Of the Urban and the Ocean: Rachel Carson and the Disregard of Wet Volumes

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This paper examines entanglements between the urban and the oceanic through the lens of Rachel Carson and her lesser-known ‘sea trilogy’: *Under the Sea-Wind* (1941), *The Sea Around Us* (1951), and *The Edge of The Sea* (1955). Although Carson’s famous publication *Silent Spring* (1962) is lauded in the modern environmental movement, her other writings exploring our complex relationship with the ocean have been largely disregarded. I argue for Carson as an important transdisciplinary theorist of scientific knowledge, social relations, and multi-species interdependencies; and address how the neglect of these more-than-human planetary processes mask fundamental relations between the urban, water, and spatial experience – and, ultimately, our conceptualisation of this world.
This paper is concerned with entanglements between the urban and the ocean. I observe that many spatial practitioners typically disregard ‘wet volumes’ (including spaces such as bays, straits, gulfs, gyres, basins, seas, coasts, and tsunamis), so maintaining a generalised blindness towards the ocean. Here, I address this absence by examining the less well-known oceanic writings of Rachel Carson, and re-situate her work within emerging wet ontologies.

The term ‘wet ontology’ has been popularised by critical geographers Philip Steinberg and Kimberley Peters in their efforts to conceive of the ocean as a materially-complex and lived space requiring non-objectified theorising. In this discussion, I extend their recent scholarship to reveal historical and ongoing interdependencies between the ocean and cities. In focusing on the work of Rachael Carson I examine the long-standing obscuration of the ocean in conceptions of lived space. Her sea trilogy presents as another moment in the erasure of women from spatial debates, and highlights the overlooked role of women working at the intersection of science, ecology, and lived experience.

Carson was widely celebrated following the publication of *Silent Spring* in 1962, an unlikely bestseller on the dangers of pesticide use. The book is now lauded as a precursor to the modern movement of environmentalism. Although fixed in the public’s mind for this singular achievement (as per Fig. 1), *Silent Spring* is an outlier in her writing oeuvre. Carson’s mostly-forgotten sea trilogy: *Under the Sea-Wind* (1941), *The Sea Around Us* (1951), and *The Edge of The Sea* (1955) focussed on our complex relationship with the ocean. Those other (indeed, ‘othered’) books helped usher in a critical scholarship of the ocean, and prefigured the development of contemporary wet ontologies across fields as diverse as geography, urban theory, and spatial practice. This conceptualisation of the ocean requires us to rethink our fundamental relations with water: to explore embodied liquid spaces we often choose not to notice, even though they are central to how we experience space, time, and climate. I argue practices of disregard towards the oceanic demand the revelation of noticing, so that we may more acutely conceive of our collectively lived space.

This argument will be accompanied by re-presented imagery that foregrounds Rachel Carson and the ocean, re-situating her within these ‘wet volumes’ and making the extension of urban processes into the oceanic apparent. Selected images from Carson’s history, texts, and her ongoing interests with urban and ocean worlds have been ‘re-gathered’ from online sources, and re-made in conjunction with contemporary images results ranging from reportage to prompt recognition and regard. This image making can be understood as theorising-through-noticing, revealing neglected interdependencies between the cities, oceans, ecologies, and feminisms. There are limitations for the image-making involved in this process—not least of all, the difficulty of depicting the constantly re-forming materiality experienced by bodies and objects within the ocean. However, their value lies in demonstrating the conceptual labour required to collapse assumed boundaries between land, life, work, and deep water.

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Henri Lefebvre, The Urban Revolution (Minneapolis: University of Minnesota Press, 2003), 29. Lefebvre argued for the interrogation of limits to our understanding of ‘the urban’, seeing these spaces as both physical and ideological conceptual enclosures.

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The ocean, and those who write of it

Large bodies of water are typically defined by their (seeming) lack of characteristics deemed intrinsic to spatial experience, but the ocean can be better understood as a dynamic space of “relational becoming”\(^3\). Not simply landscape, but a critical lens for reflexive thinking and designing at interdependent urban and architectural scales. Viewing our planet as a series of wet volumes decentres landed bias, and challenges disciplinary norms of space and time. It is worth remembering a few statistics: 71% of our planet is covered by ocean\(^4\); we have explored more territory on Mars than the ocean floor\(^5\); and the ocean is our largest carbon sink and key for mediating rising global average temperatures\(^6\). When we avoid relations with wet and planetary processes, we mask connections between ourselves, others, and transforming urban practices. Carson’s writings hold great value for revealing these entanglements, and this paper will consider the implications of inattention to her work. To do so, I first offer a brief sketch of Carson’s life, taking care to identify the moments of disregard within a life of critical inquiry, systemic obstacles, and enmeshed relations.

The disregard of Rachel Carson

Rachel Carson was born in Pennsylvania, USA in 1907. By biographical accounts, she was an inquisitive student who later abandoned dreams of PhD research to work at the Bureau of Fisheries and Wildlife when her father died. Her elder sister died shortly afterwards, so she also cared for her two young nieces. Despite these hurdles, Carson published her first significant popular science article ‘Undersea’ to wide acclaim in 1931. She continued to write and publish, and by 1951 her second book, *The Sea Around Us*, was serialised in *The New Yorker*. During 1953, Carson was elected to the National Institute of Arts and Letters, and an Academy Award-winning film version of *The Sea Around Us* was released. By the late 1950s however, further challenges unfolded: both her mother and niece died, she adopted her grandnephew, and she was diagnosed with cancer. Carson undertook a radical mastectomy however her unmarried status prevented physicians from providing prognosis following surgery at this time\(^10\).

Although in terminal ill health, she left hospital to care for her family and to continue work on *Silent Spring*. When published in 1962, the book prompted concerted attacks on Carson by the chemical industry, scientific establishment, and popular media. Indeed, Carson’s preeminent biographer, Linda Lear, reminds us that a former department head wrote to President Eisenhower to express his concern that Carson was “probably a communist” and wondered why “a spinster was so worried about genetics”\(^11\). Like many women of this time, her responsibilities included maintaining a family, a home, and support for extended relations; as well as forging a career within the hostile sphere of scientific research. Carson

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8 Lear, Rachel Carson; Carol B. Gartner, Rachel Carson (New York: Frederick Ungar, 1983).
10 Lear, Rachel Carson.
11 Lear, Lost Woods, 429.
died less than two years after Silent Spring’s publication, posthumously awarded the Presidential Medal of Freedom in recognition of her civil service. This extraordinary life is difficult to reconcile with our limited recall of her work, underscoring the importance of feminist strategies that uncover interrelationships between ‘life’ and ‘work’.

The oceanic experiences of Rachel Carson

One reason for the disregard shown to Carson may be that she countered the modernist project of disciplinary control and scientific progress throughout her writing. Neglect of her earlier work has been profound but merits closer inspection for what it reveals about spatial experience at the scale of the planet. Her writing fused scientific rigour and empathy, and the sea trilogy concerned interpersonal relations with nature in many forms. These books transformed our sense of being inside the home.

Carson radically articulates this as the wider environment, beyond the domestic realm – and outside as the ‘world’ (that is, the planet). Published between 1941 and 1955, her sea trilogy includes: Under the Sea-Wind, which followed migrations of animals ascribed with emotions; The Sea Around Us, a catalogue of ocean research and warnings about planetary change; and The Edge of The Sea, a handbook of field research and philosophical inquiry into the nature of land and sea. In this series, Carson deliberately blurred technical expertise, narrative play, and critical re-imaginings. This strategy has particular contemporary resonance, whereby assumed orders are collapsing and no single event, object, or body seems wholly unconnected from a network of others. She describes the temporality of wet volumes:

Every part of earth or air or sea has an atmosphere peculiarly its own, a quality or characteristic that sets it apart from all others. When I think of the floor of the deep sea, the single, overwhelming fact that possesses my imagination is the accumulation of sediments [original emphasis]. I see always the steady, unremitting, downward drift of materials from above, flake upon flake, layer upon layer – a drift that has continued for hundreds and millions of years.

Carson transcended typically clichéd anthropomorphism, demanding moral consideration of non-humans – and far ahead of our current Anthropocene critiques:

I believe that most popular books about the ocean are written from the viewpoint of a human observer and record his impressions and interpretations of what he saw. I was determined to avoid this human bias as much as possible.... I decided that the author as a person or human observer...
should never enter the story but that it should be told as a simple narrative of the lives of certain animals of the sea. As far as possible, I wanted my readers to feel that they were, for a time, actually living the lives of sea creatures.

Operating from the peripheries of power, she was devalued as a ‘spinster hysteric’ by the scientific community even after decades of field research (see Fig. 2). Donna Haraway writes that this disregard occurs often in scientific and cultural domains, where women engage with male-dominated platforms from what is perceived either ‘underneath’, obliquely, or from a position as an ‘amateur’ – but always at a lesser level of accepted authority.


Fig. 2 Carson, *Disregarded* (2017). Illustration by Charity Edwards. Although undertaking decades of research and writing several best-selling science publications, Rachel Carson remains an isolated figure in the canon of scientific knowledge.
Noticing the disregard

Carson’s life demonstrates this challenge to intellectual power: she was perpetually othered while celebrated as a catalyst for the modern environmental movement. Occupying a circumscribed position today, she reminds us to maintain a critical practice of uncovering the not noticed. Indeed, she was fascinated with the smallest of entities within the sea, paying attention to the fleeting, the transitory, and the non-fixed:

Those first living things may have been simple microorganisms rather like some bacteria we know today – mysterious borderline forms that were not quite plants, not quite animals, barely over the intangible line that separates the non-living from the living.\(^{18}\)

As a consequence, I argue Carson is a noteworthy contributor to twentieth-century theorising of technology, nature, and society. Her work highlights that intervention often comes from the margins, and concerns we now declare as markers of the Anthropocene are shown to have much deeper roots in women’s writing and transdisciplinary theorising through the sea trilogy. Carson engendered a feminist consideration of our environment that recognised (often hidden) systems as complex and hybrid forms of knowledge\(^{19}\). This remains a provocation for my own work today: who (or what) else has been erased, and how can they be re-articulated in the entangled relations of our urban environment?

Wet ontology and spatial experience

By reconsidering Carson’s sea trilogy, the ongoing requirement to dismantle binaries cleaving ‘nature’ and science, knowledge and experience, and bodies and spaces is further revealed. Pioneering feminist scientists, scholars, and writers as diverse as Jeanne Altmann, Karan Barad, Ruth Bleier, Carol Gilligan, Donna Haraway, Evelyn Fox Keller, Elisabeth Lloyd, Carolyn Merchant, Val Plumwood, Gayatri Chakravorty Spivak, Isabelle Stengers, and Anna Tsing have theorised of engagement with others, and increasingly planet-scaled transformations in our Anthropocene age identify the need for new ways of thinking about the world. By recognising relations beyond positivist distinctions between humans and non-humans, Carson’s oceanic writings call out the (literal) fluidity of spatial experience.

These considerations also stem from an emerging ‘wet ontology’—a concept developed by political geographers Philip Steinberg and Kimberley Peters to discard landed bias and explore embodied spaces of water\(^{20}\). Wet volumes are revealed as spaces of urban and socio-spatial conflict, linked to political and economic change, cultural imaginaries, and historical processes of colonisation, conquest, resource extraction, and trade\(^{21}\). The missing relations from critical spatial debates are, however, within the water, and include the

\(^{18}\) Carson, *The Sea Around Us*, 75


\(^{20}\) Peters and Steinberg, “Volume and Vision”; Steinberg and Peters, “Wet Ontologies, Fluid Spaces.”

exploitation of more-than-human bodies. We must consider—indeed, as Carson did fifty years previously—humans and non-humans as significant assemblages co-functioning within a dynamic ocean-world shaped by ongoing social, spatial, and material processes. For example, this becomes clear when we examine connections between urban growth, consumption, food preferences, coastal fleets, shipworkers, fishing communities, divers, declining fish stocks, coral colonies, algae and other microscopic bodies. The ocean acts as a disassembler of discourses constrained by understanding ‘space’ only as a mappable area or containable unit. As Carson remarked, “the boundary between sea and land is the most fleeting and transitory feature of the earth, and the sea is forever repeating its encroachments.”

The urban experience of the ocean

We should also remember that Carson’s writings provided radical alternatives to imagining urban life for her readers at the time, emphasising new relational modes of multi-species cooperation across the land and sea. Serialisation in The New Yorker assured significant exposure for Carson’s work, and engagement with writers newly registering the character of urban interconnections. The New Yorker aimed to render the specific possibilities of the city’s social relations, and while Carson’s narratives were an unexpected introduction to ecological thinking, they were suited to the magazine’s attention to co-constituted urban ‘publics’. When The Edge of The Sea was serialised in The New Yorker in 1955, she reflected on the networks of organisms returning to the beach each night: “I am always aware that I am treading on the thin rooftops of an underground city.... The inhabitants remain hidden, dwelling silently in their dark, incomprehensible world.”

Carson wrote during a dramatic shift in understanding of ‘ecology’ across Europe. Her sea trilogy connects with this developing scientific discourse of ‘ecosystems’, itself influenced by an ethos of communitarian socio-cultural models: “life exists in layers – on other life, or under it, or around it, or within it.” The activity described in Carson’s wet volumes connected readers of The New Yorker to new debates of ecology, lived experience, and the interdependency of all things. Her willingness to embrace new media platforms—magazine serialisation, cinema, and television interviews—also speak to her interest in expanded communities of intellect.

Carson also questioned what we now refer to as ‘Big Science’, challenging dualisms separating sensation and perception from ‘knowledge’, and emphasising the importance of spatial experience in understanding our environments:

Now I HEAR the sea sounds about me; the night high tide is rising, swirling with a confused rush of waters against the rocks below my study window. Fug has come into the bay from...
the open sea, and it lies over water and over the land’s edge, seeping back into the spruces and stealing softly among the juniper and the bayberry. The restive waters, the cold wet breath of the fog, are of a world in which man is an uneasy trespasser; he punctuates the night with the complaining groan and grunt of a foghorn, sensing the power and menace of the sea.\(^{29}\)

In doing so, she broke with then-current scientific thinking. *Silent Spring* would later link unevenly experienced processes of urbanisation with nature and health outcomes, but Carson fine-tuned this framing of interdependent *lived* ecosystems in her sea trilogy. Spatial practitioners today construct practices of everyday lives while co-creating relations in our environments. As such it is important to better understand connections between nature, society and technology; and, as Peg Rawes argues, how they may operate ethically, with respect to difference, and beyond disciplinary constraints\(^{30}\). Carson herself declared changing environmental awareness required paradigmatic shifts: there was no ‘lack’ of knowledge, only prevalent ontologies were inadequate\(^{31}\).

Likewise, the absence of the ocean as an *embodied* volume in spatial debates creates disturbing implications for how we consider ‘the urban’, and others who inhabit it. Staging a more-than-human existence, Carson’s sea trilogy draws back destabilised materialities, planetary forces, and beings almost invisible to the (human) eye, into our everyday lives. Parallels are seen today when we examine our own—or, at least, my own—urban habits. The crispy fried seafood snacks shared with friends at a new rooftop bar in inner-city Melbourne are trucked early from bayside docks that distribute seafood products. Shipped from murky supply chains originating in the South China Sea, they utilise exploitative fishing practices preying on vulnerable refugee communities delivered from human trafficking networks at the Thai-Myanmar border\(^{32}\). The fish extracted from the sea are thus simultaneously part of the catastrophic collapse of marine environments across Asia—fuelled by urban growth, resource extraction, increasing consumption, and scarce policing of goods through the ocean. Mobile bodies jerked quickly from the wet materiality of the ocean, to open mesh, to multi-species enclosure, to ice-packed bag, to stainless steel counter, to a porcelain bowl atop a skyscraper, and subsumed within the body of another without a thought.

That one delicious moment in the city, high above the street and the dark illegality deployed in the cold ocean depths, is a co-constituted spatial experience; replicated infinitely through the increasing convergence of restaurant design trends via social media across the planet. As Henri Lefebvre argued, and as illustrated in Figure 3, ‘the urban’ doesn’t just comprise ‘objects’ filling an empty space, but is a field enlisting facts, fictions, phenomena, thoughts, actions, and diverse modes of everyday life\(^{33}\).


\(^{33}\) Lefebvre, *The Urban Revolution*. Of the Urban and the Ocean  Charity Edwards
Fig. 3 Wet volumes and socio-spatial conflicts (2017). Illustration by Charity Edwards. The shared experience of ocean depths, bodies extracted, industrial processes, and the distant delights of rooftop dining contest assumptions that the ocean is not urban.
The revelation of the ocean

While the ocean has been rendered opaque in critical discourses of the city, wet ontologies foreground the ocean and uncover practices operating at the scale of the planet—resource extraction, overfishing, biogenetic harvesting, illicit trading, and smuggling to name a few—rather than just the division of landed space. We increasingly turn attention to transformations acting across the planet in this Anthropocene age, and yet theorising our urbanising environments remains blind to the ocean. This disregard conceals the ocean’s role in economies, cultural imaginaries, and everyday experience: dispossessing space that will not fit dominant narratives. Instead, the ocean sustains our lives, even though it moves beyond borders, stable frameworks, and fixed material states.

Carson projected devastating futures at the close of her first book from the sea trilogy: “and once more all the coast would be water again, and the places of its cities and towns belong to the sea”. Certainly, uncovering the material space of the ocean today reveals a more-than-human planetary colossus increasingly enclosed by forms of commodification, dispossession, and displacement. Expanding industrialisation and growth is aggressively re-ordering the embodied ocean. This is in direct contrast to dominant critical discourses in architecture and urban theory, which focus on ‘global city’ metanarratives that obscure the presence of ‘the urban’ in this wet volume. These processes are not, however, removed from our own lives or the urban environments we inhabit. They are driven by design and planning decisions we make as spatial practitioners, and choices we enact day-to-day in our shared experiences. Rejecting the assumed neutrality of this wet space demands thinking differently about everyday life, urban practices, and planetary relations. The desire to not notice this is a perceptual crisis.

As Karen Burns has elsewhere noted, ‘acceptable’ ideologies of spatial theory and urban discourse have long relegated undertheorised spaces as feminised or simply surplus to discussions of ‘the city’. Linking Carson as a significant figure in transforming conceptions of our environment, and the neglect of her other(ed) writings, to the exclusion of the ocean from our everyday lives reveals alarming gaps in ways we theorise the world.

Conclusion: of the ocean, the urban, and others

Although fixed in public memory for Silent Spring only, Rachel Carson detailed complex relationships between the ocean and our everyday life, and prefigured wet ontologies. The neglect of her oceanic writings mirrors the marginalisation of the ocean in our conceptions of the world, and a disregard of planetary relations in general. Linking Carson as a significant figure in transforming conceptions of our environment, and the neglect of her other(ed) writings, to the exclusion of the ocean from our everyday lives reveals alarming gaps in ways we theorise the world.

I argue therefore that we should reconsider Rachel Carson. Not just as a science communicator, but as an important theorist exploring the nature of scientific knowledge, social relations, and multi-species
interdependencies spanning from the microbial to the planetary. Her exclusion from critical socio-spatial debates represents yet another omission of transdisciplinary knowledges. The relationship of her later work to new ways of understanding life in cities remains particularly neglected. Sadly, it is worth noting that Carson faced disregard even in death. Her brother refused her will detailing a burial at sea, and insisted instead on a state funeral for his (celebrity) sister. Years later he relented, but had only half the ashes disinterred and scattered at sea.

Carson remains physically divided between land and ocean—a binary she argued against her entire life. Given our new consideration of connections between space, experience, and the ocean, we may perhaps comfort ourselves by re-imagining her entangled in a coupled land-sea biosphere for time everlasting. For all of these ‘blind fields’—Carson’s sea trilogy; her contributions to theorising of life on, and in, our planet; and links she drew between the urban and the ocean—actually offer us the revelation of noticing, so we too may recognise interdependencies determining our more-than-human spatial experiences of this world.

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