

Architectural Pedagogy for the Anthropocene: Theory, Critique, Typological Urbanism

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Abstract

Purpose

The aim of this article is to develop an architectural pedagogy for the Anthropocene. I reflect on a project within a postgraduate architectural theory module to address the questions: How can architectural pedagogy articulate critical modes of production that contribute to quality education in the time of the Anthropocene? What are the ideas, values, and practices needed?

Design/methodology/approach

The method employed is close-reading of texts focused on three areas: critical theory and pedagogy, political theory and the Anthropocene, architectural theory and typological urbanism. These theoretical narratives are placed in dialogue with a reflection on a design research pedagogical project. The theoretical narratives and design research project seek to articulate the multidimensionality of critical education. The methodology enacted in the paper performs the pedagogy of the classroom.

Findings

The study yields compelling conclusions regarding the potential for rethinking the idea of typology under the pressure of the Anthropocene, and of critical pedagogy combined with design research to take positions on urgent political and social matters. I conclude with a toolkit of concepts, values, and knowledge practices.

Originality

At a time when disciplines tend toward discrete specialisation, while the need for knowledge production is ever more trans-disciplinary, this paper develops inventive techniques and conceptual frameworks for supporting approaches where different fields and ideas make contact as a collective task in the era of the Anthropocene. It updates theories of typology to address contemporary pressures.

Keywords

Architectural theory; Anthropocene; Typological urbanism; Critical pedagogy; Typologies of entanglement;

Introduction

The planet is out of joint. Labour extracts the natural resources out of which collective life is made and remade. First primal nature is turned into second nature of production, infrastructure, and cities. But natural resources are not replenished. As political and media theorist McKenzie Wark (2016: xiv) writes: “The Anthropocene is a series of metabolic rifts, where one molecule after another is extracted by labour and technique to make things for humans, but the waste products don’t return so that the cycle can renew itself. The soils deplete, the seas recede, the climate alters, the gyre widens: a world on fire.” Desertification, ocean acidification, ozone depletion, polar melt, wildfires, and extreme storms are the symptoms of the exploitation of natural resources and human labour, and which threaten the cycle of the planet upon which life depends (Dawson, 2017; Foster et al, 2010). Mathew Lawrence and Laurie Laybourn-Langton (2021) argue, we live in an age of environmental breakdown. The climate crisis is ever more the urgent context to which architectural thought, education, and practice ought to be directed. It is political, spatial, and environmental. The task is a collective project that crosses disciplines and fields of thought. We need new concepts, frameworks, and knowledge practices for thinking and acting differently. The architecture school is not the only place to articulate change, but it is one place.

The aim of this article is to develop an architectural pedagogy for the Anthropocene, the present geological era where natural and social forces are entangled with the commodity form of capitalist development. I reflect on a design research project entitled “Typologies of Entanglement” taught at postgraduate Masters’ level in an architectural theory module undertaken at a school of architecture during the 2021–22 academic session. Typology, or simply “type,” is an analytical and generative principle in architecture. In its narrowest definition, type refers to programmatic types such as schools, offices, or houses. I use a broader idea of type, which emphasises a formal and conceptual definition. On one level such a definition refers to urban forms such as streets, blocks, towers, and grids. As an analytical principle, type offers a tool for interpreting the structure of the city. As a generative principle, type captures discursive ideas, images, and forms as a point of departure for design thinking and practice. The idea of entanglement is borrowed from the discourse on the Anthropocene. It summarises the multiple forces acting on individuals and the world, such as histories of labour, planetary histories, issues of political economy, technology, media, representation, and discourse. The corollary between type and entanglement is termed “Typology of Entanglement” and used as a critical tool and a teaching tool. Teaching is knowledge production and a support for the self-production and agency of students. A pedagogy conscious of the stakes may lead to critical representations of ourselves, of others, and new ways of thinking and producing our spatial and natural environment differently. It may promise alternative approaches to collective life.

Key questions addressed in this research include: What might be an architectural pedagogy for the Anthropocene? How might the theory and practice of typological urbanism be articulated afresh for these entangled times? How can design research take a critical position on urgent political and social matters and help teach architecture students to construct arguments about climate change, social justice, and capitalism? Overall, how can architectural pedagogy articulate critical modes of production that contribute to quality education in the time of the Anthropocene? What are the ideas, values, and practices needed?

In what follows I reflect on the methodology employed, which involves analytical and interpretive acts of close-reading paired with reflections on practices of pedagogy. I reflect on the Sustainable Development Goals and Quality Education (SDG4) to argue for the development of what Chantal

Mouffe and Ernesto Laclau ([1985] 2014) called “chains of equivalence.” This was a strategy whereby multiple and varied individuals, collectives, and institutions create moments of unity to construct a set of relays (“chain-building”) in opposition to a common adversary. I then structure the paper into three overlapping theoretical narratives. The first pairs the idea of the critical project with the practice of critical pedagogy. It draws on the tradition of critical theory inside and outside of architecture to argue that pedagogy is a critical project. Practicing the critical project means to reflect on the historical present, to excavate the conditions of possibility for an alternative future, and to render ideas and practices more relational, multidimensional, and discursive. The second narrative reflects on key readings of the Anthropocene. I draw on scholarship from multiple perspectives including political theory, environmental humanities, media theory, and feminist theory. The third theoretical narrative focuses on the theory and practice of typology in architecture and urbanism. It explores how the idea of type may be rethought today under the pressure of the Anthropocene. It is in dialogue with the design research pedagogical project. I conclude with a toolkit of concepts, values, and knowledge practices towards an architectural pedagogy for the Anthropocene.

Methodology: Close-Reading and Practices of Pedagogy

The methods employed in this research are close-reading combined with critical reflections on pedagogy. Close-reading is principally borrowed from the text-based practices of philosophy, where close-reading is a form of writing (Derrida, [1972] 1982; Lacan, [1973] 1994; Karatani, 2005). Close-reading is simultaneously “close-writing” and is therefore also generative as a form of writing because it generates new thought. For example, Wark (2012, 2016, 2019, 2020) develops collaborative forms of knowledge by reading different disciplines and knowledge practices together. In close-reading, one philosopher reads another closely—Derrida reading Saussure, Lacan reading Freud, Karatani reading Marx and Kant, Wark reading The Situationists—so that knowledge advances by reflecting on, and reworking past ideas to create new ideas, which establishes a discourse. Close-reading is also what I call “cross-reading” because it works in a trans-disciplinary mode to find links, correspondences, and new affinities across and between ideas, texts, and figures. Such a position mobilises the agency of theory to cross fields from which concepts, methods, and knowledge practices may be appropriated, then bound together in new configurations.

A second method is the practice of critical pedagogy and consequently there is an interplay between research informed teaching and teaching informed research in this paper. Critical pedagogy is a form of production and critique (Giroux, 2020; 2022). It links past, present, and future; reflection and action, critique and possibility to articulate a sense of agency. I transpose the lessons of critical pedagogy into an architectural context to develop a pedagogy based on the interplay between critical thinking and critical making, which I describe as “thinking-through-making” and “thinking-through-writing.” It seeks to provide students with opportunities to connect individual agency with possibilities for social transformation through reflective acts of making.

I bring close-reading into architecture’s spatial and representational practice as “close-drawing.” Close-drawing involves an expanded idea of drawing to include architectural drawing, montage, and diagram; often in combination as analytical and interpretive tools to acquire new knowledge. Close-drawing explores forms of representation and ideas about the world through drawings, which trigger further thought and reflection. If close-reading is a line by line reading of a text, close-drawing is a careful tracing of plans, images, and other drawings to make new drawings. It is the attention to detail in those drawings and attention to the gaps, exposures, and frictions that any act of drawing

entails. It is critical reflection through drawing. The drawing opens a space for thought and a site where the abstraction of thought is made real, as a “real abstraction” (Virno, [2003] 2015).

Drawing has been used by architects, architectural historians, and architectural theorists as an interpretive tool (Evans, 2012; Viganò, 2016; Eisenman, 1994; 2008; Agrest, 1991; 2018; Gandelsonas, 1999; Rossi, 1979a; 1979b). Eisenman (2008: 189) argues: “Drawings become another means of architectural thought, not illustrations of or metaphors for architecture.” Gandelsonas (1999: 1), in the context of drawing the American city, describes his method as follows: “The urban drawings were developed... as a critique of the traditional role of drawings as representations of the city: they were proposed as a site where the articulation of two different practices, or two different ‘discursive surfaces’—architecture and the city—took place.” Analysis coincides with generative thought; forms of representation articulate architectural agency. Drawing is employed to interpret other drawings, texts, images, sites, and diverse modes of representation of intellectual culture.

This article is elaborated as a series of overlapping close-readings (Figure 1). In doing so different bodies of thought and knowledge practices make contact, which suggest new theoretical frameworks and ways of thinking and practicing how architecture and architectural education engages with the Anthropocene. It helps articulate the potential of trans-disciplinarity and consequently embeds a particular qualitative and reflexive education in the architectural curriculum. It emphasises a diffuse and non-instrumental approach as a bridge between traditional boundaries in the arts, humanities, and social and environmental sciences.

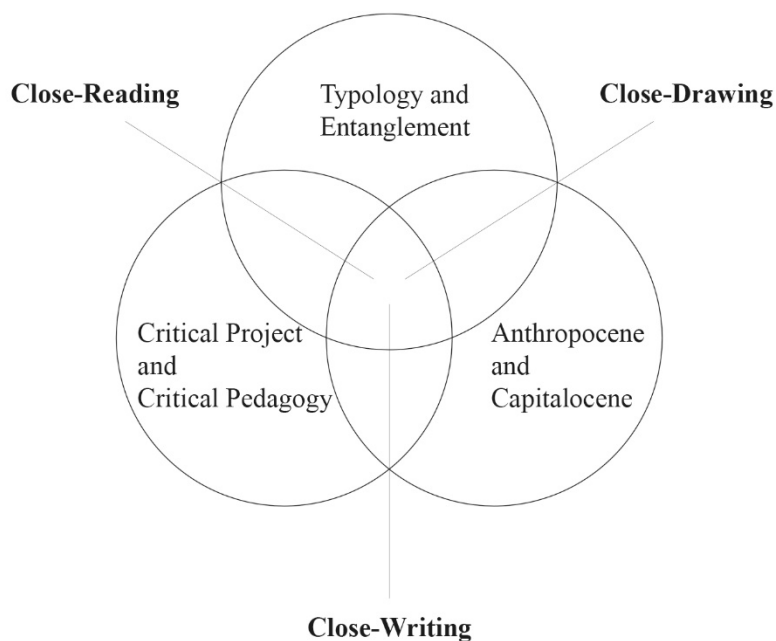


Figure 1. Methodology and theoretical framework. Three overlapping theoretical narratives articulated by methods of close-reading to develop an architectural pedagogy for the Anthropocene.

Reading Towards a Chain of Equivalence: The UN Sustainable Development Goals and Quality Education

I argue that architecture—as a mode of thought, signification, representation, and knowledge practice—must be a link in what Laclau and Mouffe ([1985] 2014) called a “chain of equivalence.”

One task is to find ways of engaging with, and articulating, such a chain; strengthening it, and making extensive mediating links in the production and organization of knowledge. For instance, via texts, theories, ideas, drawings, projects, and acts of critical pedagogy. The task is to gain purchase from individual to institution, social forms to built forms, at different scales. The UN Sustainable Development Goals act as a relay, a “mediation,” within such a chain of equivalence. It is not about hierarchies and endless “growth,” but rather for collaborations between different ways of knowing the world and creating knowledge for the world. A pedagogical relay is formative.

It is difficult to disagree with the Sustainable Development Goals. They include addressing how to achieve sustainable cities, combat social inequalities, and improve education, which are important and necessary to help mitigate the worst excesses of the climate crisis. Yet the Goals cannot be uncritically accepted. Some of the criticisms by key figures and recent debates are significant. Erik Swyngedouw (2011: 270-271) argues that: “Post-political climate governance does not solve problems; they are moved around. ...Vague concepts like climate change policy, biodiversity policy or a vacuous discourse of sustainability replaces the proper names of politics.” Joachim Spangenberg (2016) argues that we need more radical analysis and visionary solutions. Sam Adelman (2017) argues that while sustainable development is widely embraced as a process that promotes sustainability, priority is given to economic growth over environmental protection. Sustainable development is incompatible with contemporary patterns of production, consumption, and development models that prioritise economic development. Endless economic growth is not sustainable if it breaches planetary boundaries and ignores the metabolic rift of the Earth as others have long argued (Foster, et al., 2010; Harvey, [1982] 2018; 2014).

Addressing the Goals focused on “quality education,” Catherine Walsh (2021) acknowledges that there is little that can be challenged in goals that promote inclusive education, universal literacy, and opportunities for lifelong learning. However, the formulation of quality education, implies universalising policies, which Walsh argues cannot attend to the local needs of specific communities. Walsh (2021: 469) asks: “As the pandemic virus of COVID-19, systemic racism, capitalist greed, and land-based plundering, displacement, and dispossession work together to reconfigure power, ...how are the ambiguities, contradictions, and inequalities of [formal education] revealed, including with respect to the very idea and goal of ‘quality education’?” Walsh aims to shift attention to the “pedagogical imperatives” of resistance, struggle, tenacity, and hope, which Walsh argues are absent in the idea of “quality education.” Walsh develops a critique drawing on critical pedagogy and a close engagement with the ideas of Paolo Friere ([1970] 2000). Walsh (2021: 469) writes: “‘Quality education’ has always been a relative and ambiguous term, dependent, in great part, on social and cultural situatedness and geopolitical interests.” For Walsh (2021: 470), quality education signifies the dictates of neoliberal capitalism: “Quality education, total quality, quality control, quality circles are expressions that turn in the orbit of neoliberal society and that become death traps.” She concludes that quality education cannot be reduced to the quantity of knowledge transmitted but should articulate forms of solidarity and collective knowledge that elaborate intellectual culture.

Yet, beyond the bureaucracy of UN charters, their institutional regulations, and the instrumentality implied by the Goals, forms of emancipatory learning are also possible. The Goals demand interdisciplinarity in analysis and implementation. They encourage collaborative forms of knowledge. They provide an institutional point of contact. Consequently, a useful concept, which may help to critically engage with the Goals, is Laclau and Mouffe’s notion of “chain of equivalence.” In *Hegemony and Socialist Strategy* Laclau and Mouffe ([1985] 2014) developed their strategy by using Ferdinand de Saussure’s idea of language as a system of differences as a model. For Saussure, language was a field of negative relationships. For Laclau and Mouffe, negation in language was the

antagonistic “difference” at play in a chain of equivalence. Different demands by varied actors could be incorporated in “antagonistic” relation to other demands and actors so that difference is respected, and conflict turned into coexistence—a fundamental political strategy (Arendt, [1958] 1989).

In *Agonistics* Mouffe (2013: 135) extends the strategy of equivalences. Mouffe argues: “A vast chain of equivalences is needed in order to establish the institutional mediations necessary to challenge the hegemonic order.” Bengtsson and Östman (2013) brought together Laclau and Mouffe’s strategy of equivalence with environmental education and sustainable development to argue for the political dimension in policy-making rather than the economic focus. Consequently, the chain of equivalence may be a useful concept to help articulate multiple practices, demands, ideas, and subject positions, linked together, from ground up to top-down processes. What is important in a chain of equivalence is that acts of solidarity form against a common adversary: the inegalitarian demands of capitalist development, instrumental thought, and the drive towards unsustainable compound growth.

Critical Project and Critical Pedagogy

The notion of “critical project” connotes a legacy of critical theory that generally refers to the Frankfurt School (Adorno, 2001; Benjamin, 1992; Guess, [1981] 1992; Horkheimer, 1975; Jay, [1973] 1996). Critical theory is based on a reflective analysis of society and usually combines Marx’s critique of ideology with Freud’s psychoanalytic theory of the subject. The dialogue between self and other, between psychoanalytic self-actualisation and the collective emancipation of society by the critique of ideology has been a productive interpretive approach to close-read the dynamics of political economy, technological development, consumerism, and the culture industry within capitalism. Fredric Jameson ([1981] 1986) encapsulates this relationship with the notion, “political unconscious.” Writing in relation to an architectural critical theory, Sven-Olov Wallenstein (2016: xiv) argues: “Critique is a reflection on our historical present that attempts to excavate conditions, possibilities, and limitations of aesthetic production.” Critique operates through self-reflective acts of close-reading to render ideas and projects more discursive. Central for critical theorists is to articulate reflection as a category of knowledge against the utilitarian nature of instrumental reason; and to produce knowledge in itself and for itself.

Yet, often critical theory is hypocritical theory, as Wark argues in *Telesthesia*. Wark (2012: 12) introduces a distinction between high theory and low theory. For Wark, “high theory” is a tradition of philosophy shaped by higher education institutions and scholarly norms such as vetting, authoring, and canonising. It separated historical thought into specialisations and disciplinary arrangements. High theory consists of proper names: Louis Althusser, Jacques Derrida, Michel Foucault, and the earlier mentioned Frankfurt School. Wark argues that critiques of culture, society, and politics have been treated as autonomous since at least the 1980s. In contrast, “low theory” is concerned with how subordinate groups develop conceptual language for particular situations by transposing old ideas to create new ideas or inventing a completely new language. There are paradigmatic figures in low theory such as Guy Debord, Pier Paolo Pasolini, and Paul Virilio but their approach tends to be more transgressive.

Low theory is practiced in the margins. Others call it situated theory (Haraway 2016; Rendell 2010). It is between institutional forms of writing and knowledge making. Low theory circulates between academia and the everyday. High theory and low theory interact. Low theory borrows from high theory. High theory canonizes low theory. There is always a tension. Wark argues that critical

theory's concern with the universal project of modernity must be forged with a deeper understanding of labour, work, and recontextualised by the Anthropocene where a "third nature" (Wark, 2019) of information and the knowledge economy is now another "geology" (Parikka, 2015).

Significant paradigms of critique in architecture emerged in the 1970s avant-garde (Agest, 1991; Eisenman, 2004; Gregotti, 1996; Koolhaas, [1978] 1994). They explored ideas about language, subjectivity, and architecture's relation to the city, power, and ideology. Their projects gained purchase in societal and disciplinary debates. Yet it is notable that a significant difference between the 1970s avant-garde and the architecture of today is that the agency of the architect and the possibility of architecture as a critical project with a social and political concern is often absent.

Rafael Moneo has reflected on the status of current architecture compared to the interwar period and the 1970s avant-garde to which he belonged. Moneo argues that the 70s avant-garde, like the interwar architects, thought critically about the city and society because they felt capable of shaping the period. That can be contrasted with today where Moneo (2018: 40, 42, 44) argues that architecture is characterized by "linguistic eclecticism," an "allure of novelty," and "basic pragmatism" so that only "the marketability of the form prevails." For Moneo, this is a question concerning architectural agency, but more generally, it is a question of human agency; of the possibility for careful thought leading to thoughtful action.

If we are to revitalise the language and practice of architecture as part of a broader discourse of political agency and critical citizenship under the pressure of the Anthropocene and the need for new educational paradigms, then it is imperative to consider resituating such a project in the architecture school. It means bringing architectural theory into closer dialogue with critical theory. It means architectural educators drawing seriously on critical pedagogy. As theorists and educators such as Wendy Brown (2015) and Henry Giroux (2022) have argued, the present moment is a time when critical thought is threatened by market forces and a culture of anti-intellectualism. Higher education is increasingly defined by instrumental methodologies and regressive managerialism. The danger this leads toward is a generation of obedient student-consumers, rather than enlightened student-producers. Such circumstances prevent serious scholarship—high and low—and prevent students from becoming socially informed citizens capable of addressing the pressing issues of the day, in particular the interlinked crises of climate change and capitalism, the deterioration of democracy, and the fragmentation of cities and collective life.

Critical pedagogy creates tools to shift consciousness. It is not neutral. Critical pedagogy is implicated in power relations and addresses a political vision while being conscious of the way that vision is mediated in different contexts. Critical architectural pedagogy narrates versions and visions of a better collective life. Interpretation, thinking-through-making, and the practice of pedagogy are forms of intervention. They are the discursive methods and knowledge practices that enable the creation of new ideas, disruptive narratives, and chains of equivalence that stretch from individual imagination to collective life; to support individuals to resist the injustices of capitalism. Critical pedagogy connects education with radical democracy. As a political project, critical pedagogy argues for social and environmental justice, a strong civic imagination, and positive collective action.

The task is to develop the educational conditions that will allow students to think against the grain. Giroux (2022: 143) argues: "In the current moment of tyranny, it is even more critical for educators to revive the capacities, knowledge, and skills that enable people to speak, write, and act from a position of agency and empowerment." For Giroux, critical pedagogy is a theoretical tool and a form of political action that creates the possibility for individual and social transformation. Giroux (2020: 181) writes: "Critical pedagogy opens up a space where students should be able to come to terms

with their own power as critically engaged citizens; it provides a sphere where the unconditional freedom to question and assert one's convictions is made central to the purpose of public schooling and higher education, if not democracy itself. And as political and moral practice, a way of knowing, and literate engagement, critical pedagogy attempts to make evident the multiplicity and complexity of history." Today, history is entangled with power, nature, and social forces in what is termed the Anthropocene. Consequently, any critical pedagogy must be set against this context.

Anthropocene and Capitalocene

The Anthropocene is the name given to the present geological era where natural forces conflict with human forces. It is the recognition that metabolic rifts are global rifts. The Anthropocene is the age of one planet, all humans, all non-humans. Paul Crutzen's (2002: 23) paradigmatic definition in "Geology of Mankind" describes, periodizes, and genders: "It seems appropriate to assign the term 'Anthropocene' to the present, in many ways human-dominated, geological epoch, supplementing the Holocene—the warm period of the past 10–12 millennia. The Anthropocene could be said to have started in the latter part of the eighteenth century, when analyses of air trapped in polar ice showed the beginning of growing global concentrations of carbon dioxide and methane. This date also happens to coincide with James Watt's design of the steam engine in 1784." Even if the Anthropocene wraps the entirety of the planet, it is not necessarily whole or unified.

Amongst the most compelling reflections on the Anthropocene are those by critical and political theorists who articulate the different power structures, agents, and relations at stake. Key figures reflect on the agency of human beings and non-human relationships to social and natural history (Chakrabarty, 2021), capitalism (Moore, 2015; Virno, [2003] 2015), new types of enclosure from land (Federici, 2019) to the "commons" of knowledge and intellectual property (Wark, 2016; 2019), entanglements in media (Parikka, 2015), modernity (Mbembe, 2021), and what Donna Haraway (2016) calls "natureculture."

Haraway offers an alternative naming to the Anthropocene. Haraway prefers Chthulucene, termed after a species of spider from her locale in California, implying ideas about scientific classification, multi-species living—what Haraway calls "making kin"—and the metaphor of the web: webbed temporalities, materialities, spaces, and subjectivities. Haraway (2016: 101) writes: "'My' Chthulucene... entangles myriad temporalities and spatialities and myriad intra-active entities in assemblages—including the more-than-human, other-than-human, inhuman, and human-as-humus."

Jason Moore and others prefer the term Capitalocene because it has the advantage of naming the primary agent—Capital—that has transformed the world by exploiting labour under the power of the commodity form. Moore (2015: 12) argues: "Rather than separate humans from nature, capitalist civilization has enmeshed individual life-activity into a web of life whose interconnections are much denser, more geographically expansive, and more intimate than ever before." Moore is critical of the totalising term "Anthropocene" because it fails to challenge the inequalities, alienation, and violence inscribed in modernity's power relations and production. With "Anthropos," humanity is understood as an undifferentiated whole. Moore (2015: 173) writes: "The mosaic of human activity in the web of life is reduced to an abstract Humanity: a homogeneous acting unit. Inequality, commodification, imperialism, patriarchy, racial formations, and much more, have been largely removed from consideration." For Moore, the global crises of the twenty-first century are rooted in the Capitalocene as the "Age of Capital."

Other concepts that help to understand the theoretical and political vocabulary of the climate crisis include the idea of entanglement. Moore is another reference with the concept of “web of life,” which frames how power and capital are entangled with humans, culture, nature, and the “world ecology.” Achille Mbembe (2021) reflects on the imperial and colonial practices at stake in the Anthropocene, framed by the notion, “planetary entanglement.” Mbembe shows the geographic stretch and accumulation of nature brought on by capitalist civilization. Art and media theorist Jussi Parikka (2015) uses the concept “deep time of media” to bring a temporal and messy aspect—what Wark would call “vulgar” or “low”—to today’s everyday working and leisure tools; smartphones, smart watches, smart cities. Parikka (2015: 46) writes suggestively: “The environmental expands from a focus on the natural ecology to an entanglement with technological questions, notions of subjectivity and agency (as a critique of a human-centred worldview), and a critique of such accounts of rationality that are unable to talk about nonhumans as constitutive of social relations.” Parikka argues speculatively about contemporary media, moving away from its gleaming surfaces, immaculate touch screens, and constant “updates;” to a longer and darker durational form. For Parikka (2015: 58): “A deep time of the planet is inside our machines, crystallized as part of the contemporary political economy: material histories of labour and the planet are entangled in devices, which, however, unfold as part of planetary histories.”

In readings on “third nature,” Parikka (2015), Agrest (2018), Wark (2019), and Easterling (2016) address how the first nature of primal nature—land, air, water, earth, minerals—is remade into a second nature of cities and infrastructure, which accelerates towards a global phenomenon. Third nature is an overlay of media and mediation. The consumer level third nature is social media noise. The “high theory” level is the “knowledge-economy” or as others call it, “cognitive capitalism” (Berardi, 2009; Boutang, [2008] 2011). The spatial end is uneven development and the fragmentation of sprawl into an endless global periphery (Smith, [1984] 2010). Architectural typologies of third nature would include the suburb to the substation, the data centre, the solar farm, Amazon warehouses. In *Weak and Diffuse Modernity* architect Andrea Branzi (2006: 114) gets close to this idea when he writes: “It is the territory that becomes the privileged protagonist of the post-industrial economy, acting as a place for working out the weak and diffuse energies of a powder-fine productivity, which perfectly matches the powder-fine and ever-changing reality of the market.”

One way to think about the labour that underpins the Anthropocene is to address the subject of multitude. Arendt ([1958] 1989) and Virno ([2001] 2004; [2003] 2015) are key references. While in *The Human Condition* Arendt reflected on the distinction between the human spheres of labour, work, and political action; Virno argues that those spheres are “hybridised.” We live and work in ever closer relation; in the time of Zoom, public address is delivered from inside the home, public and private spheres collapse, we work from home, we live at work. Virno argues that new categories are needed to understand the changes. Concepts such as the people, nation, state, public/private, nature, and politics are no longer relevant. In their place are terms such as multitude, common places, general intellect, spectacle, biopolitics, and natural history which provide more accurate analytical categories for current issues.

The multitude is a meta-category signifying the many distinct individuals who share collective life. The multitude replaces “the people,” who converge into a single whole, a “body politic” (Virno, [2001] 2004: 42). The people are homogenous, a sovereign “One.” The multitude are heterogeneous; an unruly and plural “Many.” For Virno, history and nature are now an entangled “natural history,” a signifier for the joint production of nature and history, first and second nature, resonant with Haraway’s natureculture. Virno’s ideas are compelling as they foreground individual

agency in the heterogeneity of everyday life; but never lose sight of the social and collective relations between all individuals.

Given the spatial and territorial condition of the Anthropocene, it is surprising how resistant architectural theory has been to critical thinking on the climate crisis. There are notable exceptions, which are worth recounting briefly. Daniel Barber (2016: 1165) has reflected on architectural history and the Anthropocene: “The opportunity here is to engage a new perspective by which the world system of capital and the Earth system understood by the natural sciences can be seen according to their mutual intractable entanglements.” Others pursue theoretical and critical practice (Ghosn and Jazairy, 2019) to invent new narratives for architecture’s “planetary imagination” (Hawkes, 2008; Graham et al, 2016) and critique architecture and urbanism as “carbon form” (Iturbe, 2019). Lars Lerup (2017: 217) addresses the city and the Anthropocene and argues: “Neglected is the question of the Anthropocene. While city boosters argue for increased density, their narrow focus ignores the fact that dense cities are also heat islands. Agricultural landscapes cultivated with unsustainable practices relying on oil products amplify the effects of the Anthropocenic era.” This body of work begins to capture an inventory of the existing situation. The task of critique must be a movement to interpretation and transformation; to open ways of understanding architecture’s relationship to the climate crisis, the Anthropocene; and to articulate a critical attitude that leads to new forms of city thinking and world making.

In the research-led Typologies of Entanglement student project, readings of these figures and others provide a diverse and intense intellectual framework in dialogue with architectural thought and practice that creates a rich context for students’ learning. It frames reflections on paradigms and matters of the everyday, putting them in relation to collective life. It raises questions of canon and counter-canon, high and low theory, power and troubled times, and alternative practices of knowledge. The pedagogy seeks to articulate a sense of agency, empowering students to think critically about their relation to knowledge and their ability to engage in critiques of architecture as discipline, practice, and collective struggle in the time of the Anthropocene.

Type, Typology, and Typological Urbanism

One of the aims of this design research pedagogical project is to update the idea of typology. Type helps to structure and articulate architectural knowledge. Typology is a framework that presses against tendencies for novelty. Instead, type links architecture to history, politics, and intellectual culture. Álvaro Siza (1994: 204) has remarked: “Architects don’t invent anything; they transform reality. They work continuously with models which they transform in response to the problems which they encounter.” New architecture is the product of different configurations of old architecture; new ideas are reconfigured from old ideas. Type is a combinatory method that continuously transforms what already exists. It is a way to think about what constitutes collective life as a search for what is shared, a search for a common idea, and invests architecture with social agency.

The term typology is a nebulous category and for that very reason offers deep levels of discourse on form and architectural thinking. Andreas Lechner (2021) argues the idea of type is a central “disciplinary memory.” Key writings on type have appeared by Venturi and Scott Brown ([1972] 1991), Moneo (1978), Vidler (1978), and Colquhoun ([1967] 2009). More recently, Christopher Lee and Sam Jacoby (2011) develop practices of typological urbanism. These texts interpret type as a

formal concept closely associated with readings of the city and as both an analytical and generative tool.

A crucial paradigm of type that these thinkers rely on is the thought and projects of Aldo Rossi. Rossi ([1966] 1982: 41) defined type as “the very idea of architecture, that which is closest to its essence. In spite of changes, it has always imposed itself on the ‘feelings and reason’ as the principle of architecture and of the city.” Rossi argued that type was epistemological and critical, irreducible to technical criteria. Rossi resisted the tendency to understand architecture in terms of a causal relationship between form and function, or only as the technological drive of society. He argued that type synthesized collective, historical, and political life with individual, creative, and authorial intention.

For Rossi, type was on one hand an analytical framework to interpret the “formal and political individuation” of the city through its architectural types (Rossi, [1966] 1982: 88; 1983). Those types included what Rossi called the “primary elements” and “urban artifacts” that structure the city and repeat across history, such as monuments, superblocks, streets, grids. Types correlate to a classifiable grammar of elements of the city and an index of material changes in collective life. On the other hand, the idea of type was a generative principle of the architectural imagination. The history of the city, its architectural types and urban structure become the material to be appropriated and transformed. Rossi ([1966] 1982: 42) argued type was a “logical principle that is prior to form and constitutes it,” intelligible at the scale of the individual building, as a fragment of the city, and as a principle to structure thought. I argue that it is possible to transpose Rossi’s typological readings of the city—which were primarily focused on readings of the historical city—to the city today as it is now wrapped by the Anthropocene.

Typology and Entanglement

Typologies of Entanglement was a design research project taught at postgraduate Masters level (Figure 2). A lecture program accompanied a seminar series and a “hybrid” theory/design project focused on a “typology of entanglement.” The lectures and readings, key texts and ideas of which I discuss in this paper, provide the theoretical framework to engage with the Anthropocene. The seminars were used as a forum for design research exercises. Students explore the conditions of possibility for architecture as a critical project. Student work uses visual modes of representation (close-reading/close-drawing, thinking-through-drawing, thinking-through-making) alongside critical and creative writing (close-reading/close-writing, thinking-through-writing) as a tool for thought in the production of architectural knowledge on the Anthropocene.

OVERVIEW

	Themes	Exercises
1	Introduction	
2	Anthropocene–Capitalocene	Free Writing
3	Entanglement	Inventory
4	Third Nature	Literary Montage
5	Multitude	Exquisite-Multitude
6	Interim Review	Discussion
7	Thinking-through-Writing	Close-Reading
8	Thinking-through-Drawing	Close-Drawing
9	Collective Life	Analogical Drawing
10	Critical Project	Transformation
11	Final Review	Presentation
12	Final Submission	Book

Figure 2. Overview. A summary of the lecture series and accompanying design research exercises. Lectures articulate a grammar of the Anthropocene under the themes: Anthropocene–Capitalocene, Entanglement, Third Nature, Multitude, Collective Life, and Critical Project. Exercises use close-reading/close-writing as thinking-through-writing, explored in workshops on free writing and literary montage; close-reading/close-drawing as thinking-through-making, developed in exercises on inventory, exquisite-multitude montage, analogical drawing, and transformation.

Following architects, historians, and theorists such as Rossi ([1966] 1982), Benevolo ([1960] 1971), Tafuri ([1973] 1976), and Heynen (1999), I argue that architecture is not only an object to observe or simply inhabit but manifests desires and ideological forces, technologies, capital, labour, individual and collective imagination. Architecture is approached as a form of production and critique whose task is the framing of subject positions (individuals, collectives, communities, multitudes) and the construction of concepts (Hays, 2010). Architecture articulates those positions and ideas by its various means of representation, including drawings, images, texts, buildings, cities, territories.

Students develop a design research project entailing a text-based component and a creative practice-based component. Students are required to interpret a typology of entanglement based on a close-reading of their most familiar city or territory. The analysis leads to a classification of cities and typologies with diverse urban qualities, features, scales, programs, and urban form. Students begin by producing a figure-ground plan of their city and highlighting a selected typology of entanglement in an imaginative way. Analysis of the typology is developed by producing an inventory of drawings and visual representation of its key features, entanglements, and structures.

Figure 3a and 3b elucidate this preliminary stage. The former records rivers, walls, shopping malls, parks, and car parks as infrastructural elements of the city. While this project disarticulates the urban elements, the latter takes a combinatory approach. It resituates urban objects and elements of nature within an infrastructural “web of life.” The intention in these drawings is to initiate an analysis of potential entanglements and structures. Key concepts are spatialised, which test the relation between analysis and representation.

Architecture is always entangled with and by other forces. Architecture is worldly and otherly. Students were tasked with addressing what may be the typologies of entanglement in the Anthropocene, reflecting on their spatial condition, expression, and situation. It was an open question if those types were built, imagined, digital, natural, urban, or non-urban; and if they were individual, common, or collective; inside or outside; big or small. Projects explored how typologies articulate questions about contemporary architectural discourse; the city today; and wider social and political relationships to nature, power, and the organization of knowledge. Entanglements could be human, non-human, spatial, formal, political, representational, discursive, technological. Projects examined how those entanglements structure forms, spaces, edges, hierarchies, surfaces, labours, logics, knowledge. A working inventory of example types of entanglement that students worked on included:

IKEA, refugee camps, the Stack (Bratton, 2015), data centres, substations, call centres, smart cities (Masdar, Songdo) (Greenfield, 2013), smart watches, Zoom rooms, bedrooms, Instagram, office landscapes, classrooms, service stations, motels, SPAR, retail outlets, business parks, parks, car parks, cooling plants, recycling and waste management centres (Wasteocene), toxic landscapes, sites of extraction, harbours, social housing, suburban housing, sprawl (Urbanocene), uneven peripheries (Peripherocene), mega cities, factories (Proletarocene), Wall Street, the square (Tahrir Square, Occupy), the commune, forests, farmland, Walmart, logistical hubs, Amazon warehouses, airports, border lands, frontiers, islands...

Student projects explored different forms of entanglement and invented methods of investigation. Figure 4 draws on the art practice of exquisite-corpse to give a body to an idea. In this example, the body-spectacle-mediation entanglement is explored. Elements from artworks by Roy Lichtenstein mixed with Michelangelo and popular imagery construct a low theory thinking machine. The projects in Figure 5a and 5b use analogical drawing techniques to narrate a critique. "Three Natures" in Figure 5a puts nature and culture together, after Haraway, and explores the transformation of nature into a "vectoral" digital nature. The investigations in Figure 5b use photographic recordings of Rotterdam and multiply them, accelerating the entanglements of urban infrastructure with automation. The montages invoke an otherworldly aesthetic as a critique of accelerationist thinking (Mackay and Avanesian, 2014). Close-reading the typologies of entanglement of the Anthropocene may lead to new ways of thinking about urban development patterns, habits, and forms of inhabitation. It may allow us to rethink the combination of individual and collective life, representation and subjectivity, questions of authorship, agency, and the radical imagination.



Figure 3. Inventory of infrastructures of entanglement [top]. Drawings by John McIlroy, 2021; Web of urban infrastructure that situates objects, typologies, and fragments of nature [below]. Drawing by Hamzah Yaseen, 2021.

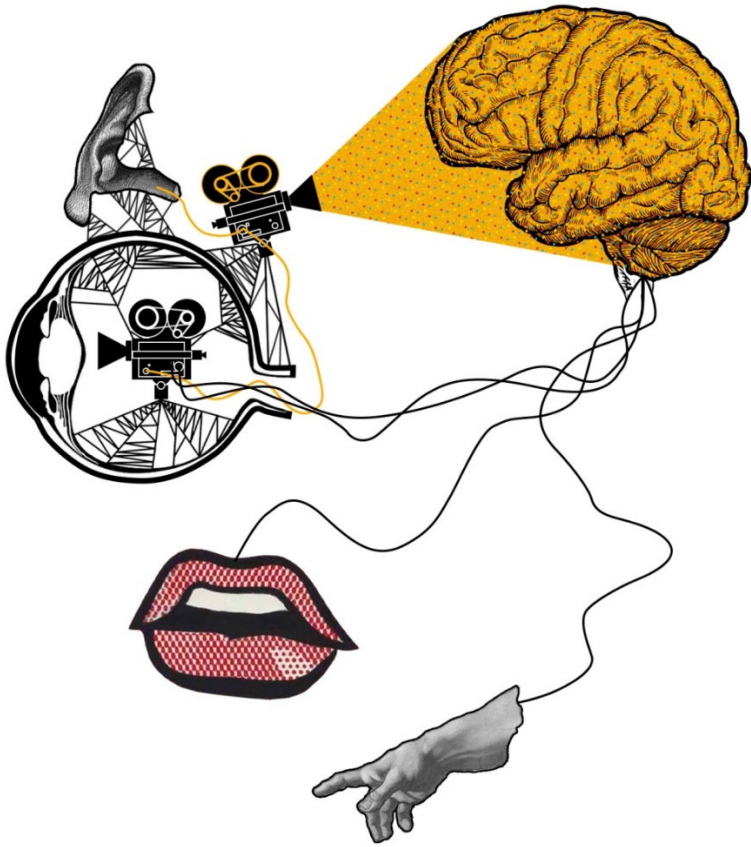


Figure 4. Exquisite-Multitude. The mediated-body-politic assemblage. Montage by Joe Wojewoda, 2021.



Figure 5. Three Natures [top]. Montages by Beatriz Pereira-Teixeira, 2022; Acceleration [below]. Montages by Lewis Rainford, 2022.

Conclusion: Towards an Architectural Pedagogy for the Anthropocene

The climate crisis is not only a technical question but always political and spatial. The dominant focus on energy efficiency and low-carbon construction is necessary but not the only solution, and probably only ever an inadequate solution to a planetary problem that requires a global response and one which is about a change in worldview. More focus is needed on how forms of development follow forms of thought; and how architecture and architectural education contribute critical and applied perspectives on those matters. We need to take to task narratives and practices of endless growth, which is not sustainable development. We need to question the commodity form of object buildings, habits of overproduction, and overconsumption. A change in modes of thinking about the world and world-making as a form of critical practice is needed. One place to articulate such a project is in the classroom. Pedagogy is a critical project.

One of the aims of this paper has been to put different bodies of knowledge together within a new pedagogical framework. Let's call it *architectural pedagogy for the Anthropocene*. I have reflected on a design research project in the context of an architectural theory module as an example of how design, theory, teaching, and research can be points of contact. It has enabled the possibility of

combining different fields of thought in what Wark (2020) has called “collaborative forms of knowledge practice” as a “common task.” Combining knowledge from architecture, critical theory, critical pedagogy, political theory, and the environmental humanities, is a necessary endeavour, especially when architecture theory has been resistant to thinking critically about the climate crisis. The Anthropocene is the most urgent context that we need to work within. I will conclude with a set of ideas, values, and practices needed for an architectural pedagogy for the Anthropocene.

The *chain of equivalence* may help to link together architectural thought and practice with education, the city, and institutional frameworks such as the UN Sustainable Development Goals. Theory and the architecture school are key elements in a chain of equivalence that binds individual to collective, teacher and learner to institution, and at a range of levels. It is a practice of collaborative world-making. A chain of equivalence across different levels of discourse might activate an alliance of movements, values, and ideas seeking the transformation of existing power structures and the inertia of overconsumption.

Typological urbanism updates the theory of type and adds an architectural relay within a chain of equivalence. A rethought theory of type moves the focus from centres to territory, collective memory to the planetary imagination. Typological urbanism mediates disciplinary knowledge and disciplinary memory, with the many entanglements of collective life. Foregrounding typologies of entanglement allows new readings of types as examples of what Wark called “low theory,” transposed to architecture as a *theory and knowledge practice of low types*. Close-reading the typologies of the Anthropocene might be a way to bring Arendt, Federici, and Wark to bear on substations, sprawl, and car parks; or Rossi, Haraway, and Virno to interpret IKEA, cooling plants, and the entangled peripheries of a global “Peripherocene.” Placing the worlds of Instagram and the smart city next to forests, frontiers, and factories, may help to redefine the concept of type in relation to an emerging “vectoral urbanism.” A theory and knowledge practice of low types updates the paradigms on typology by Moneo, Rossi, and Venturi and Scott Brown.

Developing a *critical attitude* will only ever be a first step. It begins by engaging education as a site of struggle and developing modes of interpretation and representation that bridge the gap between critique and politics, practices of close-reading/close-writing and close-drawing, theory and action. One of the tasks of critical architectural pedagogy for the Anthropocene is to articulate models of radical imagination in different sites. Central to this undertaking is educating students to become critical agents who can negotiate questions of social and climate justice, of knowledge and skills needed for political agency alongside the architectural agency of drawing, spatial thinking, and critical making. Embedding quality education in architectural pedagogy is about articulating the capacity of our students—our future foremost thinkers, architects, and urbanists—to be able to act thoughtfully by informed judgement. The task is to develop critical modes of production that lead to more careful and thoughtful forms of collective life; changing the way we learn, teach, make, think, eat, move, work, and live.

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