

GEOGRAPHICAL EDUCATION 2025

Place, Past, Progress and Position



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- Contributions of varying length are invited, with a maximum of 5000 words for major articles and research reports. Shorter articles of 2000 words, featuring classroom strategies, reflections on contemporary issues and practices in geography teaching, and comments on previous articles are especially welcome.
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The aims of the journal are to:

- encourage school, college and university teachers and all others interested in Geography to share their ideas and experiences;
- promote sound practice and encourage the developments of innovative strategies for teaching Geography in the classroom and the field;
- provide a forum for discussion between teachers on issues and direction of Geographical education;
- encourage reflection on the scope and purpose of Geography and its role as a medium for the education of young people;
- promote the diffusion of developments in Geography and examples of ways they may be introduced into Geography teaching;
- examine educational issues and trends in the light of their relevance for Geography teaching; and
- disseminate news of AGTA activities and information of national interest from state affiliates.

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Editorial

Place, Past, Progress and Position

Jeana Kriewaldt

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This edition offers our readers stimulating analysis across three papers with themes of place-responsive pedagogy, radical global citizenship and a call to strengthen climate change education in Australian school education, pointing out that Geography should be positioned centrally for its unique contribution.

In the first article, Jefferson Kinsman offers a place-responsive pedagogy to connect students with local places, evocatively outlining the array of pre-fieldwork experiences that can sensitise and prepare them to heighten their subsequent encounters with place. Situated in Melbourne's Yarra Bend Park, the article emphasises the integration of Wurundjeri perspectives, offering strategies that prepare students to deeply engage with place in ways that can heighten their subsequent encounters with place. This rich account is transferable to other sites and will ignite your thinking about place-responsive pedagogy.

In the second article, John Huckle offers fresh insights on how school Geography can strengthen radical global citizenship, drawing on the philosophy of critical realism. Now a retired teacher educator, John has influenced generations of geography teachers in his role, and through extensive collaborations and publications, he continues to constructively challenge the geographical and environmental education community to consider what they teach, what young people should learn, and how they can learn it, in ways that may foster profound change. It is timely to reflect on the forty years since John's keynote in Brisbane and to consider what global citizenship can and should mean in a world facing global crises.

The third article, Climate change education (CCE) Position paper: A call to action, is a collaboration between the Australian Geography Teachers' Association (AGTA), the Australian Science Teachers Association (ASTA) and the Australian Association for Environmental Education (AAEE). Together, they are publicly calling for stronger, more comprehensive climate change education (CCE) in Australian schools. This collaborative position signals that three major national teacher associations agree that climate change education must be a priority. They are responding to the

challenges of the *Anthropocene*—the current era in which human activity is the dominant influence on the environment and the planet's systems. Because these challenges are increasingly complex and far-reaching, they argue that it is essential that all young Australians leave school with knowledge and understanding of climate change, its impacts, and solutions, alongside well-developed critical thinking skills to interpret information, assess evidence, and make informed decisions. The position paper calls for research-informed, explicit, sequential and mandatory CCE in Australian schools.

A central message is that students need more than facts—they need a systems-based understanding of how environmental, social, economic, and cultural factors interact. The associations argue that empowering students with agency and hope is essential. In other words, they want climate education to teach young people what they can do, not just what is going wrong.

To make this possible, they emphasise the need for high-quality professional learning for teachers, so educators feel prepared and confident to teach this content.

Overall, the call for action positions climate change education not as activism, but as equipping students with the knowledge, skills, and competencies they need to participate responsibly in shaping a sustainable and just future. This paper, launched on 9 February 2026, is reproduced as it marks an important moment in curriculum direction.

As editor of *Geographical Education*, I offer my thanks to the contributing researchers for their articles, the reviewers of those articles for their measured feedback, and to the geographic educators who generously offered their time to write book reviews. The journal would not be as valuable without the book reviews masterfully managed by Geoffrey Paterson, Reviews Editor, who has sourced interesting publications and ably liaised with the review authors to alert and guide our reading. I also thank Geoffrey Paterson for his thorough proofreading of the entire volume.

Please consider contributing to the next edition of the journal, Volume 39, 2026. I welcome articles for peer review and shorter contributions.



Preparing Students to Experience Place and Interconnection at Yarra Bend Park

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Abstract

As contemporary education grapples with increasing placelessness, the research advocates for place-responsive pedagogy that reconnects students with local environments before fieldwork experiences. The case study presents a comprehensive framework for pre-excursion preparation, demonstrating how classroom-based activities can enhance students' subsequent encounters with complex urban-natural environments.

Using the example of Melbourne's Yarra Bend Park, on the lands of the Wurundjeri Woiwurrung people, the article explores three primary preparatory strategies: mapwork and spatial contextualisation, narrative-based inquiry using the park's rich Indigenous and colonial histories, and hands-on analysis of physical and ecological samples from the site. These approaches are designed to develop students' understanding of interconnectivity—a foundational geographical concept that places derive meaning from their relationships with other places and processes. The research emphasises the integration of Wurundjeri perspectives through resources such as *Wilam, a Birrarung Story*, whilst acknowledging the complexities of teaching contested histories. It demonstrates approaches designed to foster sophisticated conceptual understanding and interest before students encounter the park's ecosystems and historical remnants. This pedagogical framework addresses practical teaching constraints whilst maintaining academic rigour and cultural sensitivity, providing concrete strategies for transforming abstract geographical concepts into embodied, meaningful learning experiences that prepare students for deeper engagement with place, and enhance subsequent fieldwork encounters.

Background and Introduction

The changing conditions and policies in schools make it crucial that, on *human* and *geographical* levels, teachers reconsider abstract ideas about places and their pedagogical possibilities, mainly with an eye to *in situ* student reflecting and positing. Across all industrialised societies, along with many Indigenous ones, human involvement with places and their interconnectivity has gone through seismic shifts. When it comes to

experiencing what are commonly regarded as *natural* places, the waves of change have been tremendous.

Beyond the fields of academic theory, public media outlets sometimes tap into concerns about technology-driven isolation and declining levels of engagement with natural, communal or spiritual places. It would take a brave geographer to declare that we have reached peak levels of body-quarantine or *placeless*, as opposed to *spaceless*, existence. And although biophilic urbanism might be an inflating science, it faces mounting pressures, and it seems low on batteries when it comes to curriculum content and delivery.

The perceived problem of *placelessness* was classically elucidated in Relph's (1976) prescient phenomenological work, *Place and Placelessness*, which has shadowed trends of virtual, asynchronous, de-subjectified, and standardised curricula. Grounding his critique in a humanist philosophy that essentialises knowledge and meaning as an extension of human experience, Relph described a world in which people are increasingly alienated from the places in which they dwell (the condition of *outsideness*), as they gradually come to lose their authentic sense of belonging or identity-forming rootedness (their *insideness*) in place-based experiences.

Such is easily the life in a world of megacities, global mobility, screen scrolling, hyper-sanitation, avatars—not to mention the shaving away of the natural environment in urban growth corridors, established municipal settings, and wilderness regions. Added to this, modern communities are often composed of members whose “preferred” relationships to the places they inhabit are vastly different, and who routinely move through, or dwell in, a plethora of places.

Despite this global trend away from a kind of place-attachment, or perhaps because of it, Relph's humanist conceptualisation of a placelessness emergency gradually eroded away in the decades of place theorisation that followed. A new wave of poststructuralists characterised phenomenologists like Relph as being captive to the idea of the subject as self-transparent and sovereign, rather than fragmented, contingent, performative or emergent (see Thrift, 1999), and where issues of experiential diversity, political

history and marginalisation, along with the effect of power, are merely optional concerns (see Wylie, 2007). Prior to this, the person-centred ontology of *placeness* and *authentic living* were already sitting uncomfortably with the Marxist argument that processes of capitalism have destroyed spaces only to fetishise and rationally reconstruct them into new realms on unjust economic terms (see Harvey, 1993). Equally questioning of Relph's mission to restore an idealistic sense of placeness and belonging were feminists like Rose (1993) who suggested that phenomenologists tend to be limited by their own male-centric and romanticised Western values. Expanding on these themes, Massey (1996) portrayed the Heideggerian background to Relph's work as a nostalgic humanist regression and distraction from the kind of critical, progressive or inclusive approaches to theorising *place* that give the fruits of social justice the best chance to form and ripen.

The subsequent 21st century creep from postmodernism to socio-materialism and posthumanism did little to redeem Relph's humanist account of placelessness. The phenomenologist's belief in an intentional experience of place as a relatively stable entity was regarded as teleologically irrelevant to the determination and analysis of a place's everchanging ontological totality—a non-representational totality incorporating dynamic uses, affordances, flows, performances, amalgamations and practices, as explained and explored by Thrift (2008), and which could be understood to permeate perceived human or cultural containment. If nothing about a place is essentially or intrinsically fixed, and there is nothing categorically valid that can be experienced by the subject as insideness, then why devote precious educational time and energy to nostalgic or fictional metanarratives, anthropological surveys, illusions of dwelling, or social accounts of particular places? The emerging postphenomenological view of places and their interconnectivities attempted to uncover a layered multiversity of place, or what might be described as an ultra-lamination, where the almost superficial agency of any human is embedded in networks and layers of non-human agency. Hybridisation of a place then becomes key to place-inquiry, and any attempt by geography educators to “inside” the student might be dismissed as a geographical delusion. Expressed in less alarming terms, “post-phenomenology recognizes that much of the phenomenon known as human consciousness does not take place ‘in’ the bodies of the human but ‘with’ the dense scaffolding of things that enables and shapes human thought” (Ash & Simpson, 2014, p. 63).

This sophisticated social-material perspective conspicuously aimed to transcend the accountability of humans to their inherited traditions of responsibility, environmental sentimentality, or naïve customs and discourses of belonging premised on a subject-oriented structure. But there are two issues here. The first is that teachers are mostly democratically compelled to cultivate strong convictions about their duty to support mainstream students on their journey to becoming the kind of veritable *citizen stewards* who find within themselves an irresistible sense of affinity with “natural” places, particularly those of environmental and ecological significance. Secondly, teachers assume that part of their function in democratic systems and secular schools is to support the subjectification of their students, which, in contrast to postmodernism and posthumanism, presupposes the primacy and authenticity of the subject. While this idea of organic subjectification does not necessitate objective educational imposition—at least not beyond the broad aim of building *citizen stewards*—it does give legitimacy to the claim that the subject is an ethical and responsible being who develops, and ultimately responds to the world, beyond the determination of systems or processes of object entanglement. As Biesta (2015) argues, teachers have the responsibility to create learning spaces and events that facilitate the emergence of the student's singularity, which will necessarily involve relationality to the other, ethical encounters, and self-reflection—all of which affirm the autonomy and centrality of the subject, if not necessarily its sovereignty. He clarifies this with,

Subject-ness . . . is not an explanation or explanatory concept, but refers to how individuals exist, from the inside-out, so to speak. It is therefore a first-person perspective—it is the perspective from the individual who acts (or decides not to act). (Biesta, 2020, p. 99)

Put another way, school communities and their classroom territories refuse to let go of the idea that each student is a peculiarly and sensibly stable entity under construction, and that their responsiveness to the perceived world in which they are living and growing with others is of paramount concern.

Here, it may help to share in the curiosity of Kinkaid (2021), who agrees that, for all its interpretive and constructive power, postphenomenology has responded inadequately to the phenomenality of the unified subject and its consciousness. While the interconnection of objects might exist independently and consequentially beyond what the mind can meaningfully know, subjectivity is perhaps

best treated in place-based contexts as both (i) individually originated, and (ii) event-emergent, or inextricably and irreducibly intertwined with the subject's material place conditions. It seems counter to human experience not to premise the student's analysis of assemblages, hybrids, flux and fields on the existence of an experiential subject, or a perceiving self who is in possession of intentionality. When a student studies a selected place, their recognition of interconnections of any kind presupposes their constructivist, tacit or functional knowledge of many *relatively* constant and resonant compositional narratives, elements, evaluations, processes, and other cultural or aesthetic items, based on what has previously been encountered and contemplated. This is the case regardless of whether the student arrives at the educational encounter loaded with a cultural "sense of belonging", whether they are merely equipped with respect for other subjectivities involved in the place, or whether they demonstrate the affective readiness to identify the conflicts, complex hybridity and representations of flux integral to a place.

Teaching units tend to begin with comprehension and terminology. Learning in life, on the other hand, mostly begins with our arrival at situations and places already culturally or materially infused with conundrum, causality, and connection. Without needing to belong to a place, we always happen to be in the middle of somewhere or something when we arrive at it, and when a new piece of learning enters our world or necessitates our puzzlement (Quay, 2013). The traditional constructivist lens positions learning as the growth of conceived connections *as experienced from our subjectivity*. When we restructure or expand our awareness and experience of interconnections, from moment to moment, we are learning in a typically human way, with new experiences incorporating something from former experiences, and shaping the quality of those in our future (Dewey, 1938). Applied to geography learning, this affirmation of lived experience and the hope of building on a constructive appreciation of the environment can be detected in the work of theorists like Seamon (2023) who contemplate a return to humanistic geography.

Arguments about the proper conceptualisation of human geography education—humanist, postmodern, sociomaterial, posthumanist, constructivist, subjectivist, etc.—are unlikely to be settled any time soon. However, the core problem remains that the causal and relational interconnections of local places studied in schools are ever more experientially concealed, socially disembodied, and stripped of their material or actual details—that is, they are too often experienced by humans *out-person* (whether

virtually, abstractly, or immaterially) as opposed to *in-person* (in the conventional sense of the term). Furthermore, there are few ontological grounds for arguing that the place-based human body, with or without intentionality of mind, is entirely immaterial when it comes to designing constructive or worthwhile student investigations of actual places. Places are inhabited and known through the involvement of the human body (see Tilley, 2004). At the level of educational discourse, it follows that there are some widely accepted, if not immovable, place-based principles that might provide the adventurous human geography teacher with hope and surety.

Tautologies are rarely more potent than the observation of Gautreau and Binns (2012) that geographical inquiry needs place; or Bartholomaeus' (2013) claim that geography methodology should naturally choose place over placelessness; or that field-based inquiry is historically the discipline's signature pedagogy (Seow et al., 2019). Somerville (2010) contributes a lucid frame for these principles, advocating for a place-responsive pedagogy which views place as local and embodied narratives set in a contact zone of contestation. As Taylor et al. (2018) subtly remind the many preservice teachers who consult their text, evidence-based findings show that the forces of globalisation have not prevented pedagogical approaches moving towards recapturing ancient ideas of "listening to the land", community-engaged learning, and investment in things local—not that this guarantees that most schools have access to natural places, or that they prepare students adequately for field trips.

Few geography teachers would reject outright Roberts' (2014) claim that there can be no powerful knowledge without experiences of the real world. And yet, teachers are forever frustrated by the obstacles to timetabling a field trip (Griffin, 2011). The usual reasons identified in the research literature can be conveniently summarised into the acronym *BOOT*, standing for: B = beyond cost; O = organisational hurdles; O = off-loading students to a site's experts without adequate curriculum preparation; and T = time constraints. These obstacles to geography excursions make it even more important that field trips are fun and fertile learning experiences.

The purpose of the following case study is to analyse and reveal some of the ways students can be prepared as subjects for place-based learning prior to being afforded the rare opportunity to investigate a local biophilic urban place. It is assumed that well-designed pre-excursion teaching can improve the quality of the student's material, affective, critical, or even spiritual encounter with an urban river and

conservation area, particularly where disciplinary and conceptual frameworks are developed (Gruenewald, 2003). There are many creative and resourceful ways to immerse, sensitise, provoke and involve students relative to a place prior to a geography field trip, all in the laboratory of the classroom.

More specifically, this case study will examine novel and traditional ways, including posthumanist and humanist ways, of preparing students to explain and respond to the interconnections between and within places and their processes in that strangest of fringe territories, the urban-natural environment. As Maude (2016, p. 74) explains: “The significance of these interconnections is that they change the places that are connected. Thus, to explain what a place is like, and especially why it is changing, one must look at its interconnections with other places.”

Conceptualising Interconnection

In broad educational terms, interconnection is central to Michael Young’s (2008) popular account of powerful knowledge because it causally relates network knowledge to personal empowerment and social mobility. Accordingly, a complex awareness of cultural and physical geographical interconnections entails exceptional predictive, explanatory, and practical power. Approaching the same summit from another political spur, Martha Nussbaum argues that the widespread problem of excessive business interests and ethical indifference are only overcome by “the spirit of Humanities”, which includes in its cultural and educative objectives “an understanding of the complexity of the world we live in” (2016, p. 7).

By implication, both Young and Nussbaum challenge the teacher to engage students with the complex geo-interconnectivity of the places they visit and study. One of the appeals of geography education in the context of the school classroom is that the student’s growth is measured and valued in the degree of complexity of not only their normative subject-based specialist analytical knowledge, but also of their recognition of interconnected substantive elements and processes of the world—or the network of geo-cultural and geo-spatial phenomena. The explanation of interconnected *things* equates to potent geographical thinking, whether it happens to be about causal contributory factors, complex terrestrial formations, emerging interdependencies, arrangements of confluence, resource governance and distribution, or material and social place-related assemblages.

In schools, much of what is regarded as sociological, anthropological, and cultural

is taught under the auspices of Geography, which effectively oversees the interconnection of all related phenomena. The study of human connections with land is core to the subject’s purpose, since the notion of connection loosely accounts for most ways in which a place is an abstraction of the interaction of all its constitutive entities and forces. Learning about a place, or places, is foremost a matter of encountering and understanding a site *of* and *for* its diverse forms, fields and layers of interconnectivity.

The components or contents of a place are rarely isolated or static (GWASCSA, 2015; Maude, 2016). They derive their existence, identity and significance from their physical or cultural connection to other dynamic forms and processes. From the beginning of any case study of a place, engagement and learning depends upon student involvement with the singularity or *placeness* as interconnected context—that is, the narratives, drama, contestation, benefits, synergies, and arrangements to which their senses and agency have been introduced. Higher levels of development or living are then demonstrated by the student’s habitation of this complexity. Focusing on a taxonomical account of development, *analytical* and *transferral* stages of learning are premised on a raw encounter with the ontic or subjective interconnections students have comprehended and rehearsed.

So it is that geographical elements best make sense *beyond* their abstract and reductive objectification (Smith, 2007). They need to be encountered in their manifestly situated state, as a part of existing geological processes. As nodes of interconnection, they are born within narratives and systems, as analogic figments in search of an interconnected reality. In the moment of conceptualising them and their connections, something in the human memory and perspective is modified. An inquiry that exposes interconnectivities, either in terms of student prior-knowledge or newly introduced field-related concepts, operates as a gateway to experiential and affective encounters with their site.

As indicated in the synthesis above, this conceptualisation of place has many theoretical roots. It draws from philosophical aquifers that extend well beyond customary representations of Geography in secondary school classrooms and curricula.

Interconnection at Yarra Bend Park

Yarra Bend Park occupies a vast area of mixed-use land immediately to the northeast of Melbourne’s inner suburbs. In recent years, it has served as an archetypal source for investigating, modelling, and teaching geography pedagogy and

curriculum to preservice Humanities teachers. The learning affordances of this sprawling place—a space of and for sophisticated natural, Indigenous, spiritual, colonial, commercial, recreational, civic, residential, and formerly agricultural and industrial interconnections—have proven to be richly manifold.

As its name suggests, the park's many landforms extend from its central riparian feature: a bend in the Yarra River, or the *Birrarung*, as it is increasingly known. Being one of Melbourne's two major watercourses—and much like other major metropolitan rivers around the world—it has an intriguing history of evolving land uses, encompassing all kinds of human practice and ecological resilience. Just as the state of the river influences local living in noteworthy ways, it provides many access points for powerful place-based learning experiences within reach of the city's schools. The site offers the geography teacher the joyful discovery of physical teaching resources while inducing deeper thinking about local environs and their intrinsic interconnectivities. In one sense, the whole of the riverside park is greater than the sum of its interconnections, since the *Victorian Yarra River Protection (Wilip-gin Birrarung murrn) Act 2017*—Woi-wurrung for “keep the Birrarung alive”—now recognises the river as a single living and integrated natural entity requiring holistic and traditional custodianship.

With its many attractions, its confronting problems, and its human-imposed priorities, Yarra Bend Park certainly has the potential to inspire the kind of *insideness of place* mindset postulated by Relph. But while the Birrarung, or “place of mists”, affords a wondrous encounter with nature, placeness and interconnectivity, the primary role of the teacher is usually to structure the student's experience to involve embodiment and criticality (Preston, 2016). And while place-based education has a strong potential to lead to lifelong learning skills and civic engagement (Victor, 2013), it is more likely to occur where effective or expert pedagogy is applied, making the design of preparatory and active fieldwork a specialist matter.

So how might Yarra Bend Park, in all its hybridity, or in all its singularity, be translated by pedagogy and resources into a learning experience of interconnectivity?

Interconnection and mapwork

When preparing students to inhabit places and meet their interconnectivity, maps remain an effective grammatical and pedagogical introduction. They are a remarkable invention not only because they graphically divulge certain

things that are findable within a wider designated place, but also because they expose some of the connections, flows and relationships of those things. Teaching map reading involves teaching the internal interconnection, or *inner-connection*, of the scaled place's features, as well as its interconnection with the world beyond the boundaries of the map. This makes maps useful scaffolding tools, as touchstones or frames for conceptual knowledge rehearsal and transfer.

There is no shortage of available thematic, visitor, or wayfinding maps of Yarra Bend Park. To locate the park within the urban landscape, an aerial photograph of the park is easily obtained online or using GIS, then screenshotted and superimposed on a familiar road map of greater Melbourne. When spatially contextualised this way, the park's significance and scale appears not unlike that of New York's Central Park.

Some simple orientation questions for students about the features of the wider city relative to the photo-form map of the park is another means of accelerating an appreciation of interconnected elements. Instructional or conversational dialogue can be used to guide students in their contemplation of the park's increasing importance to a city whose population continues to diversify and densify. At the very least, an initial map-inquiry can serve to stimulate elaborative rehearsal, encouraging transfer of the elements captured rudimentarily or imaginatively in the map's key.

A thematic map of the park can also form the basis of a student's own narrative composition. Drawing on whole class colloquy and speculation, students can be prompted to embed the features of the park in their own creative or elaborative story. Again, this promotes the engaging rehearsal of speculative knowledge of the park's inner connectivity prior to material or affective encounter. It matters little whether student stories embody personal concerns, or whether they are constructed under the influence of conventional geographical, historical or scientific authorities. The aim at this stage is to foster familiarity with conceptual connections. If Kolb's (1984) experiential cycle is applied, the teacher can later have the students review their hypothetical narratives against any phenomena, processes or concepts that are encountered in texts or on a subsequent field trip.

Interconnection and narratives

For teachers who become well-versed in the commonly available stories of Yarra Bend Park, there are many pedagogical options for stimulating the interest of the students. One engaging method of teaching how the features

of the place coalesce is to dialogically embroil the students in the teacher's own personal tales of unearthing the park's interconnectivity. While storytelling as monologue has the potential to be powerful, it also serves as an effective means for modelling geographical inquiry. One approach is for the teacher to narrate their enjoyment of the enigmas of interconnections and inner-connections of the place, by positioning them as mysteries to be solved, while inviting students to be partners in plot reconstruction and evidential resolution. Having used curious or functional resources to capture setting and perplexity, the teacher deliberately draws the students into the inquiry at mysterious points in the narrative. This supports student development in the art of conjecture, induction, and deduction. It scaffolds the composition of follow-up questions, the interpretation of geographical sources and data, and the courageous transfer of prior knowledge. The outcome of all this is the rendering of those geographical connections necessary to ensure the mystery reaches the stage of denouement.

Yarra Bend Park's history and geography is at the heart of Melbourne's evolution and functioning as a metropolis, so it naturally harbours a tangle of mysteries from which to craft an inquiry narrative. On the far eastern side of the approximately 2km wide park are the unusual ruins of a partly sunken dairy whose moated or "water-jacketed" storage design once served as a pre-mechanical means of climate-responsive refrigeration, keeping milk cool and fresh on hotter days for distribution to an infant city. The purpose of the building is only identified on maps drawn up for infrastructure engineers by the Melbourne and Metropolitan Board of Works in the first decades of the 20th century. The presence of the ruins opens the stories of natural and human processes of shaping places, transition to bounded colonial ownership and farming, the organisation of space for markets and urban expansion—all of which serve to illustrate the complex connection of multiple human and environmental elements and processes, including landforms, meteorological conditions, the planting of hawthorn hedges for sheltering vulnerable cattle, and the compacting of the soil under the "introduced" feet of larger and highly concentrated ruminating beasts—which, incidentally, had the reckless and tragic effect of preventing the growth of the once-prolific Murrnong daisy (*Microseris walteri*), a plant whose nutritious tuber is traditionally a staple food of the Wurundjeri.

Another of the park's signature narrative mysteries is the seasonal visitation of the Yellow-tailed Black Cockatoo (*Calyptorhynchus funereus*), one of many species of birds (see Source 1) that venture into Melbourne's riverside suburbs. The story of the cockatoo is brimming

with interconnections waiting to be uncovered. Sightings of huge, spread-out flocks of these colloquial "flying bricks" can be pinpointed on a street map scaled to include the suburbs beyond Yarra Bend. Students can then be assisted along lines of induction and deduction to determine that the birds are heading in the direction of the park. All questions about the origins, destination, habits and habitat of the birds can be answered meaningfully through the modelled researching of reliable online sources. The mystery should reveal the park's wood-boring larvae food source, for which the birds migrate with their fledglings in late autumn. After *partying* for several months (those who have observed the antics of the cockies up close will doubtless know what I mean), they abandon the park and head for their hollows in distant forests to raise their next brood. The cockatoo has been adopted as a symbol of local environmental health, as well as an emblem of Indigenous custodianship and presence. Their black and yellow tail feathers fetch a high price, and are sometimes displayed in the hats, regalia and artworks of people of the Kulin nation.

If this mystery narrative is carefully planned to include student-centred inquiry activities, it can facilitate the discovery of other ecological and geographical processes. The phenomenon of Yarra Bend's relatively short-lived wattle trees, which are ultimately torn apart by cockatoo families in their quest for grubs, is particularly novel, and yet wholly illustrative of sustainable and natural processes. Furthermore, the mystery-solver student can be led to stumble upon the history of the concerted and inspiring efforts of citizens to conserve the park. Some of the park's cliffside native vegetation happens to be the city's last remnants of unchanged native bushland. This is partly attributable to the efforts of local conservationists who began weeding and restoring the park's health and safeguarding its habitat features. Action was initiated only after the bend in the river was "moved" in the 1970s and a third of the park was sacrificed for the construction of one of Melbourne's major transport arterials, the Eastern Freeway.

These are but some of the launching places from which a teacher can lead a mystery narrative co-inquiry. There is much to be said for students having a hand in the role of *lighting up* within a narrative a network of connections between the human or material elements and the geological processes constituting the park. When given the opportunity to turn the pages of the mystery, students often experience both the anticipation and resolution of a sleuth. Meanwhile, they unveil instances of geographical change, sustainability, scale, cause and effect, and co-dependence. The resulting episodes of wondrous detail serve to

vivify the students' imaginations of a place and to emphasise its entanglements.

Perhaps the most evocative and engaging of all the available Yarra Bend Park narratives of place and interconnectivity can be found in Wurundjeri elder Aunty Joy Murphy, Andrew Kelly and Lisa Kennedy's children's picture storybook *Wilam, a Birrarung story* (2019). Tracing the journey of the Birrarung from its source in the mountains through the activities of lifeforms, including that of Yanggai (black cockatoo), Boroin (fairy wren), and Kombadick (tree fern), the story illustrates with profound gentleness and sensitivity the complex integration of (i) an older foundational world perspective, and (ii) the ontology of the more recently *arrived* world. At the same time, the story of Wilam is told with little compromise. The interconnection of elements across vastly different cultures emerges as a woven backdrop to the stronger and more flowing interconnectivity that is the living and spiritual entity of the entire river, including the Wurundjeri people and the surrounding landscapes. The story presents as, what Kamileroi woman Elaine Russell (2004) describes in the storybook of her childhood in La Perouse, *the hand of friendship*: somewhere in between the divergent worlds, a hopeful present and shared interest emerge. As a preparatory storyline for visiting the park, *Wilam* has an extraordinary potential to make palpable the interconnected lifeforces that dwell in Birrarung.

There are also reasons for viewing *Wilam* as a political response to the kind of colonial metanarrative Hutchinson (2024) describes as being "reduced to the statement that settlers were unfaltering in their belief in the superiority of western culture." For some readers, the book's illustrations project ghostly and incredible scenes of pre-colonial humanity onto cubic municipal landscapes, and make a strong statement on racism, genocide, and rightful custodianship. However, places like Yarra Bend Park also harbour present neutralities, equalities, and hospitalities, which are just as likely to be identifiable in the quiet, the everyday, the spiritual, and the privately kind or generous. Accordingly, the tone of *Wilam* reminds the reader that adopting an unwaveringly truth-telling stance does not preclude taking a reconciliatory *shared-histories-and-futures* outlook.

If Birrarung is investigated and taught through an Indigenous knowledge lens, then it is possibly best understood "in the context of land, language, and cultural teachings" (Pidgeon & Riley, 2021, p. 4). Community elders are required for teaching on-country ontology, culture and history (Harrison, 2013), and there should be *Culture/Country/People*-inspired partnerships with local Aboriginal communities (Hogarth, 2020; Coff,

2021). The Koorie Heritage Trust of Victoria can be consulted for these purposes. Teachers might also reflect on what might be considered the Indigenous "worldedness" and anti-connectivity view of Mika (2017), which critiques the fondness of academics for breaking things down into the smallest of categories.

The park's authorities have attempted to include Wurundjeri balluk knowledge by way of signage, the Koori garden, and other pedagogical elements. The information board at the Studley Park Boathouse describes how "the region is rich in resources and cultural significance to its Traditional Owners"; awkwardly, however, it positions the text under the heading *Voices of the Past*. Along the river trails are signs relaying the Indigenous colonial experience, and teachers would be well advised to prepare students for surveying these elements and their requisite narratives before visiting the park. The work of Randell-Moon and Ruddell (2024) can be consulted when planning for the inclusion of local communities and knowledge systems in place-based education pertaining to sustainable river management.

Even accepting claims that interconnectivity is essentially Eurocentric, the colonial stories that demonstrate interconnectivity at Yarra Bend need not project notions of Western superiority. Indeed, the more prevalent and publicly promoted park histories of European colonisation, as well as those which surface in less prominent source materials, are full of failure, fixation and folly. The onus is then on the teacher to establish whether their students are equipped with the sensitivities and historiographic positioning to critique the temporal layers of Geography. The design and operation of the park's 19th century asylum is infinitely contentious. So too is the redundancy of the costly flying fox viewing platform, or the impacts of the freeway and the neighbouring golf courses. The tragedies of the Aboriginal police camp, protectorate station and school at the Yarra's junction with Merri Creek raises many geographical issues. Environmental and agricultural fiascos abound. Introduced foxes, which have cost the continent 26 species of native mammals since being released in 1855, keep the park almost free of smaller native mammals and reptiles. In the early years of the Port Phillip colony, market hunters used punt guns to kill upward of 50 native waterfowl with a single blast. Tidal flow, salinity, and flocculation were catastrophically altered all the way upstream to Yarra Bend when the natural lava bridge was blown up.

The geographic concepts underpinning these park narratives should inspire culturally responsive teaching and learning, so that visiting the park

becomes a well-anticipated and meaningful on-the-ground enterprise.

Speculating interconnection using card networking

Situating geographic studies in a local place of the scale and nature of Yarra Bend Park means that curriculum-related abstract and corporeal interconnections tend to be immediately and sensorially discernible. Paradoxically, moving through such a multipurpose, diversely geological, and dynamically organic space sometimes helps students to overcome issues of cognitive load and engagement. There is a growing body of evidence to show that the more experientially real, affective, or place-based the site of transfer, the more natural and impactful the student's theoretical comprehension and cognitive rehearsal (Gutiérrez-Ujaque & Degan, 2023). This explains why experiences of nature are generally regarded as essential for children's health and development (Louv, 2008), or why it is so expedient to practise mindfulness of place (Deringer, 2017), or even why students of Geography might bother to investigate levels of happiness for people who are outdoors or in natural places rather than in built-up urban environments (Maude, 2023; MacKerron & Mourato, 2013).

Assuming that the educative value of fieldtrips and excursions is enhanced where students are prepped or primed to experience a place, and that the interconnections and inner-connections of place can be surfaced through mapwork and narratives of inquiry, the teacher might also turn their attention to other explanatory and interpretive methods of fusing new and prior student knowledge. The hope is that the resultant synthetic understanding will be transferred to actual circumstances encountered later in the park.

There are two Yarra Bend Park classroom activities that fill the preparative zone between a student's initial conceptual encounter and their subsequent experiential analysis. The first of these can be loosely described as *card networking*. Here, elements of the park are represented and encountered in strong *virtual* form. The second activity brings *actual* material elements into the classroom. Both approaches aim to develop in students a degree of expertise that will heighten their cognitive, physical and social in-person encounter of a place, noting that expertise and self-efficacy often drive the design and enjoyment of field trip activities.

Card networking challenges students to work in small groups to generate conceptual network complexity on their own terms. Instructions are given for all personal items to be cleared away, leaving the classroom tables as blank canvases for the arrangement of large-scale graphic organisers. Students are then handed a set of thirty or so cards which they arrange collaboratively in the manner they believe will best capture their shared understanding of the park and its interconnectivity. The cards include photographs of the park's past and present phenomena, with only brief and necessary labelling. Students are given sufficient time to sort through and interpret the cards together before arranging them in their chosen representative format. Once all groups have completed the task, they take turns to explain the compound meaning captured in their interconnected card graphic.

The complexity and diversity of student responses can be astonishing. Although some elements are more overtly geographical in their character than others, the students discover that the ideas depicted in the cards are categorically or causally interconnected in a genuinely place-based sense. The selection of cards can be tailored to the

List of possible elemental cards relevant to Yarra Bend Park	
1. Wurundjeri resources (eel traps, etc.)	20. Wurundjeri cultural, historical, and spiritual sites
2. Land cleared for cattle grazing	21. Ruins of historic flour mill
3. Neighbouring golf-courses	22. Amenities (toilet blocks, wheelchair access, barbeques, etc.)
4. Different forms of water pollution	23. Graffiti on trees and signs
5. Recreational exercise	24. Wildlife
6. Boathouses, now restaurants	25. Relocated Grey flying foxes
7. Protesting and political activity	26. Canoe launching sites
8. Possible canoe-trees	27. Neighbouring housing developments
9. Riverbank damage	28. Aquatic river life
10. State Parliament	29. Former prison
11. Former asylum	30. Community vegetable garden
12. Historic suspension bridge	31. Boathouse and restaurant
13. Viewing platforms	32. Historic fly-fishing pool
14. Dight's Falls	33. Lookouts
15. Gated community/former asylum	34. Neighbouring freeway
16. Hollow trees for nesting and habitat	35. Green wedges and "clear air" city corridors
17. Neighbouring freeway	36. Pollution prevention and removal
18. Visitor safety measures	37. Cycling trails
19. Cleared and uncleared riverbanks	38. State parks authorities

curriculum and the interests or capabilities of the students.

Columns reflecting broad categories are typically quick to emerge, before groups find the creative and conceptual energy to perceive patterns and connections between either the ideas depicted on the individual cards, or the categories established in their columns. Just as popular are chronological arrangements. Where a card reveals no date, students often detect in its illustration clues as to its historical context. Timelines are rarely presented as rudimentary timelines. In most cases, they also capture geographical themes, with the cards being clustered to project a particular perspective of land and change. Depending on the activities implemented before the construction of the graphic, a variety of lenses are predictably adopted, including ethical, sustainability, causal, First Nations, utilitarian, cultural, and industrial. A group's finished graphic often traces the impact of the human activities or natural processes depicted on the cards.

The activity relies on some cards depicting recognisable landforms, objects or physical processes, while other cards allude to abstractions, institutions, and general practices. Whatever the graphic constructed, the teacher can further question or illuminate interconnections—not only geographic discipline-based connections, but also interdisciplinary connections that slide across both the curriculum and the student's world. One possible way for the teacher to lead this geography inquiry is to adopt the *kikan-shido* approach involving between-tables monitoring, guiding, organising, and engaging in social talk (Kriewaldt et al., 2021), noting that there are several ways to structure this approach (Kriewaldt et al., 2024). Just as importantly, the quality of the narrative behind the graphic often improves when groups are allowed to verbalise their efforts or respond to questions.

Interconnection through sample analysis

Another preparatory activity for a Yarra Bend Park field trip involves the teacher obtaining small samples of a range of physical elements found in the park (Source 1). The scale and quantity of the samples required for running the activity are of negligible environmental impact. They can often be recycled or collected with permission and sensitivity. Items, such as a single red gum leaf

or blossom, or a sample of river silt, are stored and numbered in sealed see-through bags, then brought into the classroom for guided analysis. This method gives students in-part embodied access to place, increasing attentional familiarity for the subsequent field trip—cognitively, responsibly, affectively, and expertly, noting that “artefact” and “touch” learning is considered more knowledge-imparting and investigative (Zamarti, 2009).

As well as improving ecological literacy (Orr, 1992), constructive student analysis of the sample item can be enhanced using an online or whiteboard chart onto which student groups record: (i) the nature or name of the item, (ii) whether it is naturally occurring in the park, and (iii) how it might relate to the concept of sustainability. Having applied their pre-existing knowledge, students are assisted in completing the task by consulting a visual catalogue or inventory prepared by the teacher or even by researching online. The teacher then co-constructs a set of notes with the students, employing dialogic techniques and textual resources to capture and explore big ideas, patterns, themes, and new lines of inquiry. A discussion can take place around concepts such as *nature* and what is *natural*. Lenses through which the items might be *valued* or *devalued* can be established. Other emergent topics include the impact of various introduced species, the cultural meaning and utility of Wurundjeri balluk resources, and the forms of pollution or change that have become integrated with a functioning ecosystem. There is also an opportunity to discuss the role of Humanities knowledge in managing the presence and impact of the items, and in responding to wider processes of environmental relevance.

This analysis of the park's items should have direct relevance to subsequent field trip activities. The recording of quantitative data and the use of newly acquired expertise will again be at the forefront of the excursion experience. When adequately prepped, students usually enjoy pointing out otherwise hidden knowledge, even where it is as simple as the possibility that the tree hollow above them might be home to a possum or a parrot, or that pressing one's cheek to the tree and looking up along the surface of the trunk will sometimes reveal strands of possum fur caught on the bark, indicating which creature is more likely to be “at home”. There also is a

List of possible sample items	
1. Yarra River Red Gum leaf/blossom/bark	18. Glass bottles (antique, vintage, modern)
2. Golden Wattle leaf/blossom/bark	19. Aluminium cans and vintage lift rings
3. Black Wattle leaf/blossom/bark	20. Plastic packaging/labels
4. She-oak leaf/blossom/bark	21. Disposable utensils
5. Seeding Grass	22. Organic litter
6. Moss	23. Hawthorn leaves/berries
7. Fungi (decaying red gum)	24. Cotoneaster leaves/berries
8. Periwinkle leaf/flower	25. Snowdrop leaves/flowers/bulbs
9. Tradescantia weed	26. Jonquil leaves/flowers/bulbs
10. Clematis aristata stand (Traveller's Joy)	27. Paper packaging
11. Moreton Bay Fig leaf/fruit	28. Blackberry leaves/berries
12. Pine needles/cone	29. Daisy (native or introduced)
13. Cedar needles/cone	30. Porcelain fragments (antique and modern)
14. Juniper cutting	31. Unused dog litter bag
15. Ivy leaves	32. Rusted wire cuttings
16. Agapanthus leaves/flowers	33. Small bones (possum, bird, sheep "knuckles", etc.)
17. Turkey oak leaf	



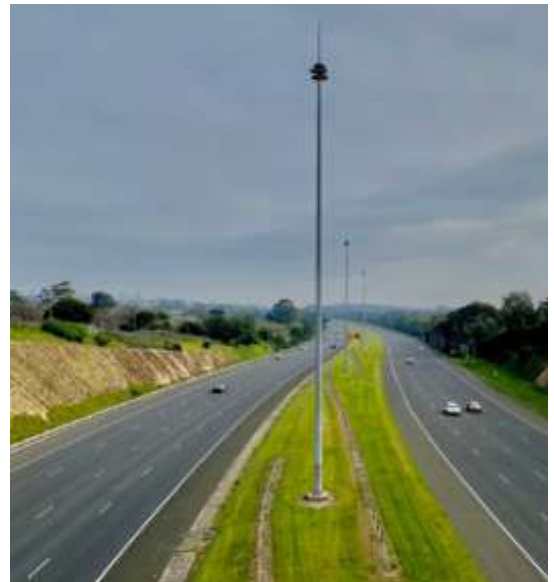
Source 1. Samples of items commonly occurring in the park: (L-R) Red gum leaves and blossom; 19th century porcelain and glass; Hawthorn leaves and berries; Tawny Frogmouth feathers.

golden opportunity to link a pre-excursion sample analysis to post-excursion projects that involve the students proposing or taking civic action.

Other activities for interconnecting virtual sources

Another method of establishing, structuring, and experimenting with new schema is a traditional classroom activity known as *odd-one-out*. Students are presented with three photographs, for example (A) Birrarung viewed from a bridge, (B) the neighboring freeway viewed from an overpass, and (C) cows grazing in a field (Source 2). Student pairs discuss the photographs, generating reasons for deciding which is the odd-one-out. When their findings are compared, students discover that there is no correct answer, since the photographs can be evaluated through different lenses according to different values, systems, or terms of involvement with other things in the world. Cognitive disequilibrium

thereby becomes the avenue to learning new categories or applying new perspectives. In the above example, (A) can present as the odd-one-out because it seems to present Birrarung or the park in its natural or pre-colonial state. However, it shows a river that has long since been cleared of its deadwood, and which was once a veritable tunnel of enormous, inward leaning trees. Some students will determine that (B) is the exception, because the other two present scenes from nature. But is it natural for cows to graze in Australian parks? And is it unnatural for creatures to build structures that contribute to their survival? (C) also presents as the “right” option, either because the photograph of the freeway and the river are compositionally similar in the sense that they have central causeways with vanishing points at their horizon, or because they both depict routes of human travel and connectivity—remembering that the Wurundjeri moved across country by following watercourses.



Source 2. Photographs for odd-one-out activity: (A) Birrarung viewed from a bridge, (B) the neighbouring freeway viewed from an overpass, and (C) cows grazing in a field.

Having to spot and explain the elemental or essential differences and commonalities between images from the park, particularly across time, also prepares students for a real-life encounter. The analysis of before and after photos can be used to highlight possibilities of becoming. Located below the site of the 1870s Kew Asylum is a periodically overgrown Victorian-

era brickwork swale drain (Source 3), running down to the river next to a recently established community garden (Source 4), both of which provide handy before-and-after sources when digging into questions of aesthetics, safety, environmental improvement, degradation, and community relations.



Source 3. Before and after the clearing of the Victorian swale drain below the old Asylum (now a gated community).



Source 4. Community garden.



Source 5. Deep Rock Swimming Pool.



Source 7. Flood warning sign.

Students might also examine *long-before* images and news sources, such as those capturing the purportedly world record high dive of Solomon Islander Australian Alec Wickham in the park in 1918. Under the somewhat questionable management of John Wren, the champion leapt from the top of a tower mounted on a cliff face, diving into the river some 200 feet below. According to newspaper accounts from the time, 50,000 people had gathered at the Deep Rock Swimming Pool (Source 5) to watch the dramatic event. The story channels well into opening an inquiry into Pacific immigration, the origins of freestyle swimming, slavery, and the park's sometimes outlandish history of recreational benefits. The cliffs at the site of the dive were later used for machine gun practice during World War



Source 6. Pollution collected from river after storm.

2, and the pool is still used for swimming today—but only when pollution levels are low enough, which is never the case after stormwater flows (Sources 6 and 7).

Contested, Changing, Cultural

One edifying characteristic of Yarra Bend Park is the diversity of its historical remnants and their narratives. Where Geography and History combine as *place and time*, a natural learning dimension opens in which students contemplate multiple themes and perspectives. The intricacy and scale of Yarra Bend Park provide this dimension, enhancing the prospect of fostering student affection for complexity.

But even if students demonstrate this character of consciousness, how ready are they to embrace the task of performing an indefinite historical or geographical calculus of causal forces? Without the teacher leading the analysis of flux and its complexity, the geography classroom can find itself perched on a cognitive downward slope, where students veer towards reductive ideas, singular overriding explanations, and naïve atemporal truths that reflect only popular assemblages or metanarratives.

The means of teaching geographical interconnectivity in this context, and thereby countering the gradient and its hazards, largely mirror the historical thinking guideposts set out in the work of Seixas and Morton (2013). Change is understood as something comprised of multiple causes, consequences, and agencies. Social, economic, political and cultural conditions all contribute to our understanding of intended and unintended consequences, and the evaluation of their significance and influence. This historical

approach dovetails with Cresswell's (2004) three ways of geographically investigating a place as a location and locale of human attachment, based on Agnew's (1987) notion of sense of place as synonymous with symbolic or emotional meaning—an approach which Freeman and Morgan (2014) have transformed into the highly practical “three lamps” student tool, with a blue lamp denoting the study of bounded and objective aspects of place, a red lamp indicating social constructivist processes, and a green lamp calling for humanist perspectives, with the lamps potentially operating at the same time.

Grasping this series of skills and concepts, or applying any interpretive frameworks, relies heavily on the teacher modelling and fostering inductive thinking. Exemplary case studies of places should readily divulge their uneasy complexities, conflicts and miscellany. To this end, Yarra Bend Park has much to investigate. While park reserves were first set aside in 1877, they have been the site of some epic public quarrels. From 1936 until today, the installations and operations of neighbouring golf courses have not always gone uncontested. Failed attempts by conservationists to block the building of the freeway in 1972 were somewhat offset by the success of the community resistance to the planned construction of the Brunswick–Richmond powerline in the 1980s (Blake, 1988). The translocation of the Royal Botanic Gardens Grey-headed flying fox colony to Yarra Bend Park in 2003 also faced considerable opposition. Geographical issues and connections are deeply embedded in each of these clashes of interest or value, and they are ready to be extracted.

The recent expansion of the park's boathouse and its restaurant makes it an ideal contested site for impressionable students to begin surveying matters of human recreation, liveability, and intercultural exchange, as well as economic and business phenomena of geographical interest. The public amenities and space surrounding the boathouse are a wealth of interconnectivity stemming from material causality and civic responsibility. While an investigation might be framed around the identification and evaluation of what has already been analysed and predicted in the classroom, students might also be led to search for phenomena and interconnectivities that are either immediately deducible and recordable, or a prime target for further research.

Inquiry around the boathouse might centre on the visible sources of river pollution, or the interconnecting processes that explain the presence of bluestone retaining walls and borders around the paths. The colonial origins of the giant English elms outside the boathouse, as well as the modern physical interventions sustaining them,

are deceptively complex sites of interconnection. The students' senses of civic and geographic interest might be triggered by analysing how likely it is that the entire area could again experience an event of the magnitude of the great flood of 1934 which led to the rebuilding of the nearby Kane's suspension bridge.

Those familiar with Melbourne's history will understand the complexity of its colonial calamity. For those who are not, the work of Clark and Haydon (2004) is recommended. When Europeans seized lands and introduced foreign farming practices, traditional Wurundjeri food sources rapidly deteriorated. Traditional means of gathering and distributing resources were hampered, leaving Kulin people with little choice but to rely on the newcomers for their subsistence. Initially, a European supply of food and goods meant that larger Indigenous populations could congregate for longer periods at one place; however, this eventually added pressure on local environs, causing degradation of campsites, coloniser resentment, health implications, and widespread fatalities. Although paternalistic authorities were initially proactive in protecting the Woi-wurrung and Boon-wurrung communities and their way of life, their abject failure to do so resulted in a shift to reactive and assimilatory colonial policies, fierce public debate, and virtual annihilation. In the geography classroom, these threads of historical activity connect with the measuring of wellbeing and quality of life factors like poverty, nutrition, access to safe water, life expectancy, and personal safety—a geographical inquiry recently considered by Maude (2023).

The complicated divergence and intersection of Indigenous and colonial perspectives are indispensable to any Yarra Bend Park case study. They can be made comprehensible by unpacking, scaffolding, and nesting an inquiry in a range of engaging sources and visual encounters.

Wurundjeri custodianship and its suppression at Birrarung can be uncovered in the primary and early secondary source materials of *Liardet's water-colours of early Melbourne* (Bate, 1972). Liardet arrived in Port Phillip around 1840 where he became a ferryman, then a hotelier, and then an amateur-turned-professional painter. His watercolours paint a picture of changing waterscapes. In an almost children's storybook style, the work captures scenes of Melbourne from ten to forty years after John Batman's illegal arrival and deceitful treaty. For students, they can promote deeper affective understanding of liveability, inhabitation, civic values, social variance, and geographical transformation. Simple instructional dialogue and inquiry techniques, such as the popular *see-think-wonder* activity,

can be applied to the details and themes of the paintings.

One of Liardet's watercolours shows three spear-carrying Wurundjeri males, cloaked in animal skins, fleeing a rudimentary stone building whose straw roof is ablaze. At the door stands an armed and panicking European. Dogs appear to be chasing the Wurundjeri. In the foreground are the mammoth logs and stumps of felled trees (Source 8). Students typically hypothesise that the three Indigenous absconders have used arson to retaliate following the invasion and destruction of their country. However, guided collaborative inquiry will reveal that Liardet's painting depicts the cunning escape of Tullamarina (the namesake of Melbourne's major airport) and his peers

from Melbourne's first jailhouse. The men were imprisoned for unwittingly stealing "kangaroo" sheep. Tullamarina was recaptured, taken to Sydney, retried, and acquitted—but he was never heard of again by his people at Birrarung.

Another watercolour shows the original 1838 punt installed for bridging the river at the location of what is now the hectic Punt Road crossing to South Yarra. In the background is a rare early historical representation of a Wurundjeri canoe. The lone male occupant is likely making for the Aboriginal mission station at what was soon to become the site of the botanic gardens—a narrative detail affording affective, empathetic, cultural, and geographic inquiry (Source 8).

Source 8. Liardet's watercolours.



One of the more intriguing of Liardet's watercolours shows a *tanderrum*, a kind of gathering, taking place on an undeveloped Emerald Hill—now the suburb of South Melbourne (Source 8). Student thinking routines and investigative graphic organisers can be applied to this depiction of the event. European onlookers had imagined a war to be unfolding between two “tribes”. In fact, the rowdy battle scenes were the acting out of enmity between the groups, as part of a sophisticated customary legal mechanism. The show culminated in the spearing of the leg of a young man who had been involved in the attempted abduction and fatality of a woman. It is possible that the skilful histrionics and carefully controlled punishment saved the culprit from a fatal act of retribution. These judicial measures can be contrasted with those of the colonisers involving overcrowded prison hulks, gallows, exile, beatings, malnourishment, and years of hard labour. This is an ideal time to introduce students to the last traditional 19th century ngurungaeta or elder of the Wurundjeri-willam clan, the remarkable William Barak, who fought for the justice for his people, and who illustrated and shared Wurundjeri cultural practices, aesthetics and lore. William Buckley's (2002) mid-19th century autobiographical account of living pre-colonially on country with the Wurundjeri for three decades is another source that complexifies the historiography and geography.

Concluding Remarks

Subsequent field trips to Yarra Bend Park will likely provide a potent experience of the interconnectivity of the park's various elements and places. The teacher has many options when designing the actual visit: it might be a storytelling or instructional excursion, a data-collecting field trip, a dialogic inquiry, or a sensory and playful geographical discovery expedition. The basis of the design might be to exploit what Relph (1976) regarded as psychologic and epistemic goldmines of geo-phenomenological inquiry, taking the student *inside* of, or morally connecting them to, the place. It is the student's *inhabitation* of the park, in the strongest sense of the word, that the environment acquires its meaningfulness (see Ingold, 2000). Or if postphenomenology has more appeal, the students can be prepared at school for their *in-person* investigation of the park, and for an embodied and more entangled experience of its hybrid constituents and forces.

Yarra Bend Park might present as recreational space, or a dangerous space, or a beautiful space, or a commercial space, or a vulnerable space, or a contested space, or a sustainable space, or a haunted space, or a laborious space, or an archaeological space, or a dreaming

space—noting that places exist in dynamic relationship with the students' own identifiable and undisclosed subjectivities. As Seamon and Sower (2008) describe Relph's vision, “without a thorough understanding of place as it has human significance, one would find it difficult to describe why a particular place is special and impossible to know how to repair existing places in need of mending.” And without generating an understanding of significance to the human subject, it would certainly be difficult to design the kind of constructivist inquiry unit that is regarded by many teachers as the most transformative learning experience of all: the inquiry in which the student participates by *taking action*.

Whatever the subject's affective experience of a place, it is vital that causalities and related power structures be discovered through their expression as geographical interconnections. This requires students to access a knowledge of how the features of the place connect with each other, with those who encounter them, and with places beyond them, across all conceivable dimensions.

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Forty Years Since Brisbane '86 and the Need for School Geography to Foster Radical Global Citizenship is Greater Than Ever

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Abstract

This article revisits and updates the author's keynote address to the AGTA conference in 1986. It considers the relevance of Wallerstein's modern world-system to understanding the ongoing global crisis, outlines the present culture war or hegemonic struggle between right and left populisms, and suggests ways in which advances in the theory and practice of global citizenship education can guide geography teachers as they seek to develop global citizens with the capabilities to help create a better world.

Introduction

2026 marks the fortieth anniversary of *Brisbane '86*, the tenth Australian Geography Teachers Association (AGTA) conference. The brochure publicising the conference described it as "a conference with a difference for geography teachers". If this difference is to be summed up in one word, that word might be *relevance*. Under the title of *Teaching Geography for a Better World*, the conference sought to enable attendees to consider how best to incorporate important contemporary global issues into their teaching in ways that encouraged "students to reflect on and to clarify their perceptions of the world and their place within it" (AGTA, 1985, p. 2). It led to a book with the same title as the conference (Fien & Gerber, 1988) which according to McElroy and Smith (2017) had a significant influence on the theory and practice of geography teaching in much of the English-speaking world and is "a splendid blend of intellectual rigour and down-to-earth teaching methodologies" (p. 22).

My argument in 1986

My keynote to Brisbane '86, and my chapter "Geography and world citizenship" (Huckle, 1988) in the subsequent text, argued that before we can teach Geography for a better world, we need

an understanding of how the world works, what the causes of its major problems are, and which of the proposed solutions seem most realistic and desirable. It explained how the world worked in terms of Wallerstein's (1997) world-system theory and sketched an alternative world order suggested by democratic green socialism. It then drew on Taylor's idea that most people are unable to explain their everyday experience in terms of the reality of global structures and processes because so much of what they are told and taught is centred on the nation state and could be considered ideology (Taylor, 1985). Therefore, the key to geography teaching for a better world was to focus on global citizenship and apply Wallerstein's and Taylor's ideas while developing students' political literacy in ways suggested by the Programme for Political Education (Crick & Porter, 1978; McElroy, 1988).

Updating this argument forty years on requires us to revisit Wallerstein's theory and identify key changes in global structures, processes and events that shape students' perceptions of the world, their place in it, and suggest new or revised content for the geography curriculum. It also requires us to consider key developments in the theory and practice of global citizenship education that, when applied to school geography, make it more likely that students will become reflective and active global citizens.

Revisiting Wallerstein's modern world-system

Agnew (2020) revisits and re-evaluates Wallerstein's modern world-system or the "idea of a progressively global capitalist world-economy spreading out from Western Europe and structured geographically to exploit peripheral areas for the benefit of the capitalist class in the core" (p. 17). He notes that the model proved attractive to some radical geographers "because

of its global reach, historicity, critique of state-centrism, and reliance on a spatial conception of distinctive labor processes associated with different geographic zones” (Agnew, p. 17). Among Agnew’s other conclusions is that the model has not kept pace with overall reality and that its conception of hegemony does not account for the contemporary American impasse in the world economy as well as Wallerstein hoped it would.

According to Wallerstein who died in 2019, five elements of the modern world-system account for its difference from pre-existing ones: a single world market, spatial division amongst states, an international division of labour particular to different phases of expansion, a temporally cyclical pattern of growth and expansion, and the “glue” of dominant political ideologies and their challengers (dominant and counter hegemonies) that holds everything together. Agnew’s re-evaluation of his ideas is wide ranging examining Wallerstein himself, the essentials of his modern world-system, Wallerstein’s critique of the modern social sciences and their Eurocentrism, an assessment of his radicalism, the fragmentation of the impact of his original model, and his influence in human (development, regional, political) geography. Much of this is relevant to school geography where, as in universities, Wallerstein’s model has proven its pedagogic virtue “in laying out an intelligible and totalistic account of problems of development across the modern world and has paid dividends in longevity even if the framework is more of a baseline now rather than a fully-fledged version of the original” (Agnew, 2020, p. 26). This article cannot follow all the leads that Agnew provides. I intend to focus on changes in the world-system since 1986, related developments in critical geography and geographical education, and the continuing need for school geography to develop students as global citizens.

Neoliberalism reshapes the world-system

The continuing crisis in the world-system (environmental, economic, political, cultural and existential) can largely be explained by the rise of neoliberalism, the mode of regulation that shaped the system from the 1970s to the financial crisis of 2007–2008 (Monbiot & Hutchison, 2024; Politics for the People, 2024). As Blakeley (2024) makes clear, this was a project planned by corporations, banks, states, and empires (notably the US as global hegemon) to reshape the global political economy in ways that further favoured the ruling class and eroded the wages, welfare and rights of workers. It involved processes of financialisation, globalisation, privatisation, deregulation, and individualisation,

and met with resistance from organised workers, political parties on the left, and progressive social movements.

Following the financial crisis when governments bailed out the banks, the money they printed found its way to the rich while most citizens suffered cuts to their wages and public services as indebted governments cut spending. This pattern was repeated with the COVID pandemic in 2020–2022 which revealed the fragility of global supply chains, increased inflation and the cost of living, and prompted a slowdown in globalisation. China’s power and standing in the world continues to rise based on an autocratic form of state capitalism that seeks technological supremacy (AI, electric vehicles, robotics, and aerospace) and, an expanding informal empire based on the Belt and Road Initiative and an alliance with the BRIC countries that include Russia. Putin weakens Russia by attempting to reclaim parts of its former empire in Ukraine while Trump has adopted a security strategy that sees the US dominant in the Western Hemisphere (the Donroe doctrine, Borger, 2026) and seeks to further erode the rules-based global order, its institutions and value systems. While often flouted by the US and others, this order and the theory and practice of global citizenship education based upon it (Unesco, 2015), now face a crisis of credibility and legitimacy. Trump’s action in Venezuela and his designs on Greenland, together with his statements and those of his chiefs of staff, suggest that the US is prepared to abandon its allies and leave Putin and Xi Jinping to pursue their own territorial ambitions. The world is experiencing an interregnum (Wintour, 2025) as a new world order is born:

It is one where increasingly authoritarian powers use brute force to subjugate their neighbours and steal their resources. What once might have sounded like dystopian fantasy is being assembled in plain sight. The question is whether we have the means, willingness and ability to fight back (Jones, 2026).

The failure of the Australian and UK governments to condemn Trump’s actions over Venezuela and its assault on international law, have provoked deserved criticism (Partlett, 2026; Smith, 2026) and their alliances with the US face uncertain futures. Revised foreign and defence policies are likely to feature greater self-reliance, more defence spending, a search for new partners (Doherty, 2026) and impose new limits on welfare spending. Citizens are likely to experience continuing insecurity, linked to debt, inequality, the “cost of living crisis”, and the introduction of AI. This will prompt support for right populist leaders who misdirect their legitimate

grievance towards false targets—notably migrants, mainstream parties, and “woke” liberal progressives—rather than towards the rich who seek to sustain neoliberalism by giving right populists financial and media support.

Critical geography and the global crisis

Wallerstein’s world system theory can be considered an application of earlier Marxist ideas particularly in its critique of capitalism and focus on economic history. He critiqued Marx for not adequately accounting for geography and for focusing too much on a single uniform path to development. Since the 1980s, Marxist geography has further evolved as a form of critical theory which provides accounts of the changing contradictions and crises within global capitalism, the restless and uneven geographies these produce, the commodification of everything, the “tangled human geographies of difference, inequality, solidarity and protest”, and the role of critical geographers as public intellectuals offering signposts to post-capitalist futures (Castree, Charnock, & Christophers, 2023). Das (2022) outlines contemporary Marxist geography and draws attention to class as the causally most important social relation which explains how human beings live their lives. Capitalist class relations shape gender and race relations which in turn influence class relations, the geographical organisation of society, and its going development. The goal of Marxism, and Marxist geography is to

arm the exploited masses with adequate ideas that describe, explain and critique the world from their standpoint, so they can engage in the fight to produce an alternative social-spatial arrangement, i.e. a democratic and classless society which is ecologically healthier and which avoids geographically uneven development intra-nationally and internationally (Das, 2022, p. 33).

There is much written by critical geographers that enables us to teach for a “better world”, for example its accounts of society and nature (Robbins, 2004), green capitalism (Williams, 2024), rentier and financial capitalism (Christophers, 2020), and the phases of neoliberalism (Said-Filho, 2021). Geography teachers can also gain access to critical ideas by reading political economists who are not geographers but offer powerful insights into a world in crisis, (e.g., Fraser (2023); Blakeley (2024)) where digital degrowth coupled to radical democracy offers the kind of sustainable and classless society that Das (2022) envisages (e.g., Bastani, 2019; Dyer-Witford & Mularoni, 2025).

Radical democracy and radical global citizenship

The Progressive International, launched in 2020, is a non-aligned alliance of progressive voices from around the world that has initiated a new global process to present, deliberate, and develop proposals for a New International Economic Order (NIEO) fit for the twenty-first century. Its collection of articles NIEO 1974–2024 (Progressive International, n.d.) reveals it to be what Wallerstein would term an anti-systemic movement, seeking a popular left alternative to the capitalist world-system or the kind of post-capitalist and classless society that Das (2022) envisages. This would establish a radical ecological democracy (Kothari, 2019) in which communities and collectives, rather than corporations and states, are at the core of the economy, and democracy is extended to all spheres of social life. Radical political parties and progressive movements would engage citizens in popular planning (Blakeley, 2024) and deliberative, decentralised decision-making that acknowledges dissent and antagonism. Citizens would then seek more sustainable and equitable futures that promote human wellbeing via alternatives to the current dominant model of economic growth. These would democratise economic, political and cultural structures in ways that respect ecological limits and adopt a holistic view of wellbeing that includes physical, social, cultural and spiritual dimensions.

Citizens of a radical democracy are required to be radical global citizens who adopt a critical stance to current global structures and processes that sustain a worsening global crisis. They seek new forms of global governance that require all global actors (citizens, productive enterprises, government, and inter-governmental organisations, NGOs) to exercise responsibility towards others, including those distant in space and time, and other species. In return, global citizens would enjoy universal basic rights including arguably rights to universal basic income and services to guarantee their wellbeing or welfare. Akkari and Maleq (2019) draw on Aktas et al. (2017, p. 4) who state that the role of the global citizen is to “challenge the hegemony of economic globalization and build solidarity across marginalized groups to fight oppression” rather than focusing on the neoliberal aim of building economic relationships across the globe.

Hegemony and populisms

In campaigning and lobbying for radical democracy and citizenship, progressive parties and movements must form a counter-hegemonic bloc to oppose the current “common-sense” view of the world held by the majority. Following

Gramsci (Mayo, 2014), Fraser (2017) defines hegemony:

“Hegemony” is his term for the process by which a ruling class naturalizes its domination by installing the presuppositions of its own worldview as the common sense of society as a whole. Its organizational counterpart is the “hegemonic bloc”: a coalition of disparate social forces that the ruling class assembles and through which it asserts its leadership. If they hope to challenge these arrangements, the dominated classes must construct a new, more persuasive common sense or “counterhegemony” and a new, more powerful political alliance or “counterhegemonic bloc.” (Fraser, 2017, p. 46).

Gilbert and Williams (2022) explain that hegemony comprises material, institutional, and technological components alongside the cultural or ideological, including “a set of entrepreneurial, competitive, individualistic norms that are encouraged across a range of social sites from schools to reality television shows and internet influence culture.” (Gilbert & Williams, 2022, p. xii). They maintain that citizens in core states like Australia and the UK, neither actively consent to, nor actively dissent from, neoliberalism. Their passive consent is a mix of cynical resignation at their lack of political agency, a conscious but ineffectual critique of the selfishness and harm that capitalism engenders, and an embrace of the everyday pleasures that consumerism, the popular media, and digital platforms provide.

Gramsci termed the periods of crisis when hegemony is in flux, “interregnums”, times “when the old is dying and the new cannot be born” and a “great variety of morbid symptoms appear” (Achcar, 2021). Naughton (2025) provides examples of current morbid symptoms: “tech billionaires genuflecting to authoritarianism, trillion-dollar payouts to individuals while democracies fracture, great powers realigning along civilisational lines, and political movements calling for the ‘extermination’ of their opponents” (para. 12).

In the current interregnum, the struggle for hegemony takes the form of a culture war between right and left populism. The European Centre for Populism Studies (ECPS, n.d.) provides a comprehensive guide to populism and Lizotte and Kallio (2023) provide an introduction to the geographies of populism and populist geographies. ECPS has an interview (Riboldi, 2025) that outlines how corporate influence and elite career pathways are hollowing out democratic representation in Australia. Elsewhere,

Doherty (2025) assesses whether Australia’s political centre can hold off the populist embers being set ablaze by Trump 2.0.

Table One is an attempt to summarise the current culture war between right and left populisms. It is designed to act as a heuristic device to aid thought, draws on my recent writing on critical realism and the GeoCapabilities project (GeoCapabilities, n.d.; Huckle, 2024, 2025), and is likely to attract many suggested revisions.

School geography, social realism and GeoCapabilities

As one would expect, critical education that explores the struggle for hegemony has not fared well in neoliberal times. Advocates (notably Morgan, 2012, 2018) have kept it alive among geography teachers, but it has gained greater attention and application in the adjectival educations: environmental, development, and citizenship education. While some countries, for example Australia and Wales, have national curriculum guidance that can accommodate both subjects and adjectival educations, England has clung to subjects. Such adherence has been strengthened by those who argue, following Young (Young & Muller, 2010; Young, 2014), that a socially realist curriculum and powerful disciplinary knowledge (PDK) benefit all students. This is a change to his earlier argument (Young, 1971; Morgan, 2019) that advocated the loose classification and framing of school knowledge in the interests of working-class students.

Incorporated into the GeoCapabilities project, social realism is perhaps the major influence on school curriculum and Geography in the past decade, an influence that is reflected in the Australian curriculum and AGTA’s resources for teachers. While GeoCapabilities acknowledges the need to develop the capabilities of global citizens, the relation of social realism to critical realism remains somewhat obscure and questions remain as to whether both mainstream and critical geography are equally powerful, whether one is more powerful than the other, and what combination of mainstream and critical geography can best serve to question neoliberal hegemony (the knowledge of the powerful) and allow consideration of counter hegemonies (the knowledge of the powerless). In what he sees as an “over hasty” critique of PDK from writers drawing on decolonial theory, Lambert (2025) now appears more prepared to accept the power of critical realism to enable a curriculum that can promote students’ capabilities.

Table 1. Right and left populisms compared

	Right populism	Left populism
Slogan	“Take back control”	“For the many not the few”
Interests served	Claims to support “the people” but really supports the rich.	Supports the people including the precariat and immigrants.
Source of citizens’ grievances and anger	Insecurity, lack of “decent” jobs, housing, public services affordability, etc. Blame placed on migrants, globalisation, centrist and left politicians, human rights law, all things woke.	Similar grievances but blame placed on capitalism that “cannibalises” workers, people in the South, carers, the rest of nature, and democratic governments (Fraser, 2023).
Ideology	Disaster nationalism (Seymour, 2025) Neoliberalism.	Green democratic socialism.
Global outlook	Nationalistic	Cosmopolitan
Global heating	Denial	Acceptance
Democracy	Authoritarianism, proto-fascist, pretence of liberal democracy.	Radical/agonistic democracy
Style of government	Conservative/Autocratic/Chaotic/ Top down	Participatory/Bottom up and top down
Examples of leaders	Trump, Putin, Farage, Hanson	Ocasio-Cortez, Navalny, Polanski, Waters
Social theory	Mainstream	Critical
Social class	Favours the ruling class.	Promotes class consciousness (Banfield, 2015) and equality.
Race and coloniality	Racist. Rejects decolonial theory.	Anti-racist. Draws on decolonial theory. Rejects migration myths (de Haas, 2024).
Identity politics	Nativist. Can foster hate for foreigners	Multi-cultural but critical of identity politics (Sarkar, 2025)
Knowledge	Knowledge of the powerful. Prone to post-truths, conspiracy theories, and relativism	Knowledge of the powerless. Truth determined by debate over knowledge claims.
Pedagogy	Didactic, mainstream, closed	Participatory, critical, open
Philosophy	Positivism. Ontologically dualist and epistemologically objective.	Critical realism. Ontologically holist and epistemologically relative.
Citizens’ capabilities	Seeks to keep most citizens in a state of dependency, false consciousness and under development.	Seeks to develop the capabilities of all to their fullest extent including those relating to radical global citizenship.
Powerful curriculum knowledge	That which enables one to have a chance to get rich.	That which enables citizens to “reflect on and to clarify their perceptions of the world and their place within it” (AGTA, 1985, p.2).
Schooling	Class based	Comprehensive

Global citizenship education (GCE)

Global citizenship education aims to be transformative, building the knowledge, skills, values and attitudes that learners need to be able to contribute to a more inclusive, just, and peaceful world. Global citizenship education takes a multifaceted approach, employing concepts and methodologies already applied in other areas, including human rights education, peace education, education for sustainable development and education for international understanding and aims to advance their common objectives. (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2015, p. 15).

This definition makes clear that GCE embraces the themes explored at Brisbane '86 and in Fien and Gerber (1988) and can accommodate the move to radical democracy and global citizenship as outlined above. GCE has long been a topic in the debate on the role of citizenship in secondary geography (Lambert & Machon, 2001).

Critical School Geography, Education for Global Citizenship (CSG)

In 2020, I self-published an ebook with the above title (Huckle, 2020, Stringer, 2021). This adopts UNESCO guidance on GCE and education for sustainable development and applies it in ways that counter UNESCO's bias towards welfare capitalism by acknowledging the political economy of the world-system and incorporating Mouffe's ideas on citizenship and radical democracy that link it to left populism, hegemonic struggle, radical reformism, and agonism (Mouffe, 2013, 2018). Each of the nine chapters in CSG is based on a global citizenship topic, a sustainable development goal, an issue of concern to older school students, and an article by a critical geographer. Each is accompanied by a curriculum unit. In developing these units, I followed guidance found in Gilbert & Hoepfer (2014) and the ebook format was chosen to allow the reader to follow links to supporting definitions, articles, videos, and follow-up readings.

Mouffe defines citizenship as "political activity involving a struggle for hegemony possible at any site from an engagement with the state, in the economy, or in everyday practices of identity formation" (Mouffe, 2000, p. 178). She compares actual existing democracy with what democracy should or might be and suggests that it is possible to use features of liberal democracy (e.g., division of powers, civil rights, impartial administration, and checks on government), as it exists in Australia and elsewhere, to advance democratic demands. Unlike Das, Mouffe does

not give the working class a privileged role in anti-capitalist struggle but echoes intersectionality theory in recognising many sites of identity formation and subordination from which citizens struggle in ways informed by their situations, beliefs and affects. Her argument regarding liberal democracy can be extended to institutions of global governance. Should the UN, for example, recover its purpose by abandoning universality, rejecting those states that refuse to abide by charter values, and refocusing on delivery of those values (Malloch-Brown, 2025)?

Mouffe's concept of agonism is based on two assumptions: that the political refers to the dimension of antagonism that is inherent in human relations and the making of society. And that politics comprises those practices, discourses and institutions which seek to establish a certain order and organise human existence in conditions that are always political. Conflict, contradictions and emotions are central to radical or agonistic democracy and pluralist politics. Antagonism should be turned into agonism in ways that view one's political opponent not as an enemy but as an adversary, someone whose ideas you may disagree with but whose right to defend those ideas you do not question. Such agonism, or disagreeing agreeably, is essential at a time when free speech is used to defend hate speech, political violence is a feature of culture wars between populisms, and spaces for democratic debate and public discourse are becoming rarer.

Radical GCE

Ruttenburg (2009) draws on Mouffe to suggest that radical GCE should educate the emotions (Mouffe's affects) by developing understanding of the difference between moral and political disputes and how power constitutes global society. It should also develop political literacy—the ability to "read the social order in terms of political disputes over liberty, equality and the hegemonic relations that should shape them", (Ruttenburg, 2009, p.3). As they study, articulate and debate global issues, students should understand the differences between private and collective emotions and moral and political anger, the ways in which emotions are collaboratively constructed in movements and parties; and how they are associated with views of desirable social and environmental relations and hegemonic orders. Radical GCE should explore how movements and parties have developed solidarity across space, time and species; why it is justifiable to feel anger on behalf of those (including other species) who suffer injustice; and how proposals to reform global governance would give global citizens greater voice (Global Citizens Initiative, n.d.).

Table 2. Radical agonistic pedagogy and global citizenship, based on Snir (2017).

Radical democratic or agonistic pedagogy	
Perform	Students perform their discursive identities: how they see themselves as global citizens and how their relations with the rest of nature and others at a distance in time and space that give meaning to their lives. They reveal and debate valuable truths about themselves including their preferred futures.
Connect	Students connect with discourses of global citizenship, including those of the populist right and left, recognise antagonism between them, and engage in agonistic debate that may change the way they understand and experience the world.
Transform	Students' identities change as they engage in agonistic debate. They connect issues and positions and may or may not become part of a hegemonic front seeking a radical global democracy.

Snir (2017) examines what is involved in developing students' ability to articulate their political differences, identities and demands. He suggests that agonistic pedagogy has three elements (Table Two) that take place simultaneously rather than sequentially. It reflects the work of counter hegemonic agents outside the classroom in that it is about building chains of equivalence (what we have in common) and discourse coalitions; growing to understand one another; broadening and deepening one's identity; and arriving at positions that acknowledge that there will always be disagreement about how to interpret and apply such concepts as democracy, sustainability, and citizenship. Sant et al. (2018, 2021) provide further insights into agonistic pedagogy that geography teachers can apply to the development of global citizenship.

GCE Otherwise

In his evaluation of Wallerstein's writing on the world-system, date Agnew (2020) draws attention to Wallerstein's critique of Eurocentrism:

The fact that capitalism had this kind of breakthrough in the European arena and then expanded to cover the globe does not however mean that this was inevitable or desirable or in any sense progressive. In my view it was none of these. And an anti-Eurocentric point of view must start asserting this. (Wallerstein, 1997, p. 105).

Wallerstein critiqued Europe's two cultures of science and humanities and the fact-value dualism in modern thought that derived, in his view, from the commodification of knowledge under capitalism. Critique of Eurocentrism and modernity is now central to decolonial theory and decolonial geography and the Gesturing Towards Decolonial Futures Collective offers

a study guide to global citizenship education "otherwise" that is based on such theory. This provides a series of cartographies or maps to help teachers and students explore modernity and post-developmentalism (Andreotti et al., 2019). Cartography 3 (Andreotti et al., p. 51) suggests that to address the culture war between right and left populisms school geography should explore societies and environments within the soft reform, radical reform, and beyond-reform spaces provided by different philosophies of knowledge This will enable teachers and students to question the epistemological and ontological hegemonies of mainstream school geography (see philosophy, Table One) and draw on critical realism along with a pluriverse of post-colonial/decolonial knowledges (Kothari et al., 2019) including those of Australia's first peoples. It will also allow teachers and students to challenge modern notions of development and offer examples of societies living with a holistic worldview that rejects such modern dualisms as those between nature and society and fact and value. Such holism is a feature of much left populism.

Critical realism and GCE

Following my intervention in the debate over GeoCapabilities and powerful disciplinary knowledge (Huckle, 2017), I have continued to argue that critical realism (Buch-Hansen & Nielsen, 2020), a philosophy of knowledge that "under-labours" for critical social theory, including Marxism, is the key to truly powerful knowledge (Huckle, 2024, 2025). In this regard, I am supported by Granados-Sánchez (2023) who, after reviewing the literature, claims that at the heart of sustainable global citizenship are five opposing dualisms which, like other dualisms, critical realism seeks to transcend in ways that replace either/or thinking with both/and thinking.

Granados-Sánchez (2023) argues that students should explore ways in which they can become:

- BOTH a citizen of a state of territory (territorial) AND a citizen of the world (non-territorial) Where is the locus of governance? (the governance dimension)
- BOTH a bearer of individual rights and responsibilities AND a bearer of collective rights and responsibilities What is my status as a citizen? (the status dimension)
- BOTH a passive citizen AND an active citizen. Should I be both shaped by the socio-ecological system and attempt to shape it? (the socio-ecological system dimension)
- BOTH a private, individualistic citizen AND a public, community-orientated citizen. Do I have a social conscience? (the social conscience dimension)
- BOTH a citizen who expects incentives and rewards (having mode) AND a citizen who acts in accordance with concepts of virtue and justice (being mode). To what extent and how should I get engaged? (the engagement dimension) (see also Wise & Shine, 2022).

Agonistic pedagogy is a means of fostering such thinking and readers should consider in what ways the dimensions are reflected in the current culture wars, summarised in Table One, and whether left populism, along with such powerful transformative knowledges as degrowth and radical ecological democracy, offer the prospect of resolving them under the umbrella of radical democracy and radical global citizenship.

And the next forty years?

We can continue to allow a minority to run the world in its interest and therefore continue to be subject to the oppression, injustice, and mounting threats that this involves. Alternatively, we can work with others to reclaim the world and bring about a social revolution which new technologies now make a possibility rather than a utopia. (Huckle, 1988, p. 30)

Forty years since Brisbane '86, and we have a deeper understanding of what is needed to educate global citizens in ways that provide them with the capabilities of creating a better world. New technologies, coupled to radical democracy, continue to offer routes to that world and the means to free older school students from the anxieties that currently preoccupy them (Hart, 2024; Khan, 2024). School geography can assist in the struggle for a counter-hegemony and a better world as I suggested at the conference, but this now requires engagement with the current culture war between right and left populisms

in ways that this article begins to explore. The present generation of geography educators should rise to the challenge.

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Climate Change Education (CCE) Position Paper: A call to action



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Executive summary

Our commitment is to comprehensive, unified, research-informed action to ensure that all Australian young people receive quality climate change education. We are three national education associations, and we call for the following five actions:

1. Make climate change education explicit and mandatory across the F–12 curriculum to support Australian students to be active, responsible citizens.
2. Develop a conceptual progression of learning, through the curriculum, that leads to deep engagement with human-induced climate change across all years of schooling.
3. Provide professional learning for pre-service and in-service teachers, school leaders, and administrators to build knowledge, values, and skills related to climate change education across disciplines.
4. Develop a national education action plan that prioritises climate action.
5. Fund a coordinated program that enables multiple cross-institutional research initiatives to inform effective climate change education in schools.

Who we are

The **Australian Science Teachers Association (ASTA)** is the national not-for-profit peak professional body for science teachers and is a federated group of eight state- and territory-based associations. ASTA produces four issues of a peer-reviewed journal for science teachers in Australia each year. ASTA promotes and advances science education by:

- providing advocacy and leadership as the peak body for science educators at a national level;
- supporting Member Associations to provide quality professional learning and development;
- promoting opportunities for the broader community to engage with science education;
- providing scholarships and bursaries to eligible individuals, in accordance with the requirements of a scholarship fund as defined by the Australian Taxation Office; and
- supporting the education of young people up to the end of Year 12 in their scientific studies and pursuits.

ASTA invited colleague associations to lend their strength to this call to action policy paper. We are delighted to be joined by AGTA and AAEE.

The **Australian Geography Teachers Association (AGTA)** is the peak professional body for geography teachers and represents the interests of its member affiliates to national education decision-making bodies. The Association is committed to excellence in the teaching and learning of geography in Australian schools and enhances awareness of its applications in society. AGTA promotes and disseminates research on geography education through its journal, *Geographical Education*.

The **Australian Association for Environmental Education (AAEE)** is Australia's peak professional body for environmental educators, providing a collaborative and supportive network for the growing force of cross-sector environmental educators across our states and territories, and hosts the *Australian Journal of Environmental Education (AJEE)*.

AAEE leads the Climate Change Strategy, a national advocacy program that voices Australians' desire for climate change education across Australia.

1. Introduction and rationale

Human-induced climate change is supported by scientific data (CSIRO, 2024), but the Intergovernmental Panel on Climate Change (IPCC, 2023) states that the pace and scale of climate action are insufficient to address climate

change. Therefore, we are calling for courageous political leadership, clear planning, and proper resourcing to improve how climate change is taught in Australian classrooms. **This call to action is directed to education policymakers, school systems, teacher unions, and teacher professional associations, because strong action is needed across the whole system to guide national direction and to build teachers' skills and confidence.**

Understanding of climate change in Australia has historically been shaped by economic priorities, business interests, and political debates, with the public receiving limited information and scientific evidence. The OECD Climate Literacy Framework (OECD, 2025b) provides educators with guidance to help students understand the complex scientific, social, and ethical aspects of climate change so that they can make good decisions about their own futures and the future of their communities. **Teachers need a strong system of support to build deep expertise in climate change education, and they must be recognised as leaders who guide this work in schools.**

Other countries are moving faster than Australia in strengthening their climate change education. The OECD's Programme for International Student Assessment (PISA) 2025 Science Framework (OECD, 2025a) states that 15-year-old students must be able to make informed decisions, take action, and demonstrate "Agency in the Anthropocene" (White et al, 2023). The OECD (2025b) has also created a 2029 Climate Literacy Framework to guide the inclusion of climate change knowledge, reasoning, and action in curriculum and assessment. **These documents demonstrate strong international leadership and highlight the need to develop a clear, explicit F-12 curriculum progression on climate change in Australia.**

ASTA's working group has used these international frameworks, along with the United Nations Framework Convention on Climate Change (UNFCCC), the Paris Agreement, the Action for Climate Empowerment (ACE) agenda, and the outcomes of the 2024 Australian Climate Change Education Summit to shape this position paper. The ACE agenda calls on governments to educate, empower, and involve all groups in understanding and responding to climate change. ASTA, AGTA, and AAEE have worked with leading educators from across Australia to bring research-based insights into this document. **A key part of this work is to position us to have a strong voice in conceptualising and implementing climate change education in Australian schools.**

The growing influence of artificial intelligence (AI) and the speed at which unverified information

spreads make it even more important that climate change education helps students to develop strong thinking and evaluation skills. International documents such as UNESCO's ESD for 2030 Roadmap (UNESCO, 2020), the OECD PISA 2025 Science Framework (OECD, 2023), and the UNFCCC's ACE agenda (UNFCCC, 2016) all emphasise the need for learners to make informed judgments in fast-changing information environments. Teachers at every year level need support to recognise and respond to the false and misleading information about climate change that is now widely shared through digital and AI-driven platforms. **We highlight the importance of continuing to teach critical thinking and media literacy skills so that students learn how to evaluate evidence, question information, and build strong habits for analysing claims.**

Strong climate change education depends on teachers having accurate, trustworthy scientific knowledge and suitable teaching approaches. This means that pre-service teachers, in-service teachers, school leaders, and administrators all need high-quality professional learning to support schools in adopting whole-school, place-based approaches that respond to social-environmental challenges. **These approaches help students to make informed choices about climate actions, build moral and civic responsibility, and develop the agency they need for future decision making.**

We call for urgent action in education so that students graduate from school with high-level climate literacy enabling them to make decisions, address climate change challenges, and adapt to future climate conditions. These actions include:

- making climate change education explicit and mandatory across the F–12 curriculum;
- building a clear conceptual progression of climate change learning across all years of schooling;
- providing professional learning for teachers, school leaders, and administrators;
- developing a national education action plan that prioritises climate action; and
- funding a coordinated program that enables multiple cross-institutional research initiatives to inform effective climate change education in schools.

2. What is climate change education (CCE)?

CCE is a systems-based approach to teaching and learning that enables students to understand the complexity of human-induced climate change, its causes and consequences, and responses to it.

CCE requires a multidisciplinary, systems-based approach that encompasses science, geography, civics, and ethics. Such an approach can engage with the complexity of global climate change processes, drawing upon the understanding that a system is a set of elements that are connected to each other by feedback relationships and organised in a way that achieves a function. Systems are:

interconnected in such a way that they produce their own pattern of behavior over time. The system may be buffeted, constricted, triggered, or driven by outside forces. But the system's response to these forces is characteristic of itself, and that response is seldom simple in the real world. (Meadows, 2008, p. 2)

In the context of CCE, a system is not only about sustainability or the weather/climate but about understanding Earth's systems and how human interactions cause negative outcomes. Earth's systems are the interlinked physical, chemical, biological, and human processes that cycle materials and energy in complex and dynamic ways (Skamp & Greene, 2023).

When it is effective, CCE enables students to:

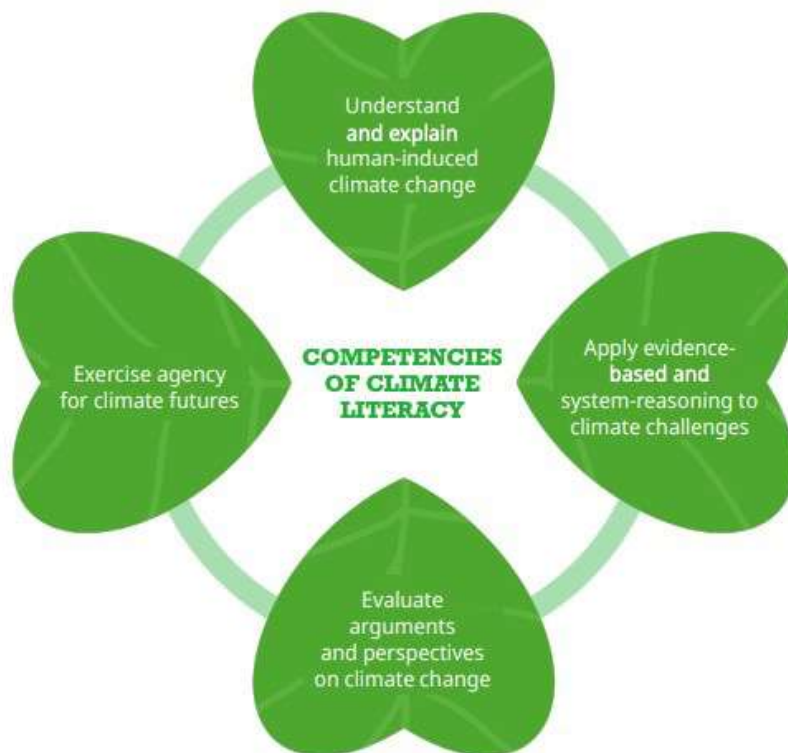
- understand that Earth's systems are changing at unexpected rates;
- understand how human systems interconnect with the Earth's system to produce social-ecological challenges such as human-induced climate change, biodiversity loss, energy transition, antimicrobial resistance, and plastic pollution;
- use data as evidence to model the rate of change and understand the Anthropocene as an epoch of human-induced changes to Earth's systems;
- take informed action to address local social-ecological challenges; and
- develop skills that enable students to have agency to make responsible decisions.

3. Action needed

Action 1: Make climate change education explicit and mandatory across the F–12 curriculum to support Australian students to be active, responsible citizens.

The greater purpose of a curriculum is to equip students to become citizens capable of making the decisions needed to ensure a sustainable future. Student knowledge about climate change is assessed by PISA; as such, if Australian education is to be considered a global success, it is vital that climate change knowledge is explicitly outlined in

Figure 1: Competencies of Climate Literacy.



national and state curriculum documents. Both the OECD PISA 2025 Science framework and the 2029 Climate Literacy Framework (See **Figure 1** above) provide evidence-based support for the development of explicit content descriptors and elaborations in the curriculum. The PISA Science Framework (OECD, 2025a) supports calls for strengthened climate change education in the Australian curriculum, along with opportunities for students to engage in local climate action and initiatives.

Some countries, including Italy, Thailand, France, Taiwan, England, and Vietnam, have mandated climate change education within their curricula, but many have not (McKenzie, 2023). Climate change education is based predominantly in science and geography subject curricula. Curricula primarily focus on knowledge about the causes and impacts of climate change, with much less emphasis on action-oriented learning (Benavot & McKenzie, 2024).

For example, in Australia, anthropogenic climate change is currently included in the Australian Curriculum and in state/territory curricula in science and geography.

However, its scope is limited and coverage occurs mostly in Year 10, when some students choose not to study science or geography, meaning that they miss out on CCE. Currently, curriculum documents across the country lack a coordinated approach to climate change education, and

teachers must be given more information so they are able to unpack the content needed for relevant local climate change action. Care must be taken to ensure that resources are suitable for the age of the children or young people (Tytler et al., 2025b).

We call for the strengthening of curriculum across all year levels to ensure appropriate, localised, and relevant climate change education.

Table 1 provides principles that could be used by curriculum and policy writers, as well as teachers, to generate climate change education that builds student agency and identity, while also fostering in students hope for a future in which both mitigation and adaptation strategies are used to deal with the issues the world is facing.

Action 2: Develop the progression of learning through the curriculum for all years of schooling to provide a clear conceptual sequence that enables deep engagement with anthropogenic climate change.

Climate change is complex, but understanding of core scientific and social concepts can be built progressively throughout schooling, ensuring that students develop a continuum of knowledge, understanding, skills, and values as they move from simple observations in the early years to analysing global systems and human choices in late secondary school.

Table 1: Principles for teaching climate change.

Principles for teaching climate change

1. CCE should address the science of climate change and human systems, including Earth systems interactions.
2. We should prioritise agency when teaching young people about climate change, developing activities that engage students in decision making and action, and critical thinking.
3. We must highlight the choices we have and what can and must be done at the individual and collective levels, rather than focusing solely on the impacts of climate change.
4. Teachers should consider the potential for learner anxiety and explore relevant resources – such as the Climate Council Climate Anxiety Toolkit, and resources from state governments and teacher associations – to support them.
5. Engaging with democratic processes is one of the ways that students can take action on climate change. CCE can play an important role in guiding students to prepare for critically engaging with community action, local council policy, and voting informed by critical understandings of high-level climate policy agendas.
6. CCE should recognise that the challenges of the Anthropocene are wider than the climate crisis. For example, the planetary boundaries model identifies the different systems that are threatened.
7. All education, including CCE, should demonstrate respect for a range of different knowledge, especially Aboriginal and Torres Strait Islander knowledge.
8. We must teach critical thinking and media literacy, and support students to develop a disposition for analysis. There is evidence that students who better appreciate the nature of science are more willing to accept and act on climate change.

Science and geography are key disciplines engaged with understanding, tracking, and responding to this meta crisis. Other subjects can use climate change contexts within their content to support and enhance the general capabilities of critical thinking, civics, and sustainability. Effective climate change education will build cross-disciplinary connections.

CCE is conceptualised differently depending on children and young people's stages of learning, so the curricular progression of ideas should reflect this (Table 2). **We recommend developing increasingly complex ideas about the nature of science, details of climate science and systems thinking, and planetary boundaries across the twelve years of school at age-appropriate levels.**

Action 3: Provide professional learning for all pre-service and in-service teachers, school administrators, and leaders to build teachers' confidence, knowledge, and skills related to anthropogenic climate change across disciplines.

We recognise the need for well-funded, relevant, accessible, and contextually appropriate professional learning, and commit to providing support for climate change education for all stakeholders. Each region in Australia has its own complex societal and economic beliefs about climate change, and these must be reflected in the

educational resources that are developed. These resources must also include Indigenous knowledge and understanding.

CCE is most powerful when taught through a scaffolded sequence of guided inquiry rather than as an add-on in isolated lessons. Drawing on a large body of research around the teaching of the Nature of Science (NOS), we know that students don't learn ideas well if teachers only hint at them. CCE should not be "hidden" within the topic of sustainability or in occasional projects. For students to develop agency and to see themselves as part of the solution, CCE must be clear, intentional, and reflective. The best approach is to:

- Use local events and issues as contexts – such as bushfires, floods, or school-based sustainability projects – so that students see climate change as relevant to their own lives. For example, teachers and students could conduct local biodiversity audits and then link the findings to CCE.
- Pose reflective, open-ended questions that push students to consider evidence, values, and consequences. For example, "Why do we see more intense storms now than in the past? Why is the increase in antibiotic-resistant bacteria an issue for us? Why do some governments and businesses refute climate change?"

Table 2: Progression of concept development across F–12.

Early years	Lower primary	Upper primary	Secondary school
<p>Attunement to the world around them and the place in which they live, and to the development of an environmentally responsible disposition.</p> <p>Making accurate and detailed observations</p>	<p>Identifying and describing the human and Earth systems in place around them.</p>	<p>Increasing knowledge about ecological integrity including climate change, biodiversity, and systems thinking and human system interactions.</p>	<p>Increasing interdisciplinary thinking, including values, civic engagement, argumentation, and using futures thinking.</p> <p>Building a sense of identity and agency in climate related issues and the disposition of responsible Earth stewardship.</p>

- Encourage cross-disciplinary connections, linking science, mathematics, geography, history, and civics so that students understand both the causes and societal impacts of climate change. Encourage students to take action to address climate change in their local area.
- Teach critical thinking skills explicitly within CCE contexts. For example, analyse and evaluate trends and patterns in global temperature change against time graphs and consider limitations or significant points, or evaluate claims made by social media influencers about climate change.

The need for immediate action is to focus on agency, both individual and collective, as defined in Table 3. CCE should also move towards incorporating decision making and action within science and avoiding a focus on science that is divorced from social implications.

Table 3: Definitions of agency

<p>Individual agency occurs when students take initiative, make choices, and influence climate action, moving beyond passively taking in content to become active agents of change. This could be encouraged through lifestyle changes, educating others, or joining or starting clubs and projects. It is not about student activism, nor is that intended by this paper.</p> <p>Collective agency is when a group of people act together with a shared purpose towards a common goal. This can be empowering for students.</p>
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Teacher professional learning is crucial to establishing effective climate change education (Tytler & Freebody, 2023). Teachers currently have varying levels of knowledge about ideas essential

to CCE, including, for example, the complexities of the science of interactions between Earth and human systems. Teachers' familiarity with pedagogies that foreground critical thinking in social-environmental challenges also varies, and some may need structured programs to build their knowledge to support students' decision-making and action, lead discussions of values, or adopt sensitive approaches to fostering students' positive outlook.

Action 4: Develop additional educational policy that enables schools to develop a whole place-based school approach.

In 2009, the Department of the Environment, Water, Heritage, and the Arts released *Living Sustainably – The Australian Government's National Action Plan for Education for Sustainability*. Under a vision that stated that all Australians should have the awareness, knowledge, skills, values, and motivations to live sustainably, the strategies and actions included:

1. Demonstrating Australian Government leadership
2. Reorienting education systems to sustainability
3. Fostering sustainability in business and industry
4. Harnessing community spirit to act

This policy was revoked in 2010. **We call on the Australian Government to again show leadership by redesigning the National Action Plan to focus on climate change education, and to ensure that CCE is supported and resourced to the necessary scope and scale for meaningful application across the country.**

A national action plan will guide schools and their communities to design their own climate change

adaptation plans and to support student learning. Student agency could be promoted through the creation of school hubs where individual schools or students can contribute to a collective climate change initiative. It is imperative that the plan recognises regional differences in climate change issues. A national action plan would provide schools with options and recommendations they can adapt to their own situations. The Australian Psychological Society (2020) also supports this need for government policy, stating that: “Governments and education providers should develop and implement national curricula on climate change, covering the science of climate change, its psychological and social dimensions, and solutions to it” (p.6).

Action 5: Fund a coordinated program that enables multiple cross-institutional research initiatives to inform effective climate change education in schools (e.g., an Office of Climate Change Education).

In this day of mis/disinformation regarding climate change and given the direction of the world stage, it is imperative that Australia is a key player in identifying the how and why of climate change and educating for mitigation and adaptation. We cannot afford to act after everyone else has progressed with their own education initiatives. **We must use this as a foundation to ensure that quality research can inform educational practices that are based in Australia for Australian students and teachers, but are also considerate of those in the diverse range of geographical places across this wide country.**

Climate change education must be implemented in all state and territory school curricula. Teachers plan, research, and teach the content, skills, and values required by their jurisdictions. Governments agree that education is the key to building a society that can make decisions, take action, and build a healthy country for the future. **Resourcing and support for a national teacher initiative will be foundational to this goal.**

OECD countries are tasked with building student climate literacy at personal, local, and global levels. This is more complex than just learning science content about climate change, although that is inherently important if students are to become critical thinkers. **Our science and geography teachers are best placed to provide learning opportunities for students to build their identity and agency that demonstrates both science and environmental competencies.**

4. Our recommendations and call to action

1. Make climate change education explicit and mandatory across the F–12 curriculum to support Australian students to be active, responsible citizens.
2. Develop a conceptual progression of learning, through the curriculum, that leads to deep engagement with human-induced climate change across all years of schooling.
3. Provide professional learning for pre-service and in-service teachers, school leaders, and administrators to build knowledge, values, and skills related to climate change education across disciplines.
4. Develop a national education action plan that prioritises climate action.
5. Fund a coordinated program that enables multiple cross-institutional research initiatives to inform effective climate change education in schools.

To prepare students for the future, CCE should be a visible, continuous thread from Foundation to Year 12, taught with intentional, reflective questioning in real-world contexts. The implicit inclusion of CCE will not work. By addressing both the scientific concepts and the social and emotional dimensions, schools can help young people to not only understand climate change but also to see themselves as capable contributors to a more sustainable and just future. Schools, families, and governments must work together so that young people both understand climate change and feel empowered to act on it.

As a collective, we are leading a growing understanding of the role science and geography play in supporting student action, and therefore agency, in climate change education. We do this to further enable and move forward our education practices in light of upcoming curriculum renewal in Australia in 2026, and to support teachers with the growing issue of climate change anxiety in children.

5. Concluding statement

We reaffirm that CCE is essential and compelling. We present a vision for an Australian education system that can build scientifically literate, hopeful, and active young citizens capable of shaping a sustainable future. We have a role as leaders in enabling the transformation to such a system.

Further reading

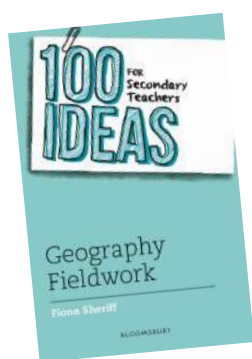
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Book Reviews



Reviews Editor: Geoffrey Paterson



100 ideas for secondary teachers: Geography fieldwork.

By Fiona Sheriff. Bloomsbury Education, 2025,

136 pages, soft cover, ISBN 9781801994804
<https://www.bloomsbury.com/au/>

Fiona Sheriff's *100 Ideas for secondary teachers: Geography fieldwork* is a highly practical and inspiring guide that supports the teaching and learning of fieldwork in Geography. As a teacher, I found myself genuinely excited by the possibilities this book opens up for embedding fieldwork more creatively and frequently into classroom practice. Sheriff is transparent about the logistics involved in geography fieldwork, while also presenting it as an engaging and dynamic process that is accessible to teachers and students alike.

The book is neatly organised into ten parts, covering over 100 individual fieldwork ideas. These sections move logically from preparation and planning, through on-site investigations and practical classroom ideas, to data presentation, analysis, and evaluation.

Each Idea is presented with a bolded summary for quick reference, teacher quotes, side notes with teaching tips, and "Taking it further" prompts that encourage students to extend their geographical thinking. This format makes the resource user-friendly and ensures that it can be used as a manual to dip in and out of. Extra ready to download online resources are also a great bonus!

What stood out most was the breadth of fieldwork approaches. Sheriff addresses everything from the fundamentals of assembling an equipment set, to modern techniques using apps and virtual fieldwork tools. Particularly helpful are the suggestions for embedding fieldwork into everyday classroom learning and utilising the school grounds. For instance, students might survey cars in the carpark, assess traffic flow on nearby roads, or even conduct a simple observation from

the classroom window. These simple ideas challenge the assumption that fieldwork must always take place on a full-day off-campus excursion, and provides teachers with practical ways to develop inquiry skills in everyday lessons.

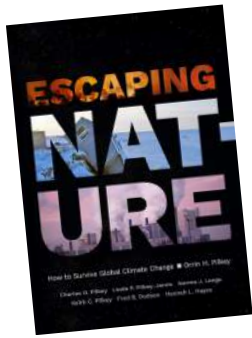
I enjoyed reading ideas about extending fieldwork into homework tasks. Sheriff's suggestions, such as collecting housing price data on a local street or sketching a local park, importantly offer alternatives to mundane homework tasks—and also helps to minimise students copying each other's work or relying on AI to generate responses (a constant battle that teachers are facing today).

As I am currently planning to facilitate my own excursions, I found Part 4: *On-site fieldwork* particularly useful. The dedicated sections on rivers, coasts, and human geography fieldwork (such as shopping surveys, and local land use mapping) provide numerous practical tips that I can adapt for my own teaching. Although the book is UK-based, its relevance to the Australian context is undeniable.

Importantly, the book covers all the key geographical concepts—space, place, interconnections, change, environment, sustainability, and scale—ensuring its applicability across all Stage 4 to Stage 6 units of work. It aligns closely with the new Stage 6 NSW Geography Syllabus, particularly considering the recent changes which now require 12 hours of fieldwork in both Year 11 and Year 12. The resource offers a range of ideas for Year 11 students undertaking the Geographical Investigation, particularly in developing and applying appropriate fieldwork methodologies. Therefore, I see it not only as a teacher's resource but also as a student resource, as they get inspired from browsing the different ideas.

Overall, *100 ideas for secondary teachers: Geography fieldwork* is a valuable, cost-effective resource. It combines practicality with creativity, providing teachers with an extensive toolkit to enhance geography teaching and make fieldwork an integral part of students' geographical learning.

Kate Sampson
Geography Teacher, Sydney NSW



Escaping nature: How to survive global climate change.

By Orrin H. Pilkey, Charles O. Pilkey, Linda P. Pilkey-Jarvis, Norma J. Longo, Keith C. Pilkey, Fred B. Dodson and Hannah L. Hayes. Duke University Press, 2024,

312 pages, soft cover, ISBN 9781478025443
<https://www.dukeupress.edu/>

This book presents a compelling thesis: in the face of climate change, humanity has only three choices—mitigate, adapt or suffer. Authored by the late Orrin H Pilkey, a widely recognised authority in coastal geology and co-written with six contributors (including three of his children), this book combines scientific evidence with personal narrative.

It features firsthand accounts such as the Pilkey's family escape from Hurricane Camille, alongside documented climate phenomena, including the 2015 northeastern Pacific marine heatwave known as “the Blob”. The authors also provide pragmatic guidance for survival in extreme events—for example, advising that during a tornado, one should exit their vehicle and lie flat in a ditch, as far away from the car as possible. Structured into five thematic sections—Earth, Air, Fire, Water, and Space—each following a consistent format, the book delivers a sobering examination of the realities of climate change.

The *Earth* section opens with an exploration of geologic time, providing essential context for understanding natural climate variability and historical mass extinction events, before summarising key findings from the 2021 United Nations Climate Report. It proceeds to address critical issues such as famine and permafrost thaw, offering pertinent information for secondary geographic education, particularly in relation to NSW Stage 5 Biomes and Sustainable Agriculture and Stage 6 Human-Environment Interactions.

The *Air* chapter examines atmospheric hazards, with a particular focus on hurricanes and their associated impacts, including storm surges, coastal erosion and marine ecosystem degradation. The authors highlight the poleward shift of these events and provide advice that many Australians are familiar with, including practising dry-run evacuations. This section also addresses tornadoes, extreme heat and declining air quality.

The *Fire* section examines wildfires and urban firestorms, primarily from an American perspective, while also considering global lessons, including Australia's 2019–2020 Black Summer bushfires. Practical strategies can be incorporated into geography lessons for the Stage 5 Topic Environmental Change and Management, including learning from Indigenous people and structured debates evaluating the merits of relocating populations from fire prone regions.

The *Water* section covers sea level rises and identifies American cities that are most at risk, ocean acidification “climate change's

evil twin”, marine heatwaves, tsunamis, floods, drought and water supply. Practical measures to manage the impacts include building ice stupas and Warka Towers.

Space examines climate refugees, climate havens, green cities, health, nature on the move and the biosphere. Following these chapters is *The heart of the matter* which usefully summarises each chapter. This is followed by *New ideas* that provide a pertinent starting point for further student exploration such as assisted evolution and biochar.

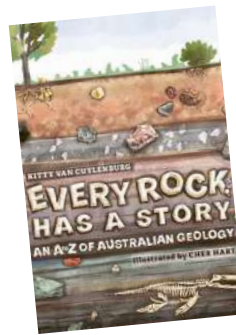
Pilkey's *Escaping nature* offers valuable insights for geography education, with its clear structure enabling teachers to readily access targeted ideas for classroom application.

While the text conveys a serious account of climate challenges, it also identifies potential strategies for mitigation and adaptation that provide a degree of cautious optimism. Particularly noteworthy for the secondary geography classroom is the multitude of useful visuals, including the Venn diagram on page 3, which illustrates the relationship between adaptation, mitigation and suffering. This accessible visual device serves as an effective prompt for class discussions about the trade-offs, choices and consequences inherent in responding to climate change.

Overall, *Escaping nature* provides geography teachers with both a conceptual framework and practical tools to engage students in critically examining humanity's responses to climate change.

Stephanie Boden

Councillor, Geography Teachers Association of NSW ACT



Every rock has a story: An A to Z of Australian geology.

By Kitty van Cuylenburg. Illustrated by Cher Hart. CSIRO Publishing, 2025,

64 pages, hard cover, ISBN 9781486316731
<https://www.publishing.csiro.au/>

Each letter of the alphabet receives a leaf in this well-illustrated new book for younger readers suitable for Year 4 to Year 8.

From “A Artesian” to “Z Zircon” these geology terms include some minerals (halite, limestone), some rocks (dolerite, granite), some rock formations (nuggets, volcanoes), some landforms (Kosciuszko, Mount Augustus), and some general terms (fossils, resources, you).

Each of these alphabetic sections is very much more than a definition. A map of Australia sits in the top right corner to place either the keyword or an example of it on the continent. First Nation clans are included beneath the map. There is a larger map of Australia at the end of the book to give readers new to geology a better idea of the scope of earth sciences in Australia.

The illustrations are dominant in this book which will give new, weaker, or reluctant readers a keen sense of what the keywords mean before they read the text. For older young readers, such as my own junior secondary students, this book was a good example of how to illustrate science information.

The text is thoughtfully broken up with a striking fact in the bottom left of each leaf, i.e., Pink Fact relates how a single celled algae's pink and red pigments makes lakes turn pink!

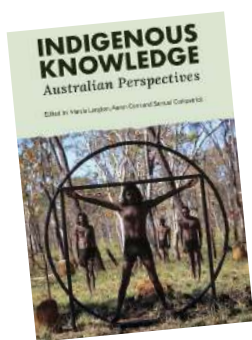
The paragraphing gives the reader time to pause and look at the illustrations to support the text or, for the more engaged, to refer to other keywords of the glossary. Glossary terms are helpfully in bold text to encourage new readers to check these definitions—a good habit which really does need encouraging—and immediately before the Glossary is an intelligent and un-intimidating timeline which will help thoughtful students with the greatest reference shift to grasping geology in my opinion—the lengths of time it covers.

The covers of this volume and its endpapers are also a neat geological contrast. The covers are geology strata in faded, Australian colours; while the endpapers are the compartments of a set of geological samples previewing images which will appear in the Alphabet within.

This book is an inviting beginning for young readers in Australian geology. It could also be used as a set of resources for those of us who have wanted to put more geology in the sprawling geography subject in Australian schools.

It is an attractive and accessible picture book with a strong bedrock and outcroppings of hard science.

Jonathan Sise, Sandringham College
Judith Sise, retired Primary Science Teacher, Victoria



Indigenous knowledge: Australian perspectives.

By Marcia Langton, Aaron Corn, and Samuel Curkpatrick. The Miegunyah Press, 2024,

224 pages, soft cover, ISBN 9780522880755

<https://www.mup.com.au/about/miegunyah-press>

Indigenous knowledge: Australian perspectives is a valuable addition to any teacher's library and a treasure trove of teaching and learning opportunities. While readers may find familiar topics, such as Indigenous astronomy and on Country learning, these chapters bring the reader up to speed with current research and First Nations perspectives. The book is arranged in sections, covering understandings across Deep Knowledge, Knowledge Expression, Knowledge in Country, and Hearing our Voices.

The content is broad and diverse, with authors privileging First Nations voices and offering insight into the deep connection between land and people. This is explained in detail in the

chapter, "Celebrating Galtha Rom workshops, A Yolŋu-led knowledge productions methodology in land and sea management". Beginning in the 1980s, Yolŋu educators and knowledge holders reformed the curriculum with a "both ways" education approach for students, leading to the success of the Learning on Country program and subsequent employment opportunities with First Nations ranger organisations.

With landscape and country in focus, current-day challenges bring together tradition and science with a "both ways" approach. Water tenures and Indigenous fishing cultures of the Top End savannas are celebrated through the rich variety of First Nations' languages and terms that frame water as both a physical and spiritual resource. Models of collaboration and two-way learning are discussed across various areas, including co-designed and co-created knowledge centres that act as a bridge between "old world" Indigenous and "new world" scientific knowledge and understanding. The role of song in both traditional and contemporary settings, encompassing language, knowledge, healing, and well-being, as well as Country as teacher, is explored across the chapters.

The chapter "Deep Water Knowledge" is a fascinating read that explores 29 First Nation histories from around Australia, all of which tell of times when sea levels were lower than they are today. Through a series of case studies, including Lake Carpentaria (now the Gulf of Carpentaria), and when parts of the Great Barrier Reef were scrubland, these events are mapped against postglacial sea-level change.

The authors state in the introduction to this book that these First Nation "traditions carry understandings of ancestral histories of occupation, coastal inundations and other major climate changes, as well as patterns of behaviour for how to live well on country, manage the environment, provide for material needs and maintain a social balance."

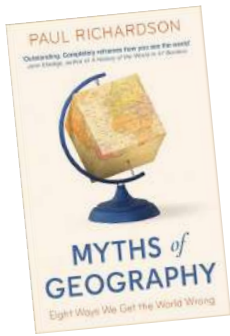
This is a must-read for anyone wanting to broaden their understanding of climate change and learn from cultures that have valued this knowledge and passed on these stories of change and survival.

In the final chapter, the work of the First Peoples' Assembly of Victoria, which has been advocating in treaty and truth-telling spaces since 2019, highlights the work of the Treaty Authority and the Yoorrook Justice Commission in Victoria.

The authors raise the importance of Australia's First Peoples and their cultural authority, which comes from the land itself. We are reminded of the importance of the United Nations Declaration on the Rights of Indigenous Peoples, and its role in ensuring the recognition and respect that cultural authority requires.

As a professional learning opportunity, this book is ideal for supporting staff in taking on greater responsibility for their own, their school's and their students' cultural responsiveness. There are many examples of First Nations ways of knowing, being, and doing, as well as genuine collaborative practices that incorporate mainstream and Western approaches with ancient traditions and knowledge systems.

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Myths of geography: Eight ways we get the world wrong.

By Paul Richardson. The Bridge Street Press, 2024,

**280 pages, soft cover, ISBN 9780349136325
URL: <https://www.littlebrown.co.uk/>**

The introductory chapter, entitled “Imagined Geographies” subtitled, *Is the world upside down?*, clearly outlines the aims of the book with an outline of each chapter. The author’s purpose is to challenge a set of “myths”, which he claims are outdated and influence our preconceptions and biases about places and people or our “imagined geographies of the world” which may not mirror realities.

Each myth that is being challenged has its own self-contained chapter with its clearly outlined heading and sub-heading. Each begins with an historical perspective explaining the origins of these myths and the effects they have had and continue to have.

The myths are: Continents, (*How many continents are there?*); Border (*Why walls don’t work*); Nation (*What is a country?*); Sovereignty (*Why taking back a country is not what it seems*); Measuring Growth (*Wealth, health or happiness*); Russian Expansion (*How Putin unleashed the revanchist monster*); China’s New Silk Road (*Why all roads don’t lead to China*); and Africa is Doomed to Fail (*Seeing beyond the colonial cliché*).

Topics covered refer to current geopolitical issues including the Russia-Ukraine conflict, the question of nationhood for Palestine, the rise of China, and the Mexico-USA border.

All chapters are self-contained and are not necessarily linked to the rest of the book. The three chapters that I found most interesting and “myth challenging” are considered below.

“Africa is Doomed” encourages a more nuanced perspective on the African continent and illustrates the problems associated with dealing with a place on this scale. As the author notes: “There is a long-standing myth that Africa is both uniform and undeveloped. This myth compresses a gigantic land mass of fifty-four countries with over 1,000 ethnolinguistic groups and a population of 1.3 billion into a neat geographical unit” (p. 188).

“Measuring Growth” explores the limitations of using GDP, a concept that has only been with us since the 1930s, as the only way of measuring and comparing countries, asking why “so much trust has been placed in a number that tells us so little about our wealth, health and wellbeing?” (p. 135) ignoring other aspects of a society including, happiness, life expectancy, education attainment and living standards.

“Continents” outlines the historical roots of establishing the continents, as a way of categorising and classifying the world. The author claims that some of the continental boundaries are arbitrary and should be reconsidered. A limitation the author identifies is “any continental scheme inevitably involves

reducing the richness and diversity of the human and natural world to four, or five, six or seven arbitrary and artificial chunks of space that must be filled with content.” (p. 41) This is one of the more thought-provoking chapters, but a series of maps would have aided understanding.

I recommend this book for the general reader and as a teacher reference. It is readable, and accessible, and does challenge some of the assumptions and preconceptions that we may have of the world, but more maps, diagrams and charts would have been useful to visually support the vast amounts of information contained.

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More-than-human.

By Jamie Lorimer and Timothy Hodgetts. Routledge, 2024,

**262 pages, soft cover, ISBN 9781138058392
<https://www.routledge.com/>**

In the first quarter of this century, more-than-human geographies have experienced an influential period of academic ascendancy. Although they are inspired by diverse intellectual currents from both within geography and elsewhere, they are arguably based on two important ideas: relationality and materialism. The authors, Jamie Lorimer and Timothy Hodgetts, would add a third notion, situated and multiple knowledges (pp. 9–10).

Relational geographies are anti-essentialist. They are concerned with connections, rather than discrete elements. Some connections succeed. Some fail. Relationality has, not only, revived geographical thinking about space, place, and scale; but also, events, affects, and dwelling; gendered, sexed and racialised bodies; objects, machines and animals. Relational geographies are apparent in Deleuze and Guattari’s materialist theories of difference (p. 64) where conjoined bodies of human, non-human and technologies, i.e., rider, horse, and riding technologies, such as the saddle or reins, are entangled together to become a new powerful item: the Mongol Empire (Jones, 2009, p. 315).

Relational geographies are also based on actor-network theories that emerged out of Science and Technology Studies. Actor-network theories also disavow the dualisms in Western thought (pp. 2–3, 23–31) to argue that the world is already part of us, just as we are a part of it, a view that extends the social beyond the human (Whatmore, 2002, p. 118), whereby humans are inevitably ensnared with non-human agents. Such relational geographies are also seen in performative worldviews: where humans and non-humans are caught in the fabric of the world, in its modalities of experience, in its affects, perhaps best seen, for humans, as the “spiritualized pull or uplift of a chord of music, and the stillness struck by the colour

of paint” (Dewsbury et al., 2002, p. 439). Relationality here exceeds mere words. It contests the excessive power granted to language in order to determine what is real.

If relational thinking sturdily buttresses more-than-human geographies, so too does an increased interest in materiality in *Geography* (pp. 52–81). Materiality ranges over:

- *atmospheric things* (McCormack, 2018) both as the gaseous substance that surrounds the body and the atmosphere of a place, i.e., a friendly atmosphere, a sinister atmosphere, etc. (p. 75);
- body fat in relation to feminism and the intra-active capacities of bodily matter (p. 57), intra-actions that outstrip the cognitive to include sensibilities, emotions and feelings;
- enchantment expressed as wonder, hope, joy and curiosity (p. 153) in relation to everyday objects like metals, plastics, bottle caps and rubbish, a weird world of things that are somehow independent of humans and yet influence intra-actions between humans and non-humans in unpredictable ways;
- the elusive footprints of water voles in a derelict urban wasteland where the “liveliness” of the material world is expressed in yet another guise (pp. 98–99).

Clearly, the compass of materiality far exceeds that of “follow the thing” materialism, that grounded geographical analyses of the concrete world. It is clearly much more than a materiality best seen as the economic foundations of society.

The text features numerous scholars who present innovative multiple worlds of human-geographical concern. What is remarkable about the *More-than-human* text is that it presents such complex scholarship in such straight-forward and understandable terms. The authors even portray one of the more obscure geographic exponents, Nigel Thrift (pp. 59–60, 227–229), in teacher-friendly terms. They introduce the reader to various alternative philosophical positions from the Western canon, from anthropologists that study non-Western people (p. 8), the feminist anthropologist and science studies scholar, Donna Haraway (pp. 55–56) to the Bawaka Collective (pp. 115–117) as well as prominent geographers such as Sarah Whatmore (pp. 218–238 and more numerous entries), Margaret Fitzsimmons (pp. 220–221) and Steve Hinchliffe (over numerous entries). It is an intertwined world.

Jamie Lorimer, the first author of *More-than-human*, studied at the University of Bristol where Sarah Whatmore taught. Whatmore introduced the term more-than-human life worlds (Whatmore, 2002, p. 162) in her ground-breaking text, *Hybrid geographies*, and referred to more-than-human geography in 2003 (Whatmore, 2003, p. 139). Lorimer’s PhD supervisor was Steve Hinchliffe, author of *Geographies of nature* who maintains that that non-humans of all kinds are active and lively partners in the making of our worlds (Hinchliffe, 2007, p. 1).

Sarah Whatmore met up with Margaret Fitzsimmons while on sabbatical leave. Fitzsimmons, the granddaughter of the great US cultural geographer Carl Sauer (p. 220), had written about the materiality of nature as far back as 1989. Sarah Whatmore, Steve Hinchliffe, and Jamie Lorimer are collectively and

arguably, the brightest stars in contemporary more-than-human geography.

In the text, following an introductory chapter, Chapter one examines the rise of humanism, debates about critical social theories and develops real-world examples about the crisis in humanism.

Chapter two focuses on more-than-human materialism and is divided into six sections that look at: human bodies (pp. 54–60), animals, plants and other organisms (pp. 60–63), biological processes (pp. 63–69), technologies and infrastructure (pp. 69–73), the elements: earth, fire, air and water (pp. 73–77), and, key characteristics of more-than-human materialisms (pp. 77–80).

Chapter three is titled *more-than-human knowledge practices*. It features intriguing boxes titled: learning to be affected by wild things (pp. 98–99), digital ecologies (pp. 105–106), wild experiences at the OVP (pp. 110–111), and the Bawaka Collective incorporating “both ways of learning” (pp. 115–117).

Chapter four, titled *more-than-human politics and ethics*, examines what happens when politics and ethics are shared across the entire more-than-human field. Politics, in this chapter, refers to relations between humans and a subset of animals that are raised to quasi-human status. Ethics here involves claims over what should be done to people, animals and nature, in “a world increasingly populated by human artefacts, technologies and socio-materialities” (Roe, 2010, p. 262). The most interesting sections involve the views of Public Engagement in Science and Technology (PEST) (pp. 145–148), political animal (pp. 149–152), and the inhumanities (pp. 160–162).

Chapter five is titled, *the tensions within and prospects for more-than-humanism*, and principally argues for and against the proposition that the role of the passive human subject fades too much in this more-than-human world. An appendix provides an illuminating interview with fellow Oxford scholar, Dame Sarah Whatmore.

Why teach more-than-human geographies in an Australian classroom? Firstly, it attempts to unite human, physical and environmental geography, (Castree, 2005, Fitzsimmons, [1989], 1997), in a world seen as “neither separate from us, nor veiled and inaccessible” (Braun, 2005, p. 837). This approach attempts to unite “the bio (life) and the geo (earth)” (Whatmore, 2006, p. 600), or “bodies (including human bodies) and (geophysical worlds)” (p. 603). There is a refreshing intent to move beyond the humanist dualism of people and nature in *Geography*, rather the human should be seen as but one life form among many, i.e., existing in a multinatural world (pp. 12–13).

This intent is reflected in the Australian Curriculum: Geography by the concept *interconnection*. The text is pedagogically sound, usefully building on foundational concepts such as *material agency, situated and multiple knowledges, and relations and processes* (pp. 9–10); then reiterating these ideas in more and more depth before revisiting them in the conclusion to chapter 5 (pp. 205–207). The emphasis on multiple knowledges encourages students to present

their points of view, to mix “wild imaginings with routine inventiveness” (Whatmore, 2004, p. 1360), to slow down expert reasoning and redistribute expertise (p. 114).

The text is both clearly written and approachable, but more importantly, it tells many stories: the very lifeblood of teacher survival in the geography classroom. The text provides answers to many questions that enterprising geography students should be free to ask about, say, the legal personality conferred on a river (pp. 3–4), zoonotic diseases such as avian flu, campylobacter and antimicrobial resistance (pp. 185–186) and animals sharing with people suggestions of cognition, sentience, language and tool-use (p. 61).

Further, more-than-human thinking has been endorsed by a number of Australian academic geographers. Kay Anderson (2014, p. 4), from Western Sydney University, has challenged the notion that human culture can be conceived as separate from a nonhuman domain; Lesley Head (2016, p. 56), from the University of Melbourne, declared that members of the “human sciences are now considering the non-human world more systematically”; Neil Argent (2009, p. 308), from the University of New England, acknowledged recent moves towards “the ever-present mingling of the human and the natural”; and, the group of Indigenous elders together with human geographers, from the University of Newcastle and Macquarie University, referred to as the “Bawaka Collective”, presented a “participatory approach to the co-production of knowledge” (p. 115).

More-than-human is an important text that refers to more-than-human geographies, more-than-humanism and more-than-humanists (p. 8). Highly recommended.

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Retelling Australia’s water story.

By Quentin Grafton. Monash University Publishing, 2024,

96 pages, soft cover, ISBN 9781922979902

<https://publishing.monash.edu/>

This very brief tome takes umbrage at the story, widely accepted, of the heroic taming of Australia’s wild and unfamiliar water resources by an invasion of those more familiar with a regime of water that was always “at hand” and “plentiful”.

This retelling by Quentin Grafton tells a vastly different story as he examines the water situation for the continent of Australia as one of scarcity; of exploitation and lack of understanding, as well as an arrogance that prevented the “white” invaders having a humility that would allow them to learn from those with a millennium of lived experience as to the real nature of Australia’s water budget; a budget that frequently leaves one high and very dry.

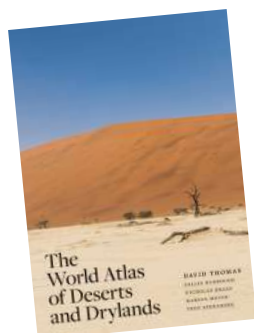
Quentin uses a series of pointed headings that demand closer reading. Such an “awakening” of clarions include: “too little”, “too late”, “too dirty”, “not at hand”, “unreliable”—and “whose water is it, anyway”.

The great dispossession of neglect, a future that is imperfect demands a response; a “wake-up” call (or shout) based on humility and partnership that utilises an openness to learning, with respectfulness in partnership gaining knowledge gathered through millennia, creating new and ongoing partnerships across the long divide to a place of mutual respect that leads

on to a vision for water on this continent that is underpinned by this knowledge leading to a vision for water that is Australian of and for all.

Les Mullins

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The world atlas of deserts and drylands.

**Edited by David Thomas.
Contributions by Nicholas Drake,
Troy Sternberg, Sallie Burrough, and
Marion Meyer. Princeton University
Press, 2025, hardcover,**

**400 pages, ISBN 9780691251974
<https://press.princeton.edu/>**

I was thrilled to learn of the recent publication of this atlas and reference on deserts and drylands, written by some of the most prominent academic authorities on arid zone landscapes, landforms, societies, and plants.

Deserts and drylands are important: they comprise 40% of Earth's land surface; host more than a quarter of the world's people; their beauty and harsh extremes inspire metaphors, myths and literature.

Human land use and climate change are increasingly degrading and expanding these regions, adding imperative for more of us to better understand their geography. Yet surprisingly few plain language, global scale treatises on drylands have been compiled; still fewer integrate state-of-the-art scientific knowledge with attractive imagery. As such, this 400-page book occupies a strategic niche for those interested in the world around us.

The book explores a wide range of themes relating to dryland geography. It is divided into 10 chapters following a short introduction to the significance of deserts and drylands. The first chapter explores what makes a desert and the challenges inherent in defining one. I was happy to see the inclusion of the term *drylands* in this volume, in recognition of the complexity and diversity of arid regions. The second chapter provides a comprehensive overview of dryland physical geography and distribution with respect to global climate. The history of desert cartography is described in the third chapter, from 9000-year-old stone maps (kites) in Arabia through to state-of-the-art remotely-sensed datasets. Chapter four presents fascinating short case studies on dryland dynamics, from fossilised desert sediments in Scotland to Martian craters. The next four chapters explore processes and ecology in subtropical, continental, rain-shadow and ocean-margin contexts respectively. The book concludes with two chapters with a human geography emphasis. The anthropogenic influence chapter, while understandably focusing on 20th century impacts such as the Aral Sea disaster and North American dust bowl, also describes alteration over millennial timescales. The desert futures chapter discusses methods of predicting climate

and dryland response, and provides case studies of natural adaptation and technological mitigation.

The book achieves an admirable coverage of dryland geography. Recent years have seen substantial advances in scientific techniques for investigating deserts and improvements in our understanding of their complexity; these developments are nicely communicated. As an Australian-based geographer, it would perhaps have been nice to see more attention paid to our continent; the book places more emphasis on the African deserts overall, which likely reflects the expertise of the authors. The book does end rather abruptly; a short concluding synthesis might have been helpful.

This book is a highly useful resource, accessibly pitched at secondary school level, and could equally be used as a teacher resource as well as in the classroom by students. The book could readily be adapted for use at all secondary school levels: applications could include early secondary explorations of global dryland distribution; middle secondary investigations of case studies of interesting landform types or floral/faunal adaptations; and senior year interrogations of the climate mechanisms causing aridity or the impact of human land use and future climate change.

The book may be purchased through a range of booksellers for less (on some platforms, for much less) than \$100. I believe it offers excellent value for money and the authors are to be commended for communicating sophisticated scientific concepts in an accessible way. Moreover, the presentation is sumptuous and would not look out of place on a coffee table—which could tempt a still wider readership, which would be a great thing for both dryland environments and Geography overall!

I highly recommend this book to geographers, teachers and students, and the wider public interested in the natural world.

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