoun, Alvar Aalto and Carlo Scarpa's use of natural lighting and materials (e.g. Steadman 2008; Gans and Kuz 2003). Again, more recently, organic architecture has evolved into 'biomimetic' computational approaches, which take biological principles of genetic evolution as the basis

for morphological, digital and materials-based design (e.g. Hensel and Menges 2006).

Architects have also sought to situate technological approaches to sustainability within the aesthetic and poetic aims of the discipline, in particular, post-war architects including Gunnar Asplund and Sverre Fehn, and contemporary international architects, such as Peter Zumthor, Steven Holl, Elizabeth Diller and Ricardo Scofidio, and Tadao Ando (Hawkes 2008: xvii). However, the phenomenological basis of many of these approaches has not always distinguished their sustainable or ecological aims strongly enough from the professional architectural design literature that co-opts these buildings back into market-led definitions of development: for example, Steele's *Ecological Architecture* (2005) which, while acknowledging the 'murky' use of ecology in the profession, nevertheless firmly endorses its principal understanding of environmental sustainability as that defined by the Brundtland report, where economic and technological modes of sustainable design are *the* central criteria. Also, while he discusses key innovations in sustainably designed buildings by Wright, Fuller, Ando, and McHarg's bioregional landscape design, Steele overlooks the importance of social relations in the production and use of the buildings. This 'murkiness' has been upheld by publications like van Uffelen's *Ecological Architecture* (2009), which uncritically focuses on the seductive aesthetic and commercial appeal of advanced technological and environmentally responsive modern building design. More recently, however, Lee's *Aesthetics of Sustainable Architecture* (2011) has critically appraised the socioeconomic basis of sustainable aesthetic and technological approaches in architectural design, and includes contributions from environmental designers, historians and an anthropologist.

The relationship between nature and technology in modern architecture is also substantial and complex. Over the past forty years, it has largely been characterized by the profession's focus on energy efficiency and recycling, and environmentally responsive building and material technologies: for example, low-energy buildings, material recycling, local sustainable resources, the recovery of vernacular building techniques and the invention of innovative advanced architectural technologies, such as photovoltaic cells and zero-carbon emission technologies (e.g. Zeiher 1996; Roaf *et al.* 2001; Berge 2009). Previously, in the mid twentieth century, although highly utopian, Fuller's Dymaxion architectural projects and 'planetary' writings on sustainable networked architectures (1928–79) combined technological, cybernetic and geometric approaches for designing sustainable systems, operating from the small to the large scale. Reyner Banham's *The Architecture of the Well-Tempered Environment* (1969) established the contemporary profession's early understandings of 'environmental design' as the management of environmental technologies for designing 'habitable' buildings. However, his commitment to