ARTURO ESCOBAR

Designs for the Pluriverse

Radical Interdependence, Autonomy, and the Making of Worlds

Designs for
the Pluriverse

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Radical Interdependence, Autonomy, and the Making of Worlds

Arturo Escobar

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To Bob Marley, a prophet of our times

To the Zapatistas of Chiapas, for their pluriversal imagination

To the indigenous, Afrodescendant, and peasant communities of the Norte del Cauca region of Colombia, for their steadfast determination to defend the *tejido de la vida* (the relational weave of life) against rampant destruction by modern worlds.

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I Design for the Real World

But Which "World"? What "Design"? What "Real"?

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Preface and Acknowledgments

The times they are a-changin,' chanted Bob Dylan in a prophetic song back in 1964, at the dawn of the North American counterculture movement. That was well before intensive globalization with its increasingly conspicuous collateral damage, including climate change, widespread extractivism, extensive conflict and social dislocation, and the inexpressible devastation of the Earth. Today we would have to say, with climate justice activist Naomi Klein (2014), that *this changes everything.* For both Dylan and Klein, as for so many visionaries and activists worldwide and some farsighted designers, all of whom will be among the protagonists of this book, Klein's injunction is to be taken not only seriously but literally. What this means is that what is at stake is not just a given economic model (neoliberal capitalism), nor a set of cultural traits inimical to life on the planet (say, rampant individualism and consumerism), high-level policy reform (e.g., more comprehensive climate change protocols), geopolitical power struggles for re- and de-Westernization, or the ever-growing military-industrial complex. As Latin American indigenous, black, and peasant activists are wont to say, the contemporary crisis is a crisis of a particular *modelo civilizatorio*, or civilizational model, that of patriarchal Western capitalist modernity. This is a striking claim, but one that more and more social groups on the planet, in both the Global South and the Global North, are taking to heart in the defense of their places, territories, and cultures. As we shall see in the conclusion, the implication is none other than *everything has to change.* For those for whom the current conjuncture "changes everything," what needs

to change is an entire way of life and a whole style of world making. It goes deeper than capitalism.

This book is about this civilizational conjuncture, its implications for design theory and practice, and the practical potential of design to contribute to the profound cultural and ecological transitions seen as needed by a mounting cadre of intellectuals and activists if humanity is to face effectively the interrelated crises of climate, food, energy, poverty, and meaning. The book is based on the belief that this potential is real, as suggested by some trends within the design profession as a whole, particularly among a small but perhaps growing subgroup of designers who are actually already embarked on the project of "design for transitions." Some of these designers claim that the crisis demands nothing less than a reinvention of the human. Bold claims indeed. The book finds its main epistemic and political inspiration and force, however, in the political struggles of indigenous, Afrodescendant, peasant, and marginalized urban groups in Latin America who mobilize with the goal of defending not only their resources and territories but their entire ways of being-in-the-world. Some of them do so in the name of their collective alternative "Life Projects," a concept that is also finding a propitious home in transition design circles. The second wellspring of inspiration and ideas is the discourses and practices of the visionaries and activists who, in so many places and spheres of life, are engaged in bringing about the transitions. That's at least how many of them see it. A main goal of the book is to ask whether design can actually contribute to enabling the communal forms of autonomy that underlie these transition visions and Life Projects. This is to say that one of the major goals of the book is to place cultural and political autonomy, as defined by the mobilized grassroots communities in Latin America, firmly within the scope of design, perhaps even at its center in the case of those wishing to work closely with communities in struggle.

To nourish design's potential for the transitions, however, requires a significant reorientation of design from the functionalist, rationalistic, and industrial traditions from which it emerged, and within which it still functions with ease, toward a type of rationality and set of practices attuned to the *relational* dimension of life. This is why the approach taken is ontological. Design is ontological in that all design-led objects, tools, and even services bring about particular ways of being, knowing, and doing. This ontological dimension of design will be discussed at length in the book. Major sources for the reorientation of the rationalistic tradition lie within the nondualist and relational forms of life effectively present among many of the peoples en-

gaged in territorial struggles against extractive globalization. These struggles evince the strong communal foundations still present at the basis of these people's social life. Insights for thinking about relationality are also found within certain postdualist trends in academic circles of late, often described as the ontological turn. Relationality is also present, in the last instance, in the Earth itself, in the endless and ceaselessly changing weave of life on which all life depends. At some point in the book, we will speak about "the political activation of relationality" to signal the emergence of these vital knowledges and forces.

These are the main themes of the book, then: cultural, civilizational, and ecological transitions; an ontological approach to design and design for transitions; and the relations among autonomy, design, and the political activation of relational and communal logics at the center of the transitions. Can design's modernist tradition be reoriented from its dependence on the life-stifling dualist ontology of patriarchal capitalist modernity toward relational modes of knowing, being, and doing? Can it be creatively reappropriated by subaltern communities in support of their struggles to strengthen their autonomy and perform their life projects? Can ontologically oriented design play a constructive role in transforming entrenched ways of being and doing toward philosophies of well-being that finally equip humans to live in mutually enhancing ways with each other and with the Earth? Such are the overall questions explored in this book.

Situating This Book's Emergence within Epistemological and Political Contexts

This book is the result of seven years of research and teaching on design, relationality, and transitions at the upper-division and graduate levels; the background, however, goes much farther back. Given that I am not a professional designer nor a theorist within a design school, I feel it is important to situate this work and to convey its emergent character within design and scholarly trends, as well as within my ongoing intellectual-political projects. Making explicit the genealogy of my interest in design will also help me explain the ways in which my take on design is necessarily idiosyncratic and purposeful. I have worked around design themes for many decades. Chemical engineering (my undergraduate major) is about the design of production systems (chemical plants and operations) based on the thermodynamic analysis of the flows of matter and energy that go into these systems.[1] Paradoxically, the engineering

professions have been a central agent in the creation of the structural unsustainability of the contemporary world.

During my PhD years at Berkeley in the 1980s, I worked closely with one of the pioneers of systems thinking, C. West Churchman, who in the mid-1950s had coauthored the first textbook of operations research with Russell Ackoff and with two systems planners and designers close to Churchman, the British planner Leonard Joy and the Finnish designer Ritva Kaje. West (as he was universally known) wrote a difficult book, entitled *The Design of Inquiring Systems* (Churchman 1971), and ever since I read it in the late 1970s the notion of the design of knowledge systems has stuck in my mind as one of the most fundamental aspects of intellectual work. Since then, I have been reading in a sustained fashion, albeit largely on my own, in the vast and heterogeneous area of systems thinking, including cybernetics, self-organization, emergence, and complexity. Today, as we shall see, living-systems theory figures prominently in transition visions and novel design frameworks. One highlight for me in this regard was my conversations with the late biologist of complexity Brian Goodwin on several occasions at Schumacher College, an ecological transitions think tank in southern England. The works of Goodwin and those of Humberto Maturana and Francisco Varela on self-organization, autopoiesis, and complexity have influenced my approach to design, as will be abundantly reflected in this book. I see this engineering and systems background as the first thread in the genealogy of my design concerns.

Between the mid-1980s and the early 2000s, I collaborated with groups in Colombia working within the popular communications field, by then a rising professional and activist space. One of the key concepts of this field was that of *diseño de culturas* (the design of cultures), applied to political and professional work with grassroots organizations concerning literacy, popular art, and alternative development projects, particularly with indigenous and Afrodescendant communities for whom oral traditions were still predominant.[2] The popular education and popular communications movements were strong among activists in many parts of Latin America, and, inspired by Paulo Freire's pedagogy of the oppressed, Orlando Fals Borda's participatory action research movement, and liberation theology, activists roamed the land engaging in cultural work with peasant and ethnic subaltern communities. My acquaintance with these trends was decisive for the work I came to do with Afro-Colombian activists in southwestern Colombia beginning in the early 1990s, which continues to this day. Thinking about alternative economies and alternatives to development with these activists, and contributing actively to the

defense of their territories and life projects, has been a primary space to think about design for me. This second thread informs my current research project (explained in chapter 6 of this book), centered on a transition imagination exercise for the Cauca River valley region (around the city of Cali), where I grew up and where I continue to collaborate with Afro-Colombian, women's, and environmental collectives.

This transition imagination exercise comes at the end of three decades of critical engagement with questions of development, which involved detailed analyses of the ways in which policy and planning, as design tools par excellence, deeply structure people's realities and everyday lives. Today we would say (ontologically) that development policy and planning, as well as much of what goes on under the banner of design, are central political technologies of patriarchal capitalist modernity and key elements in modernity's constitution of a single globalized world. But I reached this realization only after a series of detours and nonlinear reorientations of my work, as one might call them today, leaning on the language of complexity, including Heideggerian phenomenology and Foucauldian poststructuralism. These philosophical currents, among others, helped me to understand clearly how the so-called underdevelopment of Asia, Africa, and Latin America was actually the result of a complex discursive invention that took place in the early post–World War II period, the consequences of which we are still currently living out. Today I would say that development has been one of the most portentous social experiments of the past seventy years—a grand design gone sour.

Ecology provides a third thread. My interest in ecology started in the early 1980s at Berkeley, where I served for several years as a teaching assistant for the yearlong introductory course for the conservation and resource studies major, which gathered many of the students wishing to engage in environmental activism in the Bay Area and beyond. I continued my ecological learning with James O'Connor and the founding group of the *Capitalism, Nature, Socialism* journal in Santa Cruz in the second half of the 1980s, and with colleagues in the Anthropology Department at the University of Massachusetts, Amherst, in the 1990s, who were by then pioneering a "biocultural synthesis" of biological and cultural approaches to the environment and to questions such as health, nutrition, and poverty.[3] It branched into a substantial interest in political ecology, still one of my main fields—a field often defined as the study of the interconnections among culture, nature, power, and politics. Today this thread feeds directly into the work that I, along with colleagues Mario Blaser and Marisol de la Cadena, call political ontology. An important crystallization of

these ecological interests was the codesign in 1998 of a weeklong workshop on ecological river basin design for river communities of the Pacific rain forest in Colombia, in which I applied a systems approach to the "territorial ordering" of river spaces. I designed the workshop and implemented it with activists of the Proceso de Comunidades Negras (Process of Black Communities). The workshop was the first statement of what I then started to call *autonomous design*, to be featured in the last chapter of this book.

There is one more important line of work shaping my design concerns, also dating to my years at Berkeley, and directly connected with how I came to conceptualize the present work. In the early 1980s, I became acquainted with Maturana and Varela's notion of autopoiesis, with Fernando Flores and his work on ontological coaching, and eventually with Flores and Terry Winograd's concept of ontological design (Winograd and Flores 1986).[4] These all marked significant influences on me. The notion of ontological design outlined in Flores and Winograd's book stayed with me throughout the years, and I attempted to develop it in the first version of this book, completed in the spring of 2012. Since then, I have come across the work of a loosely connected network of scholars for whom this notion has also been important, although not necessarily in connection with Flores and Winograd's work, and their work has come to inform the present version significantly. With the emergence of the ontological turn in social theory over the past decade, I have been cultivating the convergence, in my own thinking, of design ontologies and the ontological turn in the academy, anchored in the notions of relational and nondualist ontologies. This book has thus also become an exploration of the design dimension of the ontological turn. My acquaintance with Buddhism and nondualist forms of spirituality over the same period has kindled my interest in relationality (through related concepts such as dependent coarising and interbeing), in turn enriching my understanding of the ontology of design. I should mention another element of importance that has also influenced my design concerns. Since the early 1990s, my interest in information and communication technologies put me in touch with the digital dimension of design through the work of thinkers like Brenda Laurel, Pierre Lévy, and Paul Virilio, particularly the last's caustic yet lucid critique. Thinking about the digital from relational perspectives became part and parcel of the cultural studies of design I develop in this book.

I would be remiss if I did not mention, in ending, that one particular attraction of design for me is that I feel design thinking describes my own scholarly work and writing process. True, there is a lot of hype about the somewhat

mysterious abilities underlying the creative work of (famous, mostly male) designers. There is nothing mysterious about it, however, as recent ethnographies of designers at work show (e.g., Cross 2011; Murphy 2015), although this does not mean that it is not complex. I find more compelling the description of how design works than, say, that of how Cartesian models explain scientific thinking as allegedly based on logical reasoning, induction and deduction, and so forth. This doesn't mean that logical reasoning is not important—it is—but that intuition, feelings, and emotions are often as important. Above all, the "abstract reasoning" account of knowledge leaves out of the picture a hugely important feature of knowledge production that design thinking does not: the fact that creation is always emergent, in the two registers of emergence: self-organized and other-organized, the latter qualifier meaning that the scholar/designer also lays down elements and makes decisions that enable the self-organizing dynamic to take off and do its thing. As I hope the previous account of my multiple locations shows, my scholarly and political work has evolved in great part through self-organizing emergence over the years, much more than as a result of any conscious research plan.

There have been the proverbial moments of inspiration, but overall, from the early 1980s (if not before) until today, all the pieces that have come into the *making* of this book have coevolved through manifold "local" interactions that I could not have predicted in advance—from my dissatisfaction at a young age in Cali with "catching up" with the West and becoming "modern" and the seemingly incongruous encounter with systems thinking, ecology, and social movements, to the engagement with, say, Maturana and Flores and, more recently, transition thinkers and designers and ontological turn theorists and things digital and the dire realities at play in the work with Afro-Colombian activists and . . . All of these threads are responsible for this book, which means that this book is itself a temporary crystallization of this emergence (in fact, this book was just supposed to be an input into the other book I was writing; in a way, it just happened). Perhaps one might call the composition of the emergent heterogeneous assemblage that is this book, design.[5]

I emphasize "making" above because, as designers would have it, intellectual work is about making. There is an embodied character to writing that is often disregarded, a tactility almost and a phenomenology of writing that partakes more of a makers' culture than of the isolated "mind at work" celebrated in popular accounts of scientists and innovators (the "Steve Jobs genius" phenomenon). Most of what we do as scholars is refashioning, often through bricolage, by making novel connections, reconfiguring, reframing,

and rearticulating ideas that were already proposed by others or that just float in the historically accumulated noosphere, and with some luck this refashioning sets off emergent logics that end up in, say, a good book.[6] The process evolves through *composition*, in Jacques Attali's (1985) sense of this term—even more, this book has been designed or composed in this way. To put it differently, all creation is collective, emergent, and relational; it involves historically and epistemically situated persons (never autonomous individuals), and this ineluctable relationality is acknowledged now by designers in the age of "design, when everybody designs," in Ezio Manzini's (2015) skillful title. I suspect that many scholars would agree with the view just sketched of how intellectual making takes place.

To conclude, I can say, in retrospect, that my overriding concern is with difference, and how difference is effaced or normalized—and, conversely, how it can be nourished. This concern embraces difference in the biological realm (hence, my interest in biodiversity), epistemic difference (coloniality), cultural difference, and—as one might say today—ontological difference, or the pluriverse. Today, difference is embodied for me most powerfully in the concept of the pluriverse, *a world where many worlds fit,* as the Zapatista put it with stunning clarity. This has been the central problem that, largely intuitively, has reverberated throughout my intellectual life. It has also been about "living fearlessly with and within difference," as feminists from the Global South often put it (e.g., Trinh 1989; Milczarek-Desai 2002), that is, about an ethical and political practice of alterity that involves a deep concern for social justice, the radical equality of all beings, and nonhierarchy. It's about the difference that all marginalized and subaltern groups have to live with day in and day out, and that only privileged groups can afford to overlook as they act as if the entire world were, or should be, as they see it.

Here we find a powerful design connection, as both design and difference are about the creation of form. They are about morphogenesis, in the broad sense of the term, which involves a broad range of processes, from how the leopard changed its spots or how the butterfly acquired its wings—and so many instances of emergent natural order and "design," such as the ubiquitous fractal and dendritic structures found even in the Amazon River basin taken as a whole—to the architect's concern with form in the design of the built environment, to landscapes, cities, art, and so forth.[7] Between "the life of form" and the "form of life" (Goodwin 1994, 2007) an entire design space opens up; it includes the "world-within-the-world" of human creation (Fry 2012) for sure, but it goes beyond, as intuited by cultural studies of design

scholar Brenda Laurel: "*When one steps back from the marketplace, things can be seen in a different light. While time passes on the surface, we may dive down to a calmer, more fundamental place. There, the urgency of commerce is swept away by the rapture of the deep. Designers working at that depth choose to delve into the essence of design itself. Form, structure, ideas and materials become the object of study*" (2003, 13; my emphasis). This "acquired disposition" of the designer is poetically described by Australian design theorist Susan Stewart as "the deep pleasure experienced by the designer, in the blossoming or unfolding of felicitous material conjunctions and effects; in the embodied recognition of what is both transformative and fitting within the material context in question" (2015, 275).

We restate the question: can design be reoriented from its dependence on the marketplace toward creative experimentation with forms, concepts, territories, and materials, especially when appropriated by subaltern communities struggling to redefine their life projects in a mutually enhancing manner with the Earth?

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Acknowledging the multiple influences on the ideas presented in this book is essential to explaining its writing in multiple geographic, epistemic, and social locations. As I have already suggested, my sources of inspiration are twofold: the cogent notions stemming from Latin American social struggles, on the one hand, and theoretical and political debates in the academy in Latin America, the United States, and elsewhere, on the other. To begin with the first category, my first debt of gratitude goes to the brilliant and committed group of Afro-Colombian activists belonging to the organizational network Process of Black Communities, particularly Charo Mina Rojas, Marilyn Machado, Francia Márquez, Carlos Rosero, Yellen Aguilar, Danelly Estupiñan, Karin Banguero, Felix Banguero, María Ginés Quiñones, José Santos, and Libia Grueso, with most of whom I have maintained a friendship and collaboration that goes back to the early 1990s. My thanks also to those academics and intellectuals who are fellow travelers in the work with the Process of Black Communities, particularly Patricia Botero, Axel Rojas, Gladys Jimeno, Anthony Dest, Irene Vélez, Sheila Grunner, Viviane Weitzner, Hildebrando Velez, Jeanette Rojas, David López Matta, and Ulrich Oslender, and the entire Grupo de Académicos e Intelectuales en Defensa del Pacífico Colombiano, created in 2010 by academics and activists with the goal of advancing an international campaign,

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Introduction

In 1971, as industrialism and U.S. cultural, military, and economic hegemony were coming to their peak, Victor Papanek opened *Design for the Real World* with the following caustic indictment of the field: "There are professions more harmful than industrial design, but only a very few of them. . . . Today, industrial design has put murder on a mass-production basis"; even more, "designers have become a dangerous breed" (1984, ix). Reflecting on the watered-down governmental agreements at the much-talked-about summits on the environment and sustainable development (Rio +20 in June 2012 and the Paris COP 21 in December 2015), just to mention two prominent recent attempts at "redesigning" global social policy, one might think that not much has changed, but this would be too quick a judgment. To be sure, much of what goes on under the guise of design at present involves intensive resource use and vast material destruction; design is central to the structures of unsustainability that hold in place the contemporary, so-called modern world. But despite crucial continuities, today's social and design contexts are significantly different than in the 1970s. Informed by a rich international experience in "Third World development," which enabled him to witness failure after failure in design, Papanek called for taking the social context and responsibility of design with utmost seriousness. A growing number of contemporary designers are heeding this call today. This book can be seen as a contribution to this ongoing redefinition of design; it will do so from a particular vantage point, here referred to as *ontological* or, more precisely, *politico-ontological*.

The global boom of design with postmodernism and globalization has certainly had its ups and downs, its high and low moments. Reflections on design by its theorists and practitioners over the past decade, however, converge on some realizations and novel emphases. The first is the ubiquity of design—design is literally everywhere; from the largest structures to the humblest aspects of everyday life, modern lives are thoroughly designed lives. Second, social context is important for successful design, well beyond products' functional or commercial applications, or for effective services. Third, ecologically oriented fields in particular have realized design's vital role in creating a more livable world, with the concomitant need to come up with types of design that make a difference. The fourth signals what is perhaps the most radical change: the need to take seriously the notion that everybody designs, leading to a whole range of proposals for ethnographic, participatory, and collaborative design, and indeed a rethinking of the entire concept of design, "when everybody designs," as Italian design theorist and practitioner Ezio Manzini (2015) pronounced in the very title of his most recent, and compelling, book. Similarly, the spread of digital technologies has pushed designers into embracing unprecedented rules for design, based on interactivity and user participation; design comes to be seen as collaborative, plural, participatory, and distributed. In short, as Tim Brown—a design guru from the famed San Francisco firm IDEO—puts it, design "has become too important to be left to designers" (2009, 8). All of the above is seen as requiring new methods, approaches, and ways of thinking—a novel "design thinking" (T. Brown 2009; Cross 2011), a manner of approaching not only the task at hand but the world that is more ethnographic and relational. Designers discuss the changing status of "the object" (Lukic and Katz 2010) and "things" (Ehn, Nilsson, and Topgaard 2014), echoing current debates in science and technology studies, anthropology, and geography. Finally, as exemplified by Anne Balsamo (2011) for the case of technological innovation, there is an important focus on the relation between design and culture: the fact that design is about creating cultural meanings and practices, about designing culture, experience, and particular ways of living (see also Manzini 2015; Julier 2014; see Laurel 2001; Suchman 2007; and Sparke 2004 for important precedents on this relation). Whether all of this warrants claiming that a new design culture has emerged remains a matter of debate, although the acute sense of change in critical design studies is itself a factor to be considered.

One thing should be clear from the outset: while any design discussion inevitably summons established design imaginaries, it should be clear that in this

book *design* refers to much more than the creation of objects (toasters, chairs, digital devices), famous buildings, functional social services, or ecologically minded production. What the notion of design signals in this work—despite *design*'s multiple and variegated meanings—is diverse forms of life and, often, contrasting notions of sociability and the world.

The Argument and the Book's Outline

The book is divided into three main parts. Part I introduces some elements from the design literature at present and offers an outline for a cultural studies approach to design. I pay particular attention to those works that imagine a new social role and modes of operation for design (chapter 1). There are abundant ideas about how design is being transformed in practice, and how to hasten the change, although as we shall see few of these works question the cultural-philosophical armature from which design practice itself emerges (broadly, patriarchal capitalist modernity). Taken as a whole, these trends reveal the existence of a critical design studies field under construction. In chapter 2, recent theoretical trends and design debates in anthropology, ecology, architecture and urbanism, digital studies, development studies, political ecology, and feminist theory are reviewed to ascertain their contribution to an understanding of the nexus among design, culture, and the construction of reality specific to the current historical conjuncture. The aim of this part is to introduce diverse literatures to diverse audiences: design literatures to non-design readers and, conversely, up-to-date social theory approaches to design experts with little background in the social sciences and the humanities.[1]

Part II proposes an ontological reading of the cultural background from which design emerges, and it goes on to outline an ontological approach to design. Chapter 3 presents a particular analysis of the background that enables a unique answer to the question of design's reorientation. Inspired by a "minor" perspective within the biology of cognition (spearheaded by the original work of Chilean biologists Humberto Maturana and Francisco Varela, 1980, 1987), this chapter develops a reading of the background in terms of the "rationalistic tradition," often associated with the objectifying epistemology of Cartesianism. It summarizes well-known arguments about the dualist ontology that, linked to such a tradition, characterizes the prevailing versions of Western modernity. What is new here is the idea that such a critique of dualisms (mind/body, self/other, subject/object, nature/culture, matter/spirit, reason/emotion, and so forth) is arising from many different intellectual and activist domains, not just

academic critiques. My argument is that the convergence of these tendencies is fostering the creation of an ontological-political field that questions anew, and goes beyond, these dualisms. The multisited emergence of such a field is making progressively perceptible—theoretically and politically—a range of alternatives, increasingly conceptualized in terms of the notion of relationality. This concept offers a different, and much-needed, way of re/conceiving life and the world, and a potential new foundation for design.

With these pieces and a renewed mode of access to the question of reorienting design in place, chapter 4 moves on to outline the concept of ontological design. Initially proposed by Terry Winograd and Fernando Flores in the mid-1980s, it has remained little developed, with the few exceptions featured prominently in this book. Ontological design stems from a seemingly simple observation: that in designing tools (objects, structures, policies, expert systems, discourses, even narratives) we are creating ways of being. A key insight here is what Anne-Marie Willis (2006, 80) has called "the double movement of ontological designing," namely, that we design our world, and our world designs us back—in short, design designs. The ontological design approach is found at the basis of Tony Fry's proposals for a transition from sustainability to "Sustainment," as well as a handful of recent transition design proposals. In this chapter I present ontological design as a means to think about, and contribute to, the transition from the hegemony of modernity's one-world ontology to a pluriverse of socionatural configurations; in this context, *designs for the pluriverse* becomes a tool for reimagining and reconstructing local worlds.

Part III explores this proposition in depth. Chapter 5 brings to the forefront the cultural-political background within which a pluriversal design practice arises as a tangible possibility and as more than just a figment of the intellectual imagination. This chapter takes a sweeping look at the rich production, over the past decade, of cultural and ecological transition narratives and discourses in both the Global North and the Global South. It summarizes emergent notions and movements in the Global North, such as degrowth, commoning, conviviality, and a variety of pragmatic transition initiatives. For the Global South, it examines current debates and struggles around *Buen Vivir* (well-being), the rights of nature, communal logics, and civilizational transitions, particularly as these debates are taking place in some Latin American countries, pondering whether they can be seen as instances of the pluriverse re/emerging. The argument here is that these transition imaginations, which posit the need for radical transformations in the dominant models of life and the economy,

might constitute the most appropriate framework for an ontological reframing of design. Two interconnected reframings are then presented: an evolving "Transition Design" framework being developed as a graduate training and research program at Carnegie Mellon University's School of Design, and Manzini's conceptualization of design for social innovation and transition to a new civilization.

Finally, chapter 6 develops the notion of autonomous design as a particular ontological design approach in dialogue with the transition visions and design frameworks. The basic insight is, again, seemingly straightforward: that every community practices the design of itself. This was certainly the case with traditional communities (they largely endogenously produced the norms by which they lived their lives), as it is today with many communities, in both the Global South and the Global North, that are thrown into the need of designing themselves in the face of ever-deepening manifestations of the crises and the inescapable techno-economic mediation of their worlds. In other words, if we accept the thesis—voiced by social movement activists, transition visionaries, and some designers—that the current crises point at a deeper civilizational crisis, then the autonomous design of new forms of life and their own life projects appears to many communities as an eminently feasible, perhaps unavoidable, theoretico-political project; for some, it is even a question of their survival as distinct worlds. I will illustrate this notion of autonomous design with a transition exercise for a particular region in Colombia's southwest, envisioning a transformation from the ecologically and socially devastating model that has been in place for over a hundred years to a codesign process for the construction of a life-enhancing regional pluriverse.

A fundamental aspect of autonomous design is the rethinking of community or, perhaps more appropriately, the communal; this rekindled concern with the communal is in vogue in critical circles in Latin America and in transition movements in Europe concerned with the relocalization of food, energy, and the economy and with transition towns and commoning, among others.[2] Hence, this chapter attempts to place autonomy and the communal at the center of design. (That this has nothing to do with the individual autonomy imagined by liberalism will become clear throughout the book. In fact, the opposite is the case.) The inspiration for this proposition comes from the view that autonomy is the most fundamental feature of the living; in Maturana and Varela's terminology, to be explained in chapters 3 and 6, autonomy is the key to *autopoiesis*, or the self-creation of living systems. This proposition will serve as a partial anchor for proposing a particular practice and way of thinking

about the relation among design, politics, and life, to be called *autonomous design*.

From "Development" to the Pluriverse

At the dawn of the development age, a group of reputable United Nations experts characterized the project to come as follows: "There is a sense in which rapid economic progress is impossible without painful adjustments. Ancient philosophies have to be scrapped; old social institutions have to disintegrate; bonds of caste, creed, and race have to burst; and large numbers of persons who cannot keep up with progress have to have their expectations of a comfortable life frustrated. Very few communities are willing to pay the full price of economic progress" (United Nations, Department of Social and Economic Affairs 1951, 15). In hindsight, we can consider this pronouncement as a daring, albeit utterly arrogant, design vision. The notion of underdevelopment was just being concocted, and the "Third World" had not yet been born. A new design dream was overtaking the world; we are still engulfed by it, even though, for many, as for the Earth itself, the dream has increasingly turned into a nightmare. What the United Nations envisioned was a sweeping "elimination design" (Fry 2011) of its own, aimed literally at scrapping the vernacular design and endogenous practices that for centuries had nourished, for better or worse, the lives of millions throughout the centuries. Almost overnight, a diverse range of rich and vibrant traditions were reduced to being worth, literally, nothing: nondescript manifestations of an allegedly indubitable fact, "underdevelopment." Yet this dream made perfect sense to millions and was embraced by elites almost worldwide. Such was the power of this design imagination. Not only that, the discourse still holds sway today, as witnessed by the newest round of self-serving debates and policy maneuvers set in place in 2015, and for the next fifteen years, under the rubric of the post-2015 development agenda and the scuffle over a new set of sustainable development indicators. As Fry puts it, "the world of the South has in large part been an ontological designing consequence of the Eurocentric world of the North" (2017, 49). Thus, it is necessary to liberate design from this imagination in order to relocate it within the multiple onto-epistemic formations of the South, so as to redefine design questions, problems, and practices in ways more appropriate to the South's contexts.

Today, faced with the realities of a world transformed by a changing climate, humans are confronted with the irrefutable need to confront the design

disaster that development is, and hence to engage in another type of elimination design, this time of the structures of unsustainability that maintain the dominant ontology of devastation. The collective determination toward transitions, broadly understood, may be seen as a response to the urge for innovation and the creation of new, nonexploitative forms of life, out of the dreams, desires, and struggles of so many groups and peoples worldwide. Could it be that another design imagination, this time more radical and constructive, is emerging? Might a new breed of designers come to be thought of as transition activists? If this were to be the case, they would have to walk hand in hand with those who are protecting and redefining well-being, life projects, territories, local economies, and communities worldwide. These are the harbingers of the transition toward plural ways of making the world. *The order is rapidly fadin' / And the first one now will later be last / For the times they are a-changin.'* Perhaps the pluriverse is indeed rising, as the Zapatista of Chiapas and those engaged in so many other popular struggles have been saying for over two decades now.

The Stakes

In 1980, as neoliberalism and unfettered market-led globalization were coming firmly into place with the conservative regimes of Margaret Thatcher and Ronald Reagan, elected with seemingly overwhelming popular support, Bob Marley sent a powerful message in the perfect rhythm of Jamaican reggae:

> *Check out the real situation:*
> *Nation war against nation.*
> *Where did it all begin?*
> *When will it end?*
> *Well, it seems like: total destruction the only solution.*
> *And there ain't no use: no one can stop them now.*
> *Ain't no use: nobody can stop them now.*[3]

Where did it all begin, indeed? What are the stakes? Can "they" be stopped? There are scores of answers to these questions, of course. I would like to consider two particular takes on them, far from the current limelight of critical analyses, but perhaps more radical, to end this introduction. The first, by cultural critic Ivan Illich, involves as much a theory of crisis as a transition framework. The second, by several Latin American and European feminists, lucidly unveils the longest historical roots of the contemporary malaise, locating

patriarchy at the center of it. Besides their farsighted vision, which makes them particularly appropriate for thinking about transitions, they have the additional value of embodying a strong dissenting design imagination. Reading the feminists' critical theory of patriarchy and Illich's acerbic but enlightening analyses of today's machine-centered civilization, one could reach the conclusion that indeed *Ain't no use: nobody can stop them now.* Yet, at the same time, their insights about transitions to relational and convivial ways of being, knowing, and doing are concrete and real, as in many other transition narratives on which we will draw.

Illich is best known for his trenchant criticism of the deleterious character of expert-based institutions, from medicine and education to energy and transportation, and of the disempowering effects of the feminization of work and the narrowing down of gender struggles to a matter of individual economic and political equality. Published in 1973, *Tools for Conviviality* summarized many of his critiques, setting them in the context of a political vision, namely, the reconstruction of convivial modes of living, or what he termed *conviviality.* The book was self-consciously written as "an epilogue to the industrial era," in the conviction that "in the advanced stage of mass production, any society produces its own destruction" (2015, 7, 9).[4] His key concept, that of the industrial mode of production, enabled him to conceptualize the threat to the human that arises when tools, broadly understood, reach thresholds beyond which they become irremediably damaging to people and the environment. The steady erosion of limits started in the seventeenth century with the harnessing of energy and the progressive elimination of time and space, gained force with the Industrial Revolution, and accomplished a complete restructuring of society in the twentieth century. Many technologies or "tools" based on specialized knowledge, such as medicine, energy, and education, surpassed their thresholds sometime in the early to mid-twentieth century. Once these thresholds were passed, the technologies became not only profoundly destructive in material and cultural terms but fatally disabling of personal and collective autonomy. The concentration of power, energy, and technical knowledge in bureaucracies (the State) resulted in the institutionalization of these tools and enabled a tight system of control over production and destruction. Illich referred to this process as *instrumentation* and showed how it systematically destroys convivial modes of living. The result was a mega-tooled society embedded in multiple complex systems that curtail people's ability to live dignified lives.

The corollary is that society has to be reinstrumentalized to satisfy the twin goals of conviviality and efficiency within a postindustrial framework. This goal requires facing head-on the threats that accelerated growth and the uncontrollable expansion of tools pose to key aspects of the human experience, including the following: humans' historical localization in place and nature; people's autonomy for action; human creativity, truncated by instrumentalized education, information, and the media; people's right to an open political process; and humans' right to community, tradition, myth, and ritual—in short, the threats to place, autonomy, knowledge, political process, and community. Anticipating degrowth debates (chapter 5), Illich spoke about the need for an agreement to end growth and development. To a world mired in ever-increasing production, while making this production seem ever easier, Illich counterposed not only the fallacy of the growth imperative, thus making its costs visible, but the cultivation of a joyful and balanced renunciation of the growth logic and the collective acceptance of limits.[5]

What Illich proposed was a radical inversion, away from industrial productivity and toward conviviality. "To the threat of technocratic apocalypse, I oppose the vision of a convivial society. Such a society will rest on social contracts that guarantee to each person the broadest and freest access to the tools of the community, on the condition of not hampering others' equal freedom of access. . . . A plurality of limited tools and of convivial organizations would foster a *diversity of modes of living that would acknowledge both memory and the inheritance from the past as creation*" (2015, 26–28; emphasis added). This ethical position involves an alternative technical rationality; as we shall see, it lends support to the emphasis by social movements on ancestrality as the basis for autonomy, and by transition designers on futurality, or the creation of futures that have a future, as a fundamental design principle. As Illich adds, convivial tools will have to be efficacious in fostering people's creative autonomy, social equity, and well-being, including collective control over energy and work. This means that tools need to be subjected to a political process of a new kind. As science and technology create new energy sources, this control becomes all the more important. To achieve these goals, in Illich's view, it is imperative to impose limits on the expansion of production; these limits have the potential to enable the flourishing of a different kind of autonomy and creativity. At the end of the process, there might emerge a society that values sobriety and austerity, where people relearn dependence on others instead of

surrendering to an altogether powerful economic, political, and technocratic elite. The process is eminently political:

> Convivial reconstruction implies the dismantling of the current industrial monopoly, not the suppression of all industrial production. . . . A continuous process of convivial reconstruction is possible on the condition that society protects the power of persons and collectivities to change and renew their lifestyles, their tools, their environments; said otherwise, their power to give their reality a new face. . . . We are talking about a society that diversifies the modes of production. Placing limits on industrial production has for us the goal of liberating the future. . . . A stagnant society would be as untenable as a society of endless acceleration. In between the two, there lies the society of convivial innovation. . . . Threatened by the omnipotence of the tool, the survival of the species thus depends on the establishment of procedures that enable everybody to clearly distinguish between these two forms of rationalizing and using tools, thus inciting people to choose survival within freedom. (94–97)

Let us leave Illich for a moment and consider Claudia von Werlhof's account of patriarchy as the source of the contemporary civilizational model that is wreaking havoc on humans and nature. If one were to ask people on the street to name the main crisis sources, very few would name patriarchy. Why, then, go there? There is no doubt that, for von Werlhof, the roots of the Western civilizational crisis lie in the long development, over the past five thousand years, of patriarchal cultures at the expense of matriarchal ones. For this author, patriarchy goes well beyond the exploitation of women; it explains the systematic destruction of nature. Conversely, matriarchy is not defined by the predominance of women over men, but by an entirely different conception of life, not based on domination and hierarchies, and respectful of the relational fabric of all life. This is why, for all cultures, it can be said that "in the beginning, there was the mother" (in the last instance, Mother Earth), that is, the relation, as tends to still be the case today for many indigenous peoples, who retain a range of matriarchal practices. Progressively, however, men undermined this fundament of life in their attempt to usurp women's power to create life through what von Werlhof labels "the patriarchal alchemy." While in its original connotation *alchemy* referred to a mode of knowledge based on observation of the natural rhythm of life, for the patriarchs it became a practice of destruction, the fragmenting of the elements of matter to eventually produce, out of the isolated elements, what was considered most valuable, such

as gold or the philosopher's stone. Destruction progressively became the program to be advanced, contradictorily in the name of creating life; eventually, with modernity and the dominance of the machine, the program transmuted into the search for endless progress and the promise of a ceaselessly better world. Monotheistic religions have been a main component of this program, with the pater as a godlike figure. After more than five hundred years of patriarchal Western modernity, this "alchemic civilization" based on "creation through destruction" has seemingly become global, always at war against life. From von Werlhof's perspective, capitalism is the last phase of this patriarchal civilization.[6]

According to several Latin American feminists, the origin of this last phase is found in the Conquest of America and the instauration of the modern/colonial world system. Looking at this historical process from the perspective of patriarchy is essential to understand the transformations ushered in by modernity. To this end, Argentinian feminist anthropologist Rita Segato (2015) introduces a distinction between the "world-village" (*mundo-aldea*) of communal worlds, with their dual-gender ontology (based on complementary dualities, organized on the basis of relations of reciprocity, and not on a binary between intrinsically independent pairs), and the "world-state," with its dualist ontologies, which progressively occupies communal worlds through the constitution of a public sphere dominated by men and an increasingly subordinated feminine private sphere. It was thus that the low-intensity patriarchies of communal worlds gave way to what Segato calls the high-intensity patriarchy of capitalist modernity. From this perspective, patriarchy is at the root of all forms of subordination, including racial, colonial, and imperial domination, along with the resulting pedagogy of cruelty, as Segato names it, imposed on all societies. There is agreement among the growing cadre of Latin American autonomous, decolonial, and communitarian feminists, as Aymara intellectual-activist Julieta Paredes (2012) puts it, that it was on the bodies of women that humanity learned how to dominate. The corollary is to always analyze historically the entanglement of diverse forms of patriarchy, from the autochthonous and indigenous to the modern.[7]

Patriarchal alchemy engulfs most aspects of life; as individuals, we see ourselves in terms of a type of self-realization that is also a process of self-alchemization, of always re/making ourselves through production and self-improvement. Our spirituality often gets impoverished, trapped in the separation between matter and spirit; the body is debased by patriarchal religions, far from the spirituality of Earth. Progressively, humans start to experience a distancing from all

life, which includes, unwittingly, those claiming equality within the same life-destroying patriarchal regimes. Once in the modern period, the world comes to be increasingly built without attachment to place, nature, landscape, space, and time—in short, without reference to the hic et nunc (the here and now) that has shaped most human existence throughout history.[8] From these feminist perspectives, what is thus needed is a politics for an other civilization that respects, and builds on, the interconnectedness of all life, based on a spirituality of the Earth, and that nourishes community because it acknowledges that love and emotion are important elements of knowledge and of all of life.

The notion of the interconnectedness of all life is central to ecology, to most transition narratives, and to the theoretical currents discussed in this book in terms of relationality (chapter 2). All living, human or not, takes place within a relational matrix. The forgetting of this fact led to the development of patriarchal cultures. North Carolina ecologist and theologian Thomas Berry (one of the transition thinkers discussed in chapter 5) echoes von Werlhof's analysis in a profound sense. For him, "a new interpretation of Western historical development is emerging through the concept of patriarchy. . . . The entire course of Western civilization is seen as vitiated by patriarchy, the aggressive, plundering, male domination of our society" (1988, 138–140). This expanded role ascribed to patriarchy, he adds, has yet to reach the public so that it becomes possible to imagine a postpatriarchal, genuinely ecological ("omnicentric") world. Emerging from the analysis is the need for a new historical mission, that of ushering in "a period when a mutually-enhancing human-earth relationship might be established" (145). This can be arrived at only by working against the grain of the four key establishments that support the modern patriarchal vision: governments, corporations, universities, and organized religion.

These lessons resonate with the systematic comparison of "European patriarchal culture" and "matristic cultures" by Humberto Maturana and German psychologist Gerda Verden-Zöller (1993). Like the feminist writers just discussed, these authors adopt an ontological conception of the cultures of matriarchy and patriarchy: "In a patriarchal culture both women and men are patriarchal, and in a matristic culture, both men and women are matristic. Matristic and patriarchal cultures are different manners of living, different forms of relating and manners of emotioning, different closed networks of conversation that are realized in each case by both men and women" (2008, 112).[9] Placing the rise of Indo-European patriarchal culture within a historical and evolutionary context, these authors arrive at some seemingly startling conclusions

within an overall perspective they call "the biology of love." Patriarchal culture is defined as characterized by actions and emotions that value competition, war, hierarchies, power, growth, procreation, the domination of others, and the appropriation of resources, combined with the rational justification of it all in the name of truth. In this culture, which engulfs most modern humans, we live in mistrust and seek certitude through control, including control of the natural world.

Conversely, historical matristic cultures were characterized by conversations highlighting inclusion, participation, collaboration, understanding, respect, sacredness, and the always-recurrent cyclic renovation of life. With the rise of pastoral societies, the transition from one culture to the other started and has not ceased ever since. Matristic modes of being persist in contemporary cultures, despite the prevailing patriarchal approach. They survive, for instance, and however partially and contradictorily, in mother-child or parent-child relations, in love relations, in science, and in participatory democracy. Of crucial importance in this conception is the recognition that the basis of biological existence is the act of emotioning, and that social coexistence is based on love, prior to any mode of appropriation and conflict that might set in. Patriarchal modern societies fail to understand that it is emotioning that constitutes human history, not reason or the economy, because it is our desires that determine the kinds of worlds we create.[10]

Matristic thought and culture arise and thrive within this biology of love; they take place "in the background of the awareness of the interconnectedness of all existence; hence, they can only be lived in the continuous implicit understanding that all human actions have implications for the totality of existence" (Maturana and Verden-Zöller 1993, 47). In this view, the change in human emotioning from interconnectedness to appropriation and control thus emerges as a crucial cultural development justified, with the advent of modernity, by a certain rationality. Hence, it is necessary to cultivate again the harmony of coexistence through the equality and unity of all living beings within the ongoing, recursive, and cyclical renovation of life. The ethical and political implications are clear:

> Hence, if we want to act differently, if we want to live in a different world, we need to transform our desires, and for this we need to change our conversations. . . . This is possible only by recovering matristic living. . . . The matristic manner of living intrinsically opens up a space for coexistence where both the legitimacy of all forms of existing and the possibility of

> agreement and consensus on the generation of common projects of coexistence are accepted. . . . It allows us to see and to live within the interaction and coparticipation of everything that is alive in the living of all the living; patriarchal living [on the contrary] restricts our understanding of life and nature because it leads us to search for a unidirectional manipulation of everything, given the desire to control living. (105)

Retaking this "neglected path" implies reversing the devaluing of emotioning in relation to reason, which inevitably undermines social coexistence. For von Werlhof, the implications are equally momentous:

> It turns out that—whether we want to or not—*we cannot continue living within modernity* because it robs us of the very basis for life, including our mere survival! . . . There are two alternatives: to go deeper [within modernity] or to exit from it, to reform it or to revolutionize the situation, toward an alternative *to* modernity rather than *of* modernity. But we know well that this is the greatest taboo all over the world, that is, to leave behind the so-called Western civilization, because it means leaving patriarchy as such behind. This rupture is almost unimaginable anywhere, except within the indigenous worlds. (2015, 159)

"There is only one solution," she continues, considering the Zapatista experience: "the reconstruction of a nonoccidental civilization not only in Mexico but also in the West and throughout the entire planet" (195). We will have to wait until the last chapters of this book to ascertain whether this seemingly utopian call has any purchase with concrete social actors. Suffice it to say for now that this notion of civilizational change is being seriously entertained by many transition theorists and visionaries, from ecologists and climate activists to spiritual teachers. Overcoming patriarchy requires an internal cultural healing, the revitalization of traditions and the creation of new ones, the realization that a civilization based on the love of life is a far better option than one based on its destruction. Some indigenous peoples in the Americas see themselves as engaged in the *Liberación de la Madre Tierra* (the Liberation of Mother Earth), well beyond the traps of the alchemic civilization of corporate and market globalization, which they often refer as the "project of death." For them, it is time to abandon "the superstitious belief in progress and in the modern epoch as the best of all worlds, that is, in the *alchemic project*" (von Werlhof 2015, 85). This is also the meaning of the "new matriarchies" that von Werlhof and others intuit, those that while inspired by matriarchal principles

of the past are becoming transformative forces appropriate to the worlds of today.

It bears emphasizing that the importance of this long-term analysis of patriarchy and Western modernity as the background of the contemporary crisis lies in the fact that these authors see patriarchy as *an active historical reality*; it is not a thing of the past. Patriarchal ways of being are central to the historicity of our being-in-the-world at present. This awareness needs to be brought to bear in any significant reorientation of design. As Susan Stewart remarks, "the excision of history from design thinking isolates the understanding that informs the design act from any understanding of the temporal trajectories in which it participates" (2015, 276). Recognizing those historical aspects of our historicity that seem buried in a long-gone past—which requires paying attention to the realm of myth and story in shaping our worlds—is part and parcel of design's coming to terms with the very historicity of the worlds and things of human creation in the current tumultuous age.

Design with/out Futures?

Readers might rightly wonder what these ideas about autonomy, relational living, and so forth have to do with design, ontological or otherwise. Moreover, is *autonomous design* not an oxymoron? The possibility I am trying to ascertain is quite straightforward in principle: whether some sort of ontologically oriented design could function as design for, and from, autonomy. Here again we confront one of the key issues of this book: can design be extricated from its embeddedness in modernist unsustainable and defuturing practices and redirected toward other ontological commitments, practices, narratives, and performances? Moreover, could design become part of the tool kit for transitions toward the pluriverse? What would that imply in terms of the design of tools, interactions, contexts, and languages in ways that fulfill the ontological design principle of changing the ways in which we deal with ourselves and things so that futuring is enabled?

We find distinct yet complementary clues to these questions in the activist and scholarly worlds. If the conditions ever existed for constructing a design agenda from within the theoretico-political space of the social struggles of the day, that moment is today. In 2001 the World Social Forum already announced this historical possibility in the Brazilian city of Porto Alegre; its call to action still reverberates: *Another world is possible.* The World Social Forum echoed what the Zapatista of Chiapas had already voiced with amazing lucidity and force:

Queremos un mundo donde quepan muchos mundos (We want a world where many worlds fit). Is it possible to read in these popular slogans the seeds of a radical design imagination? "Queremos ser nosotros los que diseñemos y controlemos nuestros proyectos de vida" (We ourselves want to be those who design and control our life projects), says the Mapuche poet Elicura Chihuailaf (quoted in Rocha 2015, 97). One can see instances of this determination up and down Latin America, from the Zapatista of Chiapas and the autonomous communities in Oaxaca to the *nasa* and *misak* in Colombia's southwest and the Mapuche in Chile and Argentina, but also among a growing number of campesino and Afrodescendant communities in a number of countries and equally in some urban settings. This determination experienced a veritable takeoff around 1992, coinciding with the five-hundredth anniversary of the so-called discovery of America and the renaming of the continent by indigenous movements as *Abya Yala*.[11] With this renaming, the indigenous peoples achieved a *madurez telúrica*, or civilizational coming-of-age, as their activists put it.

This coming-of-age is foregrounding a range of forms of *pensamiento autonómico*, or autonomous thought. Together with the recrafting of communal forms of knowing, being, and doing, these notions—*autonomía* and *comunalidad*—and their associated practices may be seen as laying the ground for a new design thought with and within communities. Experiences embodying the search for autonomy can be witnessed in many corners of Latin America and the Caribbean, particularly in locations where brutal forms of extractive globalization are being resisted: in struggles for the defense of seeds, commons, mountains, forests, wetlands, lakes, and rivers; in actions against white/mestizo and patriarchal rule; in urban experiments with art, digital technologies, neoshamanic movements, urban gardens, alternative energy, and so forth. Taken as a whole, these manifestations of multiple collective wills evince the unwavering conviction that another world is indeed possible. Many of these social movements can be seen as processes of "matriarchalization," of defending and re/creating relational and cooperative modes of living with humans and nature.

Let us shift to the world of design scholarship. Australian design theorist Tony Fry speaks of the "defuturing effects" of modern design, by which he means design's contribution to the systemic conditions of structured unsustainability that eliminate possible futures. It is thus important to recover our future-imagining capacity, for which he proposes a transition from the Enlightenment to a new horizon of "Sustainment," a new age capable of nourish-

ing those relational ways of being-in-the-world capable of countering the ontology of defuturing. Design theorists Anthony Dunne and Fiona Raby (2013) likewise argue for design practices that enable collective discussion about how things could be—what they term *speculative design*. "Design speculations," they write, "can act as a catalyst for collectively redefining your relationship to reality" by encouraging—for instance, through what-if scenarios—the imagination of alternative ways of being (2). Such critical design can go a long way, in their view, against design that reinforces the status quo. "Critical design is critical thought translated into materiality. It is about thinking through design rather than through words and using the language and structure of design to engage people. . . . *All good critical design offers an alternative to how things are*" (35; emphasis added). That we are in the age of "speculative everything" is a hopeful thought, assuming it fuels the kinds of "social dreaming" (169) that might result in "the multiverse of worlds our world could be" (160). The ontological impetus of speculative design will be explored at length in subsequent chapters, particularly through the notion of design for transitions to the pluriverse.

Speculation is rampant in all kinds of directions. It is useful to identify two opposing design fictions as a heuristic, with a whole range in between. At one end we find matristic, convivial, futuring, and, broadly speaking, relational visions that highlight the re/creation of worlds based on the horizontal relation with all forms of life, respecting the human embeddedness in the natural world. At the other end of the spectrum there lies the dream, held by the flashy techno-fathers of the moment, of a posthuman world wholly created by Man. This is the world, for instance, of synthetic biology, with its gene-centric view of life; of booming techno-alchemies for genetic enhancement and the prolongation of life; of robotics, cyborgian fantasies, space travel, nanotechnology, unlimited 3-D printing, and much more; of the bizarre geoengineering schemes concocted in corporate boardrooms as solutions to climate change; and of those advocating for the "Great Singularity," a technologically induced transformation "when humans transcend biology," in which life would finally be perfected, perhaps as in the world-without-mothers of artificial intelligence fictions such as those portrayed in the film *Ex-Machina*, where women's ability to give life is finally completely usurped since wo/man is wholly created by man through the machine.[12] Are these masculine imaginaries of creation—design imaginations for sure—really universal, or unavoidable, as their fathers pretend? One thing is certain: were it to succeed, this world would cease to have any resemblance to the original nature from which all life stemmed

(Plumwood 2002). Here we find the possibility at least of a bifurcation between two design paths, between two modes of civilizational regulation, matriarchal and patriarchal.

Have these tawdry fathers, with their narrow vision of innovation, robbed us of different visions of the future? Given that their views stem from centuries-old civilizational narratives and practices, they capture most of the political force and media attention. Yet in between the Silicon Valleys of the world and struggling communities, one finds all kinds of instrumentations and technological developments, including those informed by an ecological awareness of planetary limits and global climate change. These will be crucial for a design imagination that avoids the traps of capitalistic industrial instrumentation and goes beyond the ontology of separation that thrives on hierarchy, competition, aggression, and the control of humans and nature. Coming to terms anew with "the question concerning technology" (Heidegger 1977) is indeed one of the greatest challenges faced by any kind of critical design practice. As Clive Dilnot (2015) puts it, we need to address head-on the exponential increase in the destructive capacity of technology but in ways that do not cede humans' ability to construct an entirely different set of relations with other living beings through technology.[13] To the naturalized destructiveness that has accompanied the anthropocene, and faced with the emergence of the artificial as the ineluctable mode of human life, he argues, we need to oppose the cultivation of qualitatively new modes of becoming through the very futuring potential offered by the artificial. *Possibility* here means "the negotiation with actuality and not the escalation of what is" (Dilnot 2015, 169), as in the techno-alchemic imaginations just mentioned. As he adds, this implies "negotiation of the possible through the artificial, just as it is also *negotiation with the conditions of natural existence*" (169; emphasis added); these are crucial distinctions. This offers the only chance to overcome "the abject capitulation to what-is [that] is maintained by our inability to grasp what is emerging" (170). The current conjuncture brought about by the full emergence of the artificial confronts us with the need to think anew about the intersection of ethics, design, and politics. We shall take up these vital questions again in the book's conclusion.

The expansion of the artificial also challenges us to "unfold the political capacities of design" by going against the analytical tendency in critical design studies to examine primarily how design, through its very materiality, "hardwires" particular kinds of politics into bodies, spaces, or objects (Domínguez Rubio and Fogué 2015, 143). In contrast, one might focus on design's ability to broaden the range of possible ways of being through our bodies, spaces,

and materialities. This unfolding may be seen as based on "designers' acquired orientation to the pursuit of attentive and open-ended inquiry into the possibilities latent within lived material contexts" (Stewart 2015, 275). It thus becomes appropriate, as suggested here, to think about design's capacities and potentiality through a wide spectrum of imaginations—in terms of matristic cultures with feminists; in terms of autonomy and communal modes of living with those struggling to defend landscapes and territories worldwide; or in terms of the artificial, with design thinkers striving to steer a course between the prevailing defuturing practices and the futuring potential of science and technology.

These debates signal a still-unresolved issue in social theory, and a source of tensions and contradictions in activist worlds: the question of modernity or modernities, including the seemingly simple question, is life better today than it has ever been for the human majorities?, as medical advances, the rights of women, life expectancies, communication technologies, and improvement in livelihoods for many seem to suggest. Will there still be "modern solutions to modern problems"? Or has modernity's ability to even imagine the questions that need to be asked to effectively face the contemporary ecological and social crisis been so fatally compromised, given its investment in maintaining the worlds that created it, as to make it historically necessary to look elsewhere, in other-than-modern world-making possibilities? But are these other possibilities, as far as we know them (e.g., those that emerge from relational and place-based forms of living), still viable alternatives? Or have they become, rather, historical impossibilities given their relatively small scale and scope when compared with the globalization juggernaut? We will take up these questions again in the conclusion.

Here, then, is the argument in a nutshell:

1 The contemporary crisis is the result of deeply entrenched ways of being, knowing, and doing. To reclaim design for other world-making purposes requires creating a new, effective awareness of design's embeddedness in this history. By examining the historical and cultural background from within which design practice enfolds, the book aims to contribute to the collective reflection on that practice. To this end, the book is a contribution to the cultural studies of design.
2 Today the most appropriate mode of access to the question concerning design is ontological. Designing this mode of access involves both understanding the dualist ontology of separation, control, and appropriation

that has progressively become dominant in patriarchal capitalist modernity, on the one hand, and inquiring into existing and potential rationalities and modes of being that emphasize the profound relationality and interconnectedness of all that is, on the other. This book contributes to developing this ontological approach to design.

3 The contemporary conjuncture of widespread ecological and social devastation summons critical thought to think actively about significant cultural transitions. Two hopeful forms of transition thinking within design theory and practice are arising as a result: design for transitions, with a broad view of transition ("civilizational," or "the great transition"); and design for autonomy, centered on the struggles of communities and social movements to defend their territories and worlds against the ravages of neoliberal globalization. This book contributes to outlining the fields of design for transitions and autonomous design.

4 This book, finally, seeks to contribute to design discourse through the elaboration of the cultural background of design, at a time when designers are rediscovering people's ability to shape their worlds through relational and collaborative tools and solutions. It is, however, a Latin American contribution to the transnational conversation on design, that is, a contribution that stems from contemporary Latin American epistemic and political experiences and struggles.[14]

I would like to add one final caveat. This book should be read as belonging to a long set of conversations in both Western philosophy and sociopolitical spaces in the West and beyond. The preoccupation with relationality and with the limitations of binary thinking was not invented with the "ontological turn," needless to say; on the contrary, they have received a lot of attention in modern philosophy, at least from the time of Immanuel Kant's humanism and Hegelian and Marxist dialectics, if not before. At the same time, the recent thinking on relationality makes visible the limitations of previous approaches to escaping dualism, particularly how far past authors were willing to push dualism's implications in terms of envisaging significant transformations from the perspective of radical interdependence. There are also genuinely new emphases, particularly the concern with the agency of nonhumans and a certain renewed attention to materiality. These have opened fresh paths for moving intellectually, socially, and politically beyond dualisms and, perhaps, decolonizing Western thought. To put it in Western academic terms, I would say that this book is more anthropological Heideggerianism than deconstructive post-

humanism or relentless Deleuzian deterritorialization. This is so because of its commitment to place, the communal, and other practices of being, knowing, and doing, and no doubt also because of its critical approach to technology and its commitment to notions of the human capable of harboring a genuine care for the world.

I also believe there is greater clarity today than in the recent past that the notion of relationality involves more than nondualism; that reimagining the human needs to go beyond the deconstruction of humanism (still the focus of most posthumanist thought) in order to contemplate effective possibilities for the human as a crucial political project for the present; and that to the awareness of how we live in a world (or worlds) of our own making (again, a prevalent theme in Western philosophy) we now need to add a sharper consciousness of how those worlds make us—sometimes with deeply troubling results.

The book should thus be read as constructed along three axes: ontology, concerned with world making from the perspective of radical interdependence and a pluriversal imagination; design, as an ethical praxis of world making; and politics, centered on a reconceptualization of autonomy precisely as an expression of radical interdependence, not its negation.

Notes

Preface and Acknowledgments

1 Unlike engineering, conventional economics completely forgot that the economy is about flows of matter and energy; this is the so-called metabolism of the economy that ecological economists have placed at the center of their economic analysis; see, e.g., Martínez-Alier (2002); Healy et al. (2013); Bonaiuti (2011). Such a materials perspective is essential to ecologically oriented design and to those concerned with degrowth and energy-descent strategies.

2 The popular communications movement in Cali was spearheaded by two professors from the Universidad del Valle, Alvaro Pedrosa (nonformal education) and Jesús Martín Barbero (communications). In the mid-1980s, Pedrosa set up a nongovernmental organization, Fundación HablaScribe, devoted to research and activism in the nascent field and staffed by a young cadre of self-defined *comunicadores populares* (popular communicators). The foundation thrived for at least a decade and became a hotbed for the diseño de culturas with grassroots groups all over the Colombian southwest. The theoretical foundations of the movement were rather eclectic (ranging from Karl Marx, Ivan Illich, Marshall McLuhan, and Serge Moscovici to Michel Foucault, Néstor García Canclini, and even biologists like James Lovelock, Lynn Margulis, Konrad Lorentz, and Howard Odum). Equally broad were the range of issues considered pertinent, including orality and literacy, the role of paper and recording and computer technologies (Atari and Commodores at that point!), the history of cultures, and the relation between *diseño popular* (popular design), publicity, and elite art. I am indebted to Pedrosa for this recollection.

3 This group included Brooke Thomas, Alan Goodman, Alan Sweedlund, Tom Leatherman, Lynnette Leidy, and Lynn Morgan at the nearby Mount Holyoke College, and Merrill Singer in Hartford, plus a strong group of PhD students.

4 For the Spanish edition, see Winograd and Flores (1989). Flores lived in Berkeley in the 1980s, where I met him; besides talking with him a number of times, I also attended one of his two- to three-day seminars on ontological coaching. This book is still partly an outcome of this relation, for which I am grateful.

5 In one example of a moment of inspiration, the provisional but entire outline of another book on which I have been working for some years, tentatively titled *Everything Has to Change: Earth Futures and Civilizational Transitions*, "downloaded" on my mind at a concert in Chapel Hill with Cuban singer Omara Portuondo sometime in 2011. I usually take a small notebook with me to concerts (whether of classical, popular, or experimental music) since being at a concert hall seems to trigger such moments of creativity, which I describe with the digital metaphor of the download. (Some fiction writers describe their inspiration in somewhat similar terms.)

6 Courtney Shepard has (2015) written a fine honors thesis at the University of North Carolina on the "refashioning movement" by women *refashionistas* who, in blogs and face-to-face events, are creating a vibrant movement; refashioning is related to the larger makers' movement.

7 Note that *How the Leopard Changed Its Spots* is the title of one of Goodwin's well-known books on complexity (2007).

Introduction

1 This kind of two-way introduction to concepts and literatures might frustrate some readers wishing for more in-depth treatment of one or another aspect of the concepts and trends reviewed. I will point to additional readings in notes when appropriate for those wishing to follow up on the debates in question.

2 The title of the Spanish edition of this book is actually *Autonomía y diseño: La realización de lo communal* (Autonomy and design: The realization of the communal). Readers acquainted with Maturana and Varela's work will realize that this subtitle mimics that of their book *Autopoiesis and Cognition: The Realization of the Living* (1980). In the preface to the second edition of the Spanish original (entitled *De máquinas y seres vivos*), Maturana explains, however, that the book's full title should have been *Autopoiesis: La organización de lo vivo* (Autopoiesis: The Organization of the Living) (Maturana 1994, 9).

3 "Real Situation" is the second track from the LP *Uprising* (Bob Marley & The Wailers. Kingston, Jamaica: Tuff Gong Studio/Island Records, 1980).

4 This and other translations are my own. Quotes from Illich are from a recently reedited version of the Spanish-language edition first published in 1978 (Illich 2015), although slightly modified by me in some instances after comparison with the English text. For the English-language version, see Illich (1973). The book was based on essays originally written in Spanish and some notes in English, which were eventually published in both languages, with some differences between the editions (Gustavo Esteva, personal communication, November 20, 2015).

5 Contrary to what could be gathered from Illich's reputation, Illich was not antitechnology per se. In his view, many tools (say, the telephone, formal education, and, we may

add, the Internet) are convivial in principle. The point for him was not to get rid of modern science and technology, or bureaucracy, but to eliminate them as obstacles to other modes of living. He called for a balance between mass production, to satisfy demand, and convivial production. He believed that science and technology could be enlisted in the service of more efficacious convivial tools and designs, so that technology serves humans rather than humans being at the service of the machine and its societal instrumentations. There should be an integration of modern science with "tools that are utilizable with a minimum of learning and common sense" (2015, 87). Here lies a challenge for product, service, and interface design. Illich's work can be placed side by side with those of historians and critics of technology and of advanced industrial society such as Jacques Ellul, Lewis Mumford, Erich Fromm, Herbert Marcuse, Paul Goodman, and Paul Virilio.

6 Von Werlhof's development of what she terms a critical theory of patriarchy has spanned several decades, starting in the 1970s in collaboration with Maria Mies and Veronica Bennholdt-Thomsen. I am drawing here primarily on a Spanish selection of her essays published recently in Oaxaca (hence all translations from this source are mine). Some of these essays can also be found in her English-language book from 2011. See also von Werlhof (2001, 2013) for important articles. She founded the Research Institute for the Critique of Patriarchy and for Alternative Civilizations in Innsbruck, Austria, where she lives. It should be noted that this research program and perspective are quite independent and distinct from the established critical feminist theories in much of the Anglo-American and French academies. It increasingly dovetails with Latin American decolonial and autonomous feminisms (chapter 2). For related perspectives, see Merchant (1980) and Federici (2004). One final caveat: there was a heated debate in the 1970s in Anglo-American feminist anthropology and elsewhere (going back to Friedrich Engels's *Origin of the Family, Private Property and the State*) about whether genuine matriarchies ever existed. My sense is that the approaches reviewed here differ in their ontological (not merely politico-economic and cultural) orientation.

7 We will return to the discussion of black, indigenous, and modern patriarchies and feminisms in chapter 2. Some of the main authors in this debate include María Lugones, Rita Segato, Silvia Rivera Cusicanqui, Betty Ruth Lozano, Sylvia Marcos, Aura Cumes, Irma Alicia Velásquez Nimatuj, Julieta Paredes, Aída Hernández, Yuderkis Espinosa, Diana Gómez, Karina Ochoa, Brenny Mendoza, Karina Bidaseca, Ochy Curiel, Natalia Quiroga, and Xochitl Leyva.

8 Paul Virilio concurs here: "To progress would be to accelerate. After the break with the geocentrism of Ptolemy and the Copernican delocalization of the 'eternal truths,' we would see the exponential development of techno-industrial arsenals giving priority to artillery and explosives, but also to horology, optics, mechanics . . . all things necessary for the elimination of the present world" (2012, 15). Also attentive to tools and machines, Virilio describes "the parody of Progress of knowledge" that starts in the Italian quattrocento and results in a (patriarchal) ideology of "humanity's escape from its incompleteness, from its dissatisfaction with being oneself" (38), preventing us from living in place and trapping us via "simulators of proximity" such as the web. Virilio does not spare angry words in diagnosing the situation; for him, we are confronted with a

"global suicidal state" based on Darwinist progress, technocracies, and endless war. See also Virilio (1997).

9 Maturana defines cultures as closed networks of conversations through which the consensual coordination of coordination of behaviors takes place. He has maintained an original and active research and practice on matristic cultures and the biology of love with collaborators in Santiago de Chile for many decades. See his Matríztica School blog and organization, cofounded with Ximena Dávila Yáñez: http://matriztica.cl/Matriztica/. Verden-Zöller's work centers on the determining role of mother-child relations in early life from the perspective of play, defined as a corporeal relation in which the mother or parent is absolutely present to the child, which is fundamental to all successful future coexistence by the child. The Brazilian psychologist Evânia Reichert has written a fine book on child pedagogy (2011) based on the work of Wilhelm Reich, Lev Vygotsky, Jean Piaget, Claudio Naranjo, and Maturana's biology of love. The implications for the *practice* of child rearing are enormous (needless to say, they go against the grain of most approaches to it at present!).

10 Far from being a moral value, *love* is defined by these authors as "the domain of those relational behaviors through which the other arises as a legitimate other in coexistence with oneself" (Maturana and Verden-Zöller 2008, 223). As such, it is a basic fact of biological and cultural existence. They add, "Love is visionary, not blind, because it liberates intelligence and expands coexistence in cooperation as it expands the domain in which our nervous system operates" (138). They counterpose this biology of love to patriarchal coexistence in appropriation and control.

11 *Abya Yala* means "Continent of Life" in the language of the Gaundule (Kuna) peoples of Panama and Colombia (or "land in full maturity" in other versions). It is the name for the continent preferred by indigenous peoples from Latin America, akin to Turtle Island, the name given by Native Americans to the North American continent.

12 The idea of a technological singularity has been popularized by futurist Ray Kurzweil (2005); see his home page, http://www.singularity.com/. Singularity debates have taken place at Stanford University. Kurzweil situates the onset of the Singularity in 2045.

13 With regard to technology's capacity for destruction, witness, for instance, the expansion of large-scale mining worldwide with ever more devastating effects, even to secure a few grams of gold, diamonds, or the minerals that go into the making of digital devices, for which entire communities and ecosystems are sacrificed without much reservation.

14 Readers familiar with Manzini's latest book will realize that this point parallels closely that author's fourth summary point of his argument (2015, 5).

Chapter 1: Out of the Studio and into the Flow of Socionatural Life

Epigraphs: Mau and the Institute without Boundaries, *Massive Change* (2004), 23; T. Brown, *Change by Design* (2009), 3; Manzini, *Design, When Everybody Designs* (2015), 1, 31.

1 The following wonderful quote from a text from 1973 by Georges Perec (which recalls Norbert Elias) may suffice to illustrate this point about the intimacy of design and every-