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Jurassic Plants: The Botanical Worlds of Spielberg's *Jurassic Park* (1993)

Welcome to Park

What is Jurassic Park without its dinosaurs? In one memorable scene John Hammond's guests, newly arrived on Isla Nublar, halt in their jeeps on the edge of a forest so their host can show off his prize attractions. The visitors confront a jaw-dropping sight: towering trees shaking their leaves against a blue sky, and, beyond, grassland sloping to a broad lake.

This is not how the scene originally featured in Steven Spielberg's 1993 movie *Jurassic Park*. It is an alternative version titled simply "Park," created by Will Hirsch and hosted on YouTube.¹ In "Park," all written, spoken, and visual references to dinosaurs or the word "Jurassic" are edited out—including the leaf-munching Brachiosaurus, the Parasaurolophus flock, the logo on the jeeps, and portions of the dialogue: "Welcome," says Hammond (Richard Attenborough), "to Park."

Without dinosaurs, what is left is plants. In "Park," the view causing Ellie Sattler (Laura Dern) to fumble with her sunglasses, open-mouthed, Alan Grant (Sam Neill) to nearly faint, Ian Malcolm (Jeff Goldblum) to mutter "that crazy son of a bitch did it," and Donald Gennaro (Martin Ferrero) to breath "we're gonna make a fortune with this place" is a view of a glorious botanic garden. In a landscape empty

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of animals, trees toss their proud heads and grasses flock on the ground. “Park” gives plants center stage in a film in which dinosaurs usually attract most of the attention.

Premised on the theoretical possibility of reviving extinct species through genetic engineering and based on books by bestselling author Michael Crichton, *Jurassic Park* and *Jurassic Park: The Lost World* (1997) are often dismissed as commercial blockbusters or criticized for inauthenticity.² The original film’s point seems obvious; for James Kendrick, science becomes “yet another tool of capitalist enterprise, which when wielded with a lack of humility and responsibility culminates in utter disaster” (184). *Jurassic Park*, indeed, is effective as a horror film in which a monstrous Nature objects to the park’s structures of domination.³ For James H. Spence the film’s premise is a “familiar problem: our limited capacity to control our own technological innovations” (97). Spence notices *Jurassic Park*’s ecological interests but misreads the main point: far from establishing that “there is a line between the natural world and all else” and concluding with the moral “that we should leave the natural world alone” (97), the film shows that the perception of such a line is an illusion. More careful ecological readings, such as Pat Brereton’s in *Hollywood Utopia*, show that more open, less simplified readings of the film are possible. *Jurassic Park* demonstrates that there *is* no line between “we” (that is, humans) and “the natural world,” and does it nowhere so clearly as in scenes involving humans and dinosaurs interacting with trees and other plants.

As Ellie Sattler puts it in Crichton’s 1990 novel, “[p]eople who imagined that life on earth consisted of animals moving against a green background seriously misunderstood what they were seeing. That green background was busily alive” (100). That misunderstanding—of plants’ ecological agencies and interactions with other species, and of humans’ degree of control over them—is the misunderstanding Hammond and his colleagues have about the more-than-human world more generally that drives the narrative. Better understandings of *Jurassic Park*’s ecocritical work require shifting focus from “our” capacities to those of others, from what “we” do to Nature to what species and landscapes do to us—or without us.

Attending particularly to plants encourages attention to paleobotanist Sattler, one of the principal characters through whom ecological perspectives on the park are presented. The film often sidelines botany in favor of animals but also deploys it in critique of Hammond’s enterprise. Plants’ narrative role and on-screen presence are both essential to the film’s demolition of anthropocentric hubris and the myth of human mastery over Nature. Seeing plants first directs attention to how cinematography uses landscapes, trees, and foliage in a way that

makes it impossible to sustain the notion that humans or other animals are separate from the botanical and geological world they inhabit. Furthermore, examining the film's cinematography entails considering its locations: the fictional Isla Nublar 100 miles off the west coast of Costa Rica, and the Hawaiian islands (Kauai, Oahu, and Maui) chosen to represent it on screen. These locations invite comparisons between Western ecology and Indigenous Oceanic ontologies of an interconnected, animate environment. These knowledge and belief systems intersect, I suggest, at points where the film's surface narrative intersects with the botanical world as presented in its *mise en scène*. Trees and other plants play active, often highly visual roles, revealing themselves, and people, in the film's diegesis as part of a living world.

Plants in the Background and Plants in the Foreground

Animal bias, or more accurately a bias towards charismatic megafauna at the expense of the tiny and the slimy, the leggy and the leafy, is neither unique to *Jurassic Park* nor limited to films but pervades Western media and culture and is mobilized for environmental as much as commercial ends—consider the use of the polar bear as an icon for both Arctic ice loss and Coca Cola. Critical plant studies scholars have noted that much pioneering work in animal studies towards an expansion of the moral circle to include nonhumans excluded plants, based as it was on a “‘like us’ standard” (Hall 109).⁴ In the 1990s, James Wandersee and Elisabeth Schlusser identified a phenomenon they called “plant blindness”: “If there are animals, especially large ones, moving on this living environmental canvas, the animals may become the focus of our attention” (5). Plants, appearing static and homogenous, become “backdrop.” Replace “canvas” with “screen,” and the metaphor translates readily to films. As Karen Houle notes, a “backgrounding of herblality . . . is directly linked to the foregrounding of animality” (92). Productions such as James Cameron's *Avatar* (2009) or the BBC's *The Green Planet* (2022) offer correctives, but nonetheless the vegetal world attracts much less on-screen attention than the mammalian, often featuring as background.

A recent “vegetal turn” has seen a range of transdisciplinary scholarship “rescue plants from being relegated to insignificant backdrops” or from being represented as strongly othered or inferior to animal life (Woodward & Lemmer 23), as for example Elaine Savory has demonstrated about flora in the poetry of the Saint Lucian poet Derek Walcott. Scholars also explore how plants can suggest more ecologically ethical positions for human being in the world; for Houle, for example, by entering into the style of multi-species relationships into

which plants enter with other species, and for Owain Jones and Paul Cloke, by giving up on “trying to squeeze all notions of agency through the very human grid of language and thought.” Drawing on Actor Network Theory (ANT), they propose that then “the capacity for agency can be redistributed throughout a heterogeneous set of actors, including non-human actors,” specifically trees (7). Letting go of the idea that concepts such as language or agency are exclusive to humans or even animals opens them up to allow other beings in. For Bruno Latour, who pioneered ANT, it was vital to account for the “social life of things” (“On Interobjectivity” 238).⁵ Expanding the social inevitably entails granting agency to other-than-human things, overcoming the illusion of humans and other-than-humans as separate realms in favor of interconnected ecological understandings.

Further ways of understanding other-than-human agency and ecological interconnectivity come from Indigenous cultural perspectives on place and relationships between people and other species (Plumwood, *Environmental Culture*; Irwin). Ruth Irwin observes that within a number of Indigenous societies can be found a decentred cosmological principle of interconnectedness that counteracts the Kantian and Cartesian dualism embedded in Western ways of thinking such as Christianity: “For the Celts, for Māori, and indeed for the Ancient Greeks and Romans too, rivers and mountains, rocks, wind, the sun, moon, stars, trees, insects, fish, and all geological features, as well as all flora and fauna, are imbued with life force and personality” (2). From these perspectives, no hierarchy or separation exists between people, animals, and plants. In the Pacific Islander context, Kanalu Young explains the traditional regard of Hawaiians for “land and sea as fellow members of an extended family” (7). Other Oceanic societies, such as Tonga, share similar perspectives (Francis), while in Costa Rican Maleku society, lakes and waters are sacred national sites inhabited by spirits and by deceased ancestors (Solis-Aguilar, Elizondo, & Elizondo). Importantly, these characteristics “are not an ‘appearance’ but are all intertwined with humans and society and demand regard and respect” (Irwin 2). Accordingly, the role of people in such a world is necessarily cooperative with the environment.

In these respects, *Jurassic Park*'s setting on a Costa Rican island on the Pacific Rim and its Hawaiian filming locations merit consideration. Given that Hammond has leased Isla Nublar from the Costa Rican government, these choices draw attention to the neocolonial dimensions of his enterprise. The park's occupation of Isla Nublar is motivated by commercial and scientific ambition but also recalls colonial practices of relocating familiar plants and animals to colonized lands as a way of extending imperial power (Cooke and Denney), while tropical plants

were perceived as passive resources and valued commercially (such as pineapples) rather culturally or spiritually (such as kalo) (Goldberg-Hiller and Silva). Hawai'i and Costa Rica have long colonial histories especially in relation to the US and Spain, respectively, but these are largely sidestepped by *Jurassic Park's* imagining of a fabulous *terra nullius*, conceiving the island as an empty place open to colonial occupation. Nevertheless, these choices embed the film in places where Indigenous worldviews offer contrasting constructions of the more-than-human world and people's place in it to those brought by colonizers. These include, as Val Plumwood has argued, "dialogic framework[s] . . . where we view the world as another agent or player [and] meaning can be present also in the intricate contingency of the world" (227). In *Jurassic Park*, the forest brings dinosaurs, plants, and people into reciprocal and sustainable relationships, when they are open to it, as well as demonstrating what can happen when they are not.

Dubbed the "Green Republic," Costa Rica is famous for its rainforests and biodiversity, and ecotourism is an important strand of its economy. Conservation efforts have been highly active since the 1970s, and by the 1990s, Costa Ricans had "incorporated ecological appreciation as a positive national characteristic" (Vivanco 10). A remote Costa Rican island, then, is economically, ecologically, and geographically suitable for Hammond's scheme. This one also appears to be imagined as, for narrative convenience, devoid of a local human (or animal) culture. Island ecosystems are usually vulnerable to introduced species, but in *Jurassic Park* new species become part of its dynamic and emergent ecology.

Isla Nublar has strengths that resist the park's neocolonial impositions while also nurturing positive ecological change: the dinosaurs become able to breed and live autonomously as "life finds a way." The forest is key to that process and its on-screen representation brings Hawai'i into the film, too. For director of photography Dean Cundey, "one of the reasons for going to Kauai was to reveal this island where the story takes place" (Shay and Duncan 69). While the choice is partly explained by Kauai's long-standing popularity with Hollywood filmmakers for its lush, forested, mountainous scenery,⁶ *Jurassic Park's* makers evidently identified Isla Nublar with it quite strongly. Production designer Rick Carter remarked on "the power of [Kauai's] imagery and diversity. There is a very romantic quality about the island, but it is not all benign. . . . For *Jurassic Park*, we took everything Kauai had to offer and jam-packed it into our own little island" (77-78). Carter's rather extractive language implies a generally passive landscape, but I suggest that Kauai gets more of itself into *Jurassic Park* than that. For example, the on-location filming obliged construction of studio replicas in

the island's image to complete the scenes, indicating the way that the place acts on filmmakers, rather than only the other way round. Kauai's botanical vitality influences the cinematography of scenes that reveal the land, forest, and weather of Isla Nublar as active agents in the film's events.

Visually and narratively, the imagined Isla Nublar of the film is an idealized blend of *terra nullius*, Costa Rican territory, and Hawaiian island. More important than its authenticity as an actual location is the way its geographical associations mark Isla Nublar as colonized land, overwritten by introduced species and structures of organisation, yet whose botanical vitality cannot be wholly suppressed. I avoid attempting to characterize the island firmly in terms of a specific local culture but instead wish to read what is revealed beneath the film's Americanized narrative construction by its on-screen displays of Kauaian landscape. Made visible by the cinematography is an ecology with affinity to Kānaka Maoli ontologies of an extended family existing in a living earth. Jonathan Goldberg-Hiller and Noenoe K. Silva relate Hawaiian ontology to the reproductive energies of "culturally significant plants such as kalo, 'ulu, mai'a (banana) and others that naturally propagate themselves by budding, moving underground, and arising again in new foliage, alongside themselves." They theorize a "plant-based image of emergence . . . the materialization of knowledges and ways of becoming in a world that is, and in some ways is not yet still, one's own" (Goldberg-Hiller & Silva). Their concept of "emergence" reflects cultural and ecological resurgence, recognizing there is no return to a pre-colonial world but there may be better ways forward.

Emergence is relevant to *Jurassic Park* in that the island begins to forge a new autonomous ecosystem. By revealing trees and foliage as botanical actors and constructing an extended set of relations among weather, land, vegetation, dinosaurs, and people, the film exhibits an underlying ethic suggesting how Indigenous knowledges can contribute to ecological understanding within the hegemonic scientific culture. This way of being is learned better by some characters than by others. In what follows, I discuss the film's backgrounding of botany and plants, show how the narrative and cinematography nevertheless draw attention to their significance, and explore scenes in which foliage, trees, and forest emerge, often through interaction with dinosaurs, as autonomous agents from whom the characters learn new ecological positions.

Serenna Veriformans and Paleobotany

To return to the scene parodied by "Park," just before her astonished glimpse of the Brachiosaur Sattler is examining a leaf (see [fig. 1](#)).⁷



Figure 1. Sattler (Laura Dern) examines the *veriformans* leaf while Grant (Sam Neill) turns her head. Steven Spielberg (dir.), *Jurassic Park*, 1993. © Universal Studios and Amblin Entertainment, Inc. DVD.

In this first display of her paleobotanical expertise, she exclaims that it “shouldn’t be here. This species of *veriformans* has been extinct since the Cretaceous period.” Sattler is more concerned with the species being alien in *time* rather than unsuitable for this place, but her choice of the word “shouldn’t”—not can’t, or wouldn’t—identifies it as an introduced plant, brought in by the capitalist colonizers of Isla Nublar. But from here the scene moves swiftly from leaf to dinosaur; though the leaf absorbs Sattler’s attention, Grant intervenes physically to turn her head and bring the impossible animal within her range of perception.

Warren Buckland points out how “strongly orchestrated” this sequence is; events are focalized through the experiences of Grant and Sattler, guiding viewers from the preceding scene in Montana to this point on Isla Nublar, which culminates in their first glimpse of a living dinosaur (*Directed by Steven Spielberg* 183). Yet with characters’ and viewers’ attention now correctly oriented on the dinosaurs, the miracle of reviving a formerly extinct plant is obscured. Surely, its DNA was not extracted from a mosquito?

The film explains how dinosaurs were made by extracting their DNA from blood ingested by mosquitoes later preserved in amber. No such explanation is given for how the park’s extinct plants were revived. In paleobotany, amber has been found to preserve plant matter, including seeds, through processes of permineralization and petrification.⁸ Under these conditions plant cells, including content such as

nuclei, may maintain considerable integrity (Taylor, Stewart, & Rothwell). While that is not to say such fossils actually contain viable DNA, it does mean that the germ of a scientific explanation was available at the time of *Jurassic Park's* creation but is unused. Jurassic plants such as Ginkgo (maidenhair) still live in the world, and in Crichton's novel so does *serenna veriformans*, but modern plants would not meet the needs of the film scene's orchestration.⁹ Designating *veriformans* an extinct species matters because it heightens the impact of the achievement of Hammond's team with the dinosaurs by paving the way for the reveal of the Brachiosaur a few moments later—but by doing so, the film designates its version of *veriformans* as a (re)introduced species. Whatever Indigenous other-than-human culture the island may have had is not the film's overt concern, but the presence of *veriformans* invites questions over what on modern-day Isla Nublar it might have replaced.

Both paleobotany and paleontology, though, are overshadowed by the dinosaurs' creation by genetic engineers. Hammond is only forced to bring in the "real" dinosaur expert—Dr. Grant—by his funders, while Dr. Sattler is invited to Jurassic Park as an afterthought. Viewers know from the early conversation between Gennaro and miner Rostagno (Miguel Sandoval) at the Mano de Dios Amber Mine that Alan Grant is the one Hammond's investors want. The film cuts to Grant's dig in Montana, and Sattler's role is explained when Grant introduces her to Hammond as a paleobotanist. Hammond duly extends his invitation: "I'd love to have the opinion of a paleobotanist as well," he tells her, as if he had never before thought of consulting one. Drawn into the story at the same time as Grant's paleontological and Malcolm's philosophical expertise to bolster the film's critique of human hubris and mastery over nature, Sattler's paleobotanical expertise continues to be positioned as less important than other forms of knowledge.

The *veriformans* leaf implies the contribution of a plant scientist somewhere in Hammond's project team, but viewers never hear about one; Hammond shows little sign later that he values a paleobotanist's opinion—or any botanist's. Sattler points out poisonous plants in the visitor center, chosen "because they look good." In the novel, the specific good-looking poisonous plant is Crichton's *serenna veriformans*. As a fictitious plant it can do things real ones cannot; it can be made as attractive and toxic as necessary to demonstrate a central point: as Sattler reflects, "if planting deadly ferns at poolside was any indication, then it was clear that the designers of Jurassic Park had not been as careful as they should have been" (100). In the film she voices similar comments but stops short of the explicit criticism of the park given in

the novel, telling Hammond that “these [plants] are aggressive living things that have no idea what century they’re in and they’ll defend themselves, violently if necessary.” Yet as with the scene with the *veriformans* leaf, paleobotanical insights cannot be allowed to undermine dramatic build-up by pre-empting, on this occasion, the scathing criticisms uttered by Malcolm at the scene’s climax. Viewers have known from the film’s opening scene of a park worker killed by a Velociraptor that the revived species of Jurassic Park are anything but merely decorative, but Hammond’s response to Sattler indicates that neither safety nor ethics register with him as real problems; his faith in science to control his project leads him to conflate technical ability with moral permission (Spence 98). Hammond simply moves on to Grant for support, and, when he fails to get it, expresses astonishment that “the only one I’ve got on my side is the blood-sucking lawyer.”

While Sattler’s are not the only objections Hammond dismisses, it is not coincidence that the cast’s botanist is a woman, and its only woman, except for granddaughter Lex (Ariana Richards), who is also the cast’s only declared vegetarian (if one does not count the park’s “vegesaurs,” which one might). The idea of botany as a science suitable for women is long-standing, dating back at least to the Enlightenment, and appears to persist in *Jurassic Park*.¹⁰ It is left to the woman of the team to point out that plants have not been taken seriously by the makers and guardians of Jurassic Park—the chief of whom shows no sign of listening.

Here, the film’s critique of Hammond participates in sustaining some of his values. A sexist disregard of women and plants is not only assigned to Hammond but also built into how the film exposes it. For even in this scene, the strongest critical voice is given to Ian Malcolm, the male mathematician who flirts obnoxiously with Sattler and admits to being “always on the lookout for a future ex-Mrs. Malcolm.” Hammond’s disregard for Sattler’s warning aligns with a broader disregard Malcolm describes as “a lack of humility before nature” that “stagger[s]” him. But Malcolm’s own position is not a great improvement. When he says “[w]hat you call discovery, I call the rape of the natural world,” he reinforces a centuries-old patriarchal, colonial construction of a passive, vulnerable, feminized biosphere, a separate domain, even while he criticizes its exploitation.

Ecology, however, understands nature as interconnected rather than hierarchical, and the position expressed by Malcolm has been challenged not least by the work of post-colonialists and ecofeminists.¹¹ Colonial legitimation included constructing the Pacific in ways that intersect with constructions of femininity and Nature in European culture; the Pacific was “gender[ed] . . . as feminine and vulnerable, as

well as illogical, primitive, and lacking reason," and therefore in need of protection through occupation (Spencer et al. 48). Roos and Hunt conceive post-colonial ecocriticism as characterized by attention to silenced stories and voices (184), whether those of people or Nature, while ecofeminism, as Barbara Bennett summarizes it, is built on principles of interconnection, because "[w]hat happens in one part of the world, or in one life, will eventually affect all the others in the way that all threads reverberate from movement at any spot in a web," and of "cooperation and balance rather than dominance and hierarchy" (64).

Jurassic Park's creators fail to recognize such principles. For example, the way the park's designers have smushed together the Jurassic and Cretaceous periods is demonstrably wrong geologically, biologically, and culturally. Some of the Jurassic Park dinosaurs belong to the Jurassic period (Brachiosaurus, Compsognathus, Dilophosaurus), and others to the Late Cretaceous (Parasaurolophus, Tyrannosaurus Rex, Triceratops, Velociraptor, Gallimimus). In addition, different plants lived in these periods, co-evolving with their respective dinosaurs (Fastovsky & Weishampel). The builders of Jurassic Park, however, heedlessly co-locate plant and animal species with no concern for the limited knowledge available about dinosaur behavior (the field of expertise of Dr. Sarah Harding, in the sequel *The Lost World*) or about how plants and animals interacted in one period, let alone both. Accordingly, there is no way to predict how this complex new Frankensteinian ecosystem will behave, a point regularly emphasized by Malcolm.

Like *Frankenstein*, *Jurassic Park* exposes the unintended consequences of scientific innovation and critiques the pursuit of knowledge for knowledge's sake without taking responsibility. As Malcolm says to Hammond, "your scientists were so preoccupied with whether or not they could that they didn't stop to think if they *should*." Hammond himself is so carried away with his vision of the park that he neglects its ecological relationships at several levels. Each member of staff has a specific job: Muldoon (Bob Peck) the game-warden, for example, Gennaro the lawyer, and Dennis Nedry (Wayne Knight) the IT systems engineer. None have a rounded understanding of each other's responsibilities or recognize their individual jobs as part of a dynamic ecology, a web that cannot dispense with a single thread without major consequences for the rest of it. The visitors are better at seeing the park holistically with their more rounded interdisciplinary perspectives: Malcolm the philosopher mathematician, Grant the empathetic paleontologist who is just as interested in animal behaviors as animal shape, and Sattler the paleobotanist. The value of Grant's and Sattler's perspectives is demonstrated in subsequent scenes, to which I turn

next. Yet even they have learning to do—both awed by the achievement of the Park and particularly distracted by its animals, it is the wider environment of the island and forest that teaches them more about what it means to co-exist in a more-than-human world.

Plants in the Park

As a major part of Jurassic Park's food chain, the perils of disregarding plants are underscored by the discovery of a sick Triceratops during the visitors' afternoon safari, filmed on location in Kauai with a full-size model animal (Shay and Duncan). With the wardens at a loss, it is Sattler who puts her hands into a giant pile of dung to investigate whether the animal has been eating a toxic plant. This plot point is never resolved in the film, but in Crichton's novel readers learn that the Triceratops knows to avoid this plant; however, confined to its paddock, it has accidentally ingested the berries along with the pebbles required to help digest its food. Either way, culpability lies with the park planners, who are as inattentive to the interactions of plants and animals within the paddock as they are to those between plants and people in the visitor center. Plants here suggest closer resemblances between humans and dinosaurs, and the ethics of responsibility to both, than Hammond and his team acknowledge. In this scene, plants show their capacity for getting almost invisibly involved in the progress of the plot. Sattler's attention to the Triceratops and the botanicals it eats not only might save the animal but also spares her the violent lesson inflicted on the safari participants by the park's T. rex that results in the death of Gennaro and injury of Malcolm.

Other scenes, as I will explore shortly, rely on plants cinematographically rather than narratively. Filmmaking methods and the audio and visual qualities of cinema give films distinctive ways in which they can represent non-human agencies (Pick & Narraway 5). Yet in filming, plants as "backdrop" or "background" is often not figurative at all. Until post-production, the scene of the first encounter with the Brachiosaur "revealed nothing but an empty Hawaiian landscape" (123). CGI (computer-generated imagery) dinosaurs were added to the background plate of the plain photographed in Hawai'i that was "void of any physical evidence of the animals" (Shay and Duncan 80), while the process itself of layering the video is known as "green screen."

Much of *Jurassic Park's* critical and box office success derived from its special effects and the techniques bringing the miracle of living dinosaurs to the big screen. Warren Buckland discusses how the cinematic unity of the film's special effects and narrative produce a believable, possible world, not ours but very similar to it; digitally produced

dinosaurs (such as the Brachiosaur) merge with analogue shots of background “into a single coherent image, resulting in a unified diegetic space” (“Between Science Fact” 185).¹² Other models were animatronic (Triceratops) or puppets (Dilophosaurus), but as Nigel Morris points out, the persuasive illusion of humans and dinosaurs interacting in the same space is not dependent on CGI; it is produced by all of a film’s methods of representing its reality.

The same applies to scenes involving plants. Many sets were constructed from a blend of real and artificial trees and other vegetation to “simulate a dense rain forest” (Shay and Duncan 95); the T. rex attack sequence, for example, includes a studio recreation of the paddock and road from Kauai. Often, curations of real and artificial trees and foliage go largely unnoticed while the attention of camera and viewer is on humans and dinosaurs, yet these are carefully arranged sets that also contribute to producing a convincing diegetic reality. Distinctions between living plants and made props are generally not evident when viewing the film; more important is plants’ participation on screen, often interfacing between viewers and the unfolding scene, helping to drive action or to heighten narrative tension and suspense by hiding and revealing dinosaurs.

Sound functions similarly; Heidi Wilkins argues that the film’s diegetic and non-diegetic sounds make the dinosaurs “audibly spectacular” even or especially when not on screen; their “suggestive presence” is “created and sustained with sound effects and atmospheric music, which builds tension throughout the film” (75). In the scene of the T. rex’s first appearance, “the hammering rain, the clashing thunder and the loud, piercing call of the T. rex arguably form the crux of this atmospheric moment,” yet it was the visual miracle of the dinosaurs that dominated in the film’s initial reception (74).

Wilkins’ argument can be extended to plants. For example, Wilkins discusses the moment the concealed T. rex eats the goat. The characters and viewers see only the goat’s suddenly empty plinth, until a severed leg lands on the jeep’s sunroof. The effect of this scene relies, as well as on sound, on the dark forest from which the dinosaur startlingly emerges, glimpsed and heard through a water-blurred window, emerging above the leaves as the camera slow pans out. The park’s tangled forests are necessary to the dinosaurs’ concealment and contribute to their “suggestive presence”: branches and foliage frequently conceal an animal (T. rex, Velociraptor, Dilophosaurus) the viewer knows is there, while rustle or movements of leaves indicate its presence, heightening suspense through anticipation of an attack.

Another such scene is Nedry’s abortive flight to the harbor with his stolen dinosaur embryos. Increasingly panicked by urgency and the



Figure 2. Nedry (Wayne Knight) encounters Dilophosaurus in the forest. Steven Spielberg (dir.), *Jurassic Park*, 1993. © Universal Studios and Amblin Entertainment, Inc. DVD.

heavy rain of the hurricane, he disastrously over-steers his vehicle to skid down a steep streambed. A prominent tree promises an anchor for hauling the jeep to the road, but as Nedry leaves the security of the vehicle, the tree is found to be concealing something: Dilophosaurus. Around its broad bole, Nedry and the dinosaur are mirrored as they play a risky game of Peekaboo (see [fig. 2](#)).

Nedry addresses Dilophosaurus as though it is a child or a dog; he takes its lack of “correct” response to a thrown stick as a sign of stupidity, dismissing it with “No wonder you went extinct!”—before it lethally attacks him. Nedry’s lack of understanding and respect for trees, dinosaurs, or, indeed, water and hurricanes, underscores the arrogant attitude towards the other-than-human world that the film explicitly critiques while also exposing the forest as a living network rising against him as a threat. Occasions when characters are drawn into the ecosystem of the park make clear that humans do not occupy a separate, superior realm outside ecology. Tree, animal, water, mud, wind, rain, and, even, his broken spectacles and the canister of embryos that slips traitorously from his jacket collude to overcome Nedry and neutralize his exploitative plan.

Here, as elsewhere, the forest discloses itself as an environment of considerable power and is rarely a safe place to be. A comparable scene occurs during Sattler’s quest to restore the park’s electrical power. In a classic horror film device, the switches are located, of course, in a separate building; to reach it means leaving the safety of the control room



Figure 3. Velociraptors stalk Muldoon (Bob Peck). Steven Spielberg (dir.), *Jurassic Park*, 1993. © Universal Studios and Amblin Entertainment, Inc. DVD.

and crossing a dangerous open space—in this case, a stretch of forest. Again, the trees conceal dinosaurs, specifically Velociraptors, the only species to whom problem-solving intelligence and agency are explicitly attributed. Here, while Sattler races for the bunker, the raptors use the cover to hunt and kill Robert Muldoon (see [fig. 3](#)). One raptor makes itself visible through the leaves as a decoy while the second stalks Muldoon from his left. He never sees it until it is too late, and neither does the viewer—visually, the attack presents as an outburst of leaves and branches as much as scales and teeth, overwhelming the powerless hunter.

In both scenes, the dinosaurs' ability to work *with* the forest outstrips that of humans. Muldoon respects the raptors as hunters, but respect for strength and intelligence is not enough: it stops short of recognition of their intrinsic right to exist. Muldoon, arguably, dies because he does not get beyond seeing the Velociraptors as creatures who should be destroyed, which is the first thing he says about them to Hammond's guests. Even his final words—"clever girl"—attempt to maintain his position of superiority, infantilizing the raptor even as it kills him, as Mary Evans' 1994 review of the film points out (quoted in Morris 210). Muldoon may understand the raptors and their behaviors better than Nedry does, but that knowledge alone is insufficient for him to counter their use of the surroundings with his own. A trained hunter, he relies too much on his gun; his concentration on aiming it at one raptor distracts him from the side attack by the other. Viewers,

though, know to expect the attack because this behavior was described in detail by Grant in the early scene at his Montana dig. There is, then, one character other than Sattler who comes to understand the importance of the botanical world almost as well as she does: Grant himself.

Forest and Island Autonomy

While guiding the children through the forest following the *T. rex* attack, Grant discovers a clutch of hatched eggs. The dinosaurs are breeding, despite the earlier confidence of Dr Henry Wu (B. D. Wong) that there is “no unauthorized breeding in Jurassic Park” because reproduction only took place in the lab. In response to Malcolm’s questions, Wu complacently explains that “all the animals in Jurassic Park are female We control their chromosomes. It’s really not that difficult.” The embryos “require an extra hormone give at the right developmental stage to make them male. We simply deny them that.” While Malcolm is concerned with human arrogance in the face of a powerful Nature it is left to Sattler to take the ecofeminist ethical stance: “Deny them that?” she repeats dubiously.

However, the dinosaurs reclaim their reproductive choice, aided by their environment. Wu and Hammond assume animals and genes are passive and are oblivious to the notion of an active environment entirely. The forest is treated as if it is submissive rather than in need of explicit controls, in keeping with the way “vegetation is perceived in colonial perspectives as being subdued, ordered, [and] submissive” (Savory). The dinosaurs’ change in sex is attributed to the amphibian DNA used to patch the gaps in the samples drawn from the mosquitoes, but what triggers the change is environmental, an epigenetic effect following the dinosaurs’ transfer to an unnaturally all-female community in the forest. The wider island environment and DNA work together to promote the animals’ autonomous survival. The dense forest has acted as a nursery, keeping the “unauthorized” baby dinosaurs hidden from detection. In contrast to the antagonism towards humans exhibited in the scenes with Nedry and Muldoon, the relationship of forest and dinosaurs resembles an extended family of creatures existing sustainably in a living earth.

This is a lesson that Grant learns. After the *T. rex* attack, he and the children plunge over a concrete wall into the *T. rex* paddock with Tim (Joseph Mazello) still trapped inside the jeep, which gets lodged in a tree. Consequently, Tim has an ambivalent relationship with the Jurassic Park trees. Semi-traumatized by the attack and terrified by the jeep’s precarious arboreal crash site, Tim has to be coaxed out of the vehicle and down the branches, with increasing urgency as it becomes

clear the jeep is about to fall from the tree—or be ejected by it. Fall it does for 150 feet, encasing Tim and Grant at ground level. “And we’re back in the car again,” says Tim. “At least we’re out of the tree,” answers Grant.

The tree is as carefully constructed as the model dinosaurs. The prop was fifty feet tall, but to make it “appear three times its actual height, the tree was dressed differently on three sides” and according to special dinosaur effects lead Michael Lantieri had “a steel skeleton rigged with joints and hydraulics so that we could control the movement of the branches . . . For some of the shots . . . we put in real branches and just let this falling, two-thousand pound car sheer them off” (Shay and Duncan 87). In those moments, the two props are given a degree of freedom to interact as they will, generating a cinematic unity that conveys the impression of the story taking place in an independently animate other-than-human world.

The same prop was re-used for the next tree, up which Tim is coaxed for overnight safety. Here, the children snuggle into the security of Grant’s arms, and all three are held in the solid embrace of the vast branches “like nesting birds” (Balides 155) (see [fig. 4](#)). Trees cease to be threat and turn protector. Earlier, trees have hidden Velociraptor, T. rex, and Dilophosaurus, now they hide humans. Panning out so that the forest expands and the characters dwindle, the shot emphasizes the importance of how people exist in relation to place. This time the absorption of people into the environmental web leads not to death but to increased understanding, stemming from a position of respect, even



Figure 4. Branches encase Grant, Lex (Ariana Richards), and Tim (Joseph Mazzello). Steven Spielberg (dir.), *Jurassic Park*, 1993. © Universal Studios and Amblin Entertainment, Inc. DVD.

love, which all three possess, particularly Grant, who has a further role in encouraging its growth in the children.

Critics often note Grant's increasing acceptance of a parental role through his care for the children (e.g. Balides and Buckland), which might render the film "yet another Spielbergian endorsement of fatherhood and the nuclear family" (Gordon 208). However, their time in the forest also develops their ecological awareness. The tree they shelter in enables an interaction of a kind the film has not yet shown. From their roost Grant, Lex, and Tim gain a new appreciation of the Brachiosaurs, who raise their heads above the canopy and sing. Grant makes a trumpet of his hands and sings back; in the morning, a giant Brachiosaur head calmly browses the leaves by their nest. Lex overcomes her fear to the extent of feeding leaves to the Brachiosaur, until it sneezes in her face—an intimacy of sorts, drawing girl, foliage, and dinosaur materially as well as figuratively closer.

Grant also modifies his own way of ecological thinking to take into account the forest's and animals' autonomous life and agency. His discovery of the eggshells and the tiny footprints in the mud around them, though the species is unidentified, echoes the moment in Wu's lab in which Grant handles a Velociraptor hatchling fresh from its egg. Grant's fascination with Velociraptors is already established, signaled by his possession of a fossilized talon, which he discards following the T. rex attack. The talon represents his preconceptions, linked to the methods and principles of paleontology in which Grant has always believed and which are symbolically relinquished at the point when Isla Nublar has taught him to recognize a living, dynamic more-than-human world. Dinosaurs have ceased to be scientific subjects alone and have become entities in their own right.

Sattler, too, despite her botanical affinity, acknowledges her own learning, painful as it has been. Late in the film, she exclaims to Hammond, "I was overwhelmed by the power of this place. But I made a mistake, too. I didn't have enough respect for that power, and it's out now." For all their scientific and moral integrity, Grant and Sattler have been trained to study a fixed past rather than an unpredictable present, and both learn to see the world differently. For both, the forest is where their crucial experiences take place, as for Nedry and Muldoon. But the forest has also nurtured the dinosaurs' circumvention of the park's controls, which takes without human participation and largely without their observation.

The film ends with the surviving characters saved from Velociraptors by an intervention from the T. rex, who triumphantly (re)claims the Park from human control. They escape by helicopter to safety, the children asleep at Grant's side, cut with soothing glimpses of

the green island and graceful pelicans flying over a calm sea. To an extent this revives a vision of human-Nature separation, which is a tendency in horror films of this period critiqued by Stacy Alaimo as a “delusory cartography” with “devastating implications for environmental politics” (283). In *Jurassic Park’s* case, however, Brereton suggests that the ending creates an “aperture” leaving “major ecological questions concerning humanity’s responsibility to its environment left provocatively unanswered” (78). Indeed, these beginnings ripple through into later films and 2022’s *Jurassic World: Dominion* ends by insisting explicitly on what *Jurassic Park* dramatizes: that acceptance and respect is the only path to co-existence, taking up “the environmental discourses that advocate granting fellow predators space rather than obliterating them” (Alaimo 281).

Furthermore, however, the ending of *Jurassic Park* presents the island as autonomous, needing no human assistance or occupation to flourish (a possibility supported by the success of Isla Sorna, “Site B,” in *The Lost World*), while visually emphasizing its green vegetation in a reminder of the underpinning vitality of the botanical. The forest island teaches the surviving characters, even the ones who did not think they needed it, about better ecological ways of being, with each other as well as with the more-than-human world. In this sense, the conventional happy ending has been granted by Isla Nublar, rather than attributable to human ingenuity. The film’s ending can be considered, recalling Goldberg-Hiller and Silva’s term, as “emergent”: Grant’s progress towards extended family-making with young beings he essentially viewed as, in Sam Neill’s words, “a foreign species” (Shay and Duncan 72), while the dinosaurs and *veriformans* are left to themselves to become part of Isla Nublar’s emergent ecosystem.

In these ways, the botanical worlds of *Jurassic Park* reward attention with a fuller understanding of the film’s critical and ecological concerns. Trees and other plants are often backgrounded, particularly in scenes involving eye-catching dinosaurs. However, they occupy a lot of screen-time and are essential to the film’s critique of exploitation and commercialization of science and Nature. With vegetation assumed by the park’s neocolonial creators and managers to be passive and unthreatening, integration of trees and plants into the film’s cinematography restores their agency by making them integral to key scenes, often colluding with dinosaurs to assert environmental autonomy.

While in some respects, *Jurassic Park* upholds sexist and colonial capitalist structures — in its alignment of women and botany, for example, its white principal characters, its overall elision of Costa Rican culture in the main storyline, or its status as a Hollywood blockbuster — it also poses critical perspectives. Its interests in ecological

interconnectedness, human humility in relation to Nature, and mutual respect over exploitation and oppression merit being taken seriously. *Jurassic Park's* critique of the treatment of animals through the control of technology, food, and genetic engineering exposes reminders of colonial violence inflicted on human and more-than-human cultures that is otherwise hidden beneath the story of contemporary American science, greed, and adventure.¹³ The Costa Rican setting and the choice of Hawaiian islands as filming locations invite reconsideration of the film in light of Indigenous ontologies of interconnectedness within an animate world. Underneath *Jurassic Park's* predominantly white, American surface narrative lies a suggestion that ecologically ethical ways of being in the world may depend on the knowledge and belief systems of other cultures, rather than on the traditions of Western science to which *Jurassic Park's* main characters adhere. In particular, scenes set in the forest suggest an alternative model of co-existence, based on reciprocity, compassion, respect, and humility. Far from being a vulnerable, submissive domain, Isla Nublar increasingly shows itself to be a living network of interconnected beings. Not only Hammond and his team but also the more responsible scientists must relearn what their position in the more-than-human world is and could be.

N O T E S

1. Will Hirsch, 'Park', *YouTube*, 27 Feb 2016, <https://www.youtube.com/watch?v=zsMpFb1CNRI> (accessed 10 January 2023). My thanks to Will Tattersdill for bringing this video to my attention.

2. See Brereton, 67–73, for discussion.

3. While trees and foliage contribute to the effect of iconic scenes with *T. rex* and *Velociraptors*, they are not *in themselves* presented as scary or threatening, and I am not here reading the film in relation to horror.

4. See also Nealon.

5. See also Latour, "On Actor Network Theory".

6. *King Kong* (1976) and *Avatar* (2009) were also filmed on Kauai.

7. Where Sattler obtained the *veriformans* leaf is explained by footage showing her grabbing it from the moving jeep—but this deleted scene never made it to the final cut. See "Ellie Grabbing a Leaf," *Jurassic Park Deleted Scenes, Jurassic World Universe*, 19 January 2014, <https://www.jurassicworlduniverse.com/jurassic-park/deleted-scenes/> (accessed 10 January 2023).

8. For elaboration of paleobotany, the study of plant fossils, see Taylor, Taylor, and Krings.

9. For a discussion of Jurassic plants in relation to the film and reality see Armstrong. In Crichton's novel, explaining the revival of extinct plants is unnecessary because there *serenna veriformans* is not extinct; while "found

abundantly in fossils more than two hundred million years old" it remains "common only in the wetlands of Brazil and Colombia" (99).

10. For discussion of historical relationships of women and botany, see LaBouff.

11. For an overview of ecofeminist thinking, see for example Gaard and Murphy, and Brereton, 31–34; on ecocriticism and postcolonialism, see DeLoughrey and Handley.

12. See also Baird, Prince, and Fuchs on *Jurassic Park's* realism and special effects.

13. Compare *Jurassic Park: The Lost World*, which exhibits neocolonial violence openly in a scene where the dinosaurs of Isla Sorna are hunted from jeeps like African big game.

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