EARTHQUAKES AND BUTTERFLIES. ŌTAUTAHI CHRISTCHURCH

Kathleen Gallagher

Analysis by Valérie Tosi

Eco-Fiction

Kathleen Gallagher’s *Earthquakes and Butterflies* (2015) deals with the Christchurch Earthquake, which struck the Eastern coast of New Zealand on February 22, 2011. This novel is an ecosophical and spiritual meditation on trauma, renewal, and interconnectedness. By merging prose, Māori cosmology, and geology, it reimagines catastrophe as Earth Mother’s awakening. Furthermore, it intertwines human and planetary healing, reading disaster as both rupture and metamorphosis.

Year of Publication	2015
Publication Place	New Zealand
Editor	Wickcandle Books
Entity	2011 Christchurch Earthquake

GEOLOGICAL ANALYSIS

Earthquake 2011 Christchurch Earthquake

REAL EVENT

Time	22 February 2011, 12:51 p.m. local time
Location	The Canterbury Region New Zealand
Coordinates	-43.580459, 172.680884
Impacted Areas	Christchurch and the surrounding areas
Seismic Fault	Port Hills Fault
Magnitude	Mw 6.2
Typology	Tectonic Earthquake

Anthropization Level	Cities, Public Buildings And Sites, Religious Buildings And Sites, River Shores
Ecological Impacts	Physical Landscape Changes: Collapse of cliffs and rockfalls in the southern Christchurch Port Hills suburbs (Kaiser et al.). Soil Changes: Widespread liquefaction occurred in urban areas of Christchurch (Kaiser et al.). Pollution: The liquefaction of the sandy soil transformed streets into rivers of silt, choking the Avon River and spreading contamination from ruptured sewage lines (Kaiser et al.).
Social Impacts	Deaths: The physical violence of the earthquake caused 185 deaths (Kaiser et al.). Injuries: The physical violence of the earthquake caused thousands of injuries (Kaiser et al.). Destruction Of Public Buildings: The physical violence of the earthquake caused the collapse of entire neighbourhoods, with the central city reduced to rubble (Kaiser et al.). Relocation: 2200 people had to live in temporary housing (Kaiser et al.).

Earthquake 2011 Christchurch Earthquake

LITERARY EVENT

Time	22 February 2011, 12:51 p.m. local time
Location	The Canterbury Region New Zealand
Impacted Areas	Christchurch and the surrounding areas
Emphasis Phase	Disaster (phenomenal and social dynamics), Post-disaster (consequences)
Seismic Risk Ref.	Referenced
Seismic Fault	Port Hills Fault
Magnitude	Mw 6.2

Typology	Tectonic Earthquake
Anthropization Level	Cities, Public Buildings And Sites, Religious Buildings And Sites
Ecological Impacts	Physical Landscape Changes, Soil Changes, Pollution
Social Impacts	Deaths, Injuries, Destruction Of Goods/Commodities

Destruction Of Dwellings | Destruction Of Public Buildings | Destruction Of Facilities | Destruction Of Cultural Heritage (Materials And Sites) | Trauma | Recovery

INDIVIDUAL REACTIONS & AFFECTS

Attitudes

Name	Kara
Age	Adult
Gender	Female
Native Place	New Zealand
Nationality	Māori
Reactions	Awareness, Adaptation, Acceptance, Awe

Name	Hemi
Age	Adult
Gender	Male
Native Place	New Zealand
Nationality	Māori
Reactions	Awareness, Rationality, Adaptation, Trust In Authorities, Acceptance

Name	Tess
Age	Adult
Gender	Female
Native Place	China
Nationality	Chinese
Reactions	Unawareness

Name	Pieter
Age	Adult
Gender	Male
Native Place	The Netherlands
Nationality	Dutch
Reactions	Awareness, Acceptance

Reactions

Name	Kara
Age	Adult
Gender	Female

Native Place	New Zealand
Nationality	Māori
Reactions	Cooperation, Solidarity, Prayer, Empathy, Sadness

Name	Hemi
Age	Adult
Gender	Male
Native Place	New Zealand
Nationality	Māori
Reactions	Intervention, Solidarity, Rationality, Pragmatism, Cooperation, Order, Empathy, Heroism, Sharing Of Information

Name	Tess
Age	Adult
Gender	Female
Native Place	China
Nationality	Chinese
Reactions	Immobility, Paralysis, Fight For Survival, Passiveness, Loss Of Consciousness, Terror, Trauma, Post-Traumatic Stress Disorder

Name	Pieter
Age	Adult
Gender	Male
Native Place	The Netherlands
Nationality	Dutch
Reactions	Fight For Survival, Intervention, Order, Cooperation, Solidarity, Despair, Trauma, Post-Traumatic Stress Disorder

COLLECTIVE REACTIONS & AFFECTS

Affects/Reactions

Name	Common people
Reactions	Fight For Survival, Cooperation, Order, Empathy, Sadness, Solidarity

Name	Indigenous people
Reactions	Fight For Survival, Intervention, Order, Cooperation, Prayer

Empathy | Solidarity

Group Attitudes

Name	Common people
Reactions	Awareness, Acceptance

Name	Indigenous people
Reactions	Awareness, Acceptance, Adaptation

LINGUISTIC & STYLISTIC ANALYSIS

Keywords	Kathleen Gallagher, 2011 Christchurch Earthquake, Papatūānuku (Earth Mother), Te Whaea (The Mother), Trauma, Resilience, Recovery, Butterflies, Metamorphosis, Transcorporeality, Vibrant Matter, Māori Cosmology
Metaphors	"a living breathing ocean of an earth" (Gallagher 72) "her ocean of a body" (Gallagher 113) "[the] tearings in the fabric of the universe" (30)
Similes	"pavement cracked open like a huge dragon-like taniwha" (Gallagher 22)
Motifs, Topoi, Mythologemes	Deified Nature, Deities, Civilisation, Mythical Creatures, Supernatural, Ruins
Syntax	Parataxis, Complex Noun Phrases
Punctuation	Multiple Commas, Ellipsis
Morphology	Preference For Nouns Adjectives

Kathleen Gallagher's novel *Earthquakes and Butterflies – Ōtautahi Christchurch* (2015) deals with the catastrophic earthquakes that struck Christchurch, New Zealand, between February 2010 and December 2012. Combining prose, photography, and *waiata* (Māori songs), Gallagher transforms the memory of devastation into a poetic meditation on the living Earth and human resilience in the face of geological disaster. By interweaving voices of Māori and white characters and a third-person narrator, the text constructs a choral testimony of loss and grief, but also of survival and renewal, establishing itself as a form of 'healing through remembering'.

Each chapter is introduced by Māori terms such as *Rūaumoko*, *Te Whaea*, *Wai*, *Whenua*, functioning as linguistic and conceptual thresholds between the visible and the invisible, namely between the physical and the spiritual world. The Māori language evokes the Earth-human interconnection at the

foundation of the Māori culture, suggesting how the Christchurch earthquakes can be re-read through an ecosophical lens that intertwines with a deep reflection on the concept of *catastrophe*. From a cultural perspective, the novel features a juxtaposition of the Christian vision of suffering and redemption, and the Māori cosmology in which earthquakes are interpreted as manifestations of Earth Mother's agency and vital power.

Earthquakes and Butterflies is deeply anchored in the historical reality of the 2011 Christchurch earthquake, a moment magnitude (Mw) 6.2 intraplate event that struck the Canterbury region on 22 February 2011 at 12:51 p.m. local time. This seismic event was the largest aftershock of the Mw 7.1 Darfield earthquake on 4 September 2010 (Gledhill et al. 2011). The Mw 6.2 Christchurch earthquake occurred on a previously unmapped northeast–southwest-striking fault towards the eastern fringe of the aftershock zone and c. 6 km southeast of Christchurch city centre. A report published in the *New Zealand Journal of Geology and Geophysics* explained how the shallow focus and the basin structure of the city amplified seismic waves rebounding off the basalt of the Port Hills, causing unprecedented destruction to the urban core. The physical violence of the earthquake caused 185 deaths, thousands of injuries, and the collapse of entire neighbourhoods, with the central city reduced to rubble. Apart from structural damage, damage to contents and to architectural and service components of buildings was extensive. Indeed, the failure of facades, suspended ceiling and other service components resulted in life-safety issues for the occupants. The proximity and high accelerations of the Mw 6.2 Christchurch earthquake also triggered land movement, which resulted in the collapse of cliffs and rockfalls in the southern Christchurch Port Hills suburbs. Four primary categories of mass movements caused by the earthquake were recognized and mapped: rockfalls, shallow landslides, deep-seated landslides, and tension cracks or fissures Rockfalls were responsible for five fatalities and severe damage to properties, roads, and other infrastructures (Kaiser et al.). The earthquake demolished 10,000 properties, and 100,000 were damaged. Consequently, 2200 people had to live in temporary housing.

The ecological aftermath was equally profound. Widespread liquefaction occurred in urban areas of Christchurch, causing extensive damage to residential properties, water and wastewater networks, roads, high-rise buildings and bridges. The liquefaction of the sandy soil transformed streets into rivers of silt, choking the Avon River and spreading contamination from ruptured sewage lines (Kaiser et al.). The quake also disrupted aquifers, altered groundwater levels, and produced long-term impacts on vegetation and avian populations. Gallagher echoes these observations when she writes: "The city fills with springs of water, while some areas are deprived of it […] the earth quaking has awakened every living thing. There are insects everywhere, and birds flying in and out and around the holes" (Gallagher 15, 22). Through such imagery, the novel translates scientific data into sensory experiences, making the earth's hydrological and biological responses part of a larger narrative of ecological metamorphosis.

From a social perspective, the Christchurch earthquakes originated new forms of community solidarity. Gallagher's depiction of people "sharing food, water, clothes" and finding solace in prayer and collective labour (73) parallels sociological studies on post-quake resilience, which noted the formation of volunteer networks such as the Student Volunteer Army and the Farmy Army, grassroots groups that worked together to rebuild the city. The genesis of the SVA was during the Canterbury earthquake sequence of 2010–2011, when the group co-ordinated an estimated 13–15,000 volunteers to help shovel silt from the streets and residents' properties (Carlton and Mills 2017; Nissen et al. 2021). However, over the subsequent decade it evolved into a youth volunteer organisation that mobilised in the aftermath of several other natural disasters in New Zealand, including floods, fires and another major earthquake. In response of the February 2011 earthquake, Federated Farmers amassed more than 4,500 volunteers, nicknamed the Farmy Army, who spent two weeks digging out liquefaction in Christchurch, distributing millions of litres of water and delivering more than four tonnes of food (*QuakeCity*).

Earthquakes and Butterflies opens in the wake of the February 2011 earthquake, which violently reshaped both the urban landscape and the psychic landscape of Christchurch's citizens. Each chapter opens with an italicised section in which the narrative voice reflects on her own trauma, while also interlacing theological discourse, geological information, and Māori mythology. These sections are followed by a third-person narrative with multiple internal focalizations.

The first chapter, “Rūaumoko”, takes its title from the Māori God of earthquakes, volcanoes, and all heat that comes from within the ground. Rūaumoko was the youngest child of Sky Father Ranginui and Earth Mother Papatūānuku. The nine children of Ranginui and Papatūanuku lived in between their parents, where no light was able to enter the confinement that they had created by being so close to each other. When Tāne Māhuta, the oldest son and God of forests, separated his parents to bring light into the world, Rūaumoko was yet to be born and thus remained in Papatūanuku’s womb. In another version of the myth, he was an infant at his mother’s breast and during his parents’ split, he got trapped in the bowels of the earth. Later, he was given fire for keeping him and Papa warm. Anyway, “the shaking of the lands is a result of Rūaumoko kicking and moving around, volcanic eruptions are the cause of his mother’s pregnancy illnesses, and underground heat and geothermal surface features are the result of his mother’s varying body temperatures” (Taute et al. 3). The chapter’s title refers to this Māori myth, even though the story of Rangi, Papa, and Rūaumoko is told only in chapter five, where the roaring earth is described as a “wild quaking middle earth” located between the deeper earth realm and the celestial realm. Christchurch is like a threshold, a middle realm whose inhabitants “witness all the comings and goings between the realms” (Gallagher 20). In “Rūaumoko”, the narrator explains that “When the tectonic plate splits […] is a natural part of the earth’s growing process, her expansion, her stretching and her breaking open” (9). The use of the possessive “her” personifies the planet as a living being undergoing growth pains, echoing both Māori cosmogony and ecofeminist conceptions of the Earth as a sentient body. Since the beginning, the narrator challenges the anthropocentric perspective implied in the representation of the earthquake as a disaster: indeed, the earthquake is not a cataclysmic anomaly but a vital pulse in the Earth’s metabolism. Notwithstanding the traumatic dimension of her first-hand experience of the earthquake – during which “[t]error replaces any subtle feelings” (9) –, she realises that that such experience has changed her relationship with nonhuman *otherness*, mending a cognitive and emotional fracture between the human world and the natural world, and making her feeling part of an interconnected wholeness of spiritual and ecological systems. Regarding the act of writing, the narrator maintains “I write this journal to re-member myself” (9). In this passage, the hyphenated form “re-member” takes on a symbolic value. Rather than merely recalling the past, Gallagher writes to gather the scattered fragments of her being after the quake has shattered both land and her inner self. The act of writing becomes a gesture of reintegration, a way to mend the rupture between body, memory, and spirit, and restore inner wholeness in a world that has literally and emotionally broken apart. In a 2018 interview with Jack Fletcher, she said: “Hopefully it’s a transformative experience, to take people through the experience…not to deny it, not to pull away from it, but just to be with it” (Gallagher and Fletcher).

As already mentioned, Gallagher’s narrative structure alternates between first-person introspection and shifting focalisation, representing the experience of the earthquake from multiple sensorial and cultural standpoints. In the opening scene, Hone, a Māori man, stands in the street watching buildings crumble. In this scenario, “people are screaming, crying, calling out, coughing, running, standing still, some motionless” (9). His perception captures the simultaneity of panic and paralysis, an oscillation between action and immobility that mirrors the seismic oscillations of the ground under his feet. Through Hone’s death, caused by the collapse of a wall while he is carrying a young man to safety, the novel introduces one of its ethical cores, which is self-sacrifice and care within chaos.

In the second chapter, “Te Whaea”, the narrator recounts how the earthquake has reshaped her relationship with the physical and metaphysical worlds, mending a fracture between the Self and the celestial realm: “Before the earthquakes there was some distance, some distinction between myself and the sky, but now the clouds, the brilliant red sunsets, the soft cloudy evenings, weave their way inside of me” (12).

The narrator no longer perceives nature as external: perception turns into an embodied participation to the wholeness of creation. This interconnectedness dissolves the Cartesian split between mind and matter, suggesting an embodied, ecological consciousness rather than a detached cognition. Gallagher’s imagery aligns more with Māori cosmology and ecofeminist thought than with Western rationalism. The sky and clouds possess vitality and *agency*: they “weave their way” inside her. Such animistic and relational perception evokes Karen Barad’s notions of *intra-action* and *worlding*. Unlike interaction, which assumes that independent entities come together and affect one another, intra-action means that entities do not pre-exist their relations; instead, they emerge through their relationships. In other words, things (human, nonhuman, material, discursive) come into being through their

entanglements (Barad 33). *Intra-actions* are the micro-processes through which reality is continually reconfigured, while the accumulation of these intra-actions constitutes *worlding*, the ongoing macro-process of the world's self-formation (160). Gallagher's view of the human world as a middle realm witnessing and experiencing the comings and goings between the celestial and deeper realms seems to align with Barad's invitation to "meet the universe halfway" (353), becoming aware of our involvement in the world's differential becoming. If during an earthquake each action is perceived as "separate, discrete" by the individual subject (Gallagher 9), storytelling can show how each action is part of an interconnected series of events involving the human and nonhuman worlds.

The earthquakes are portrayed not simply as destructive but as acts of renewal, through which a new form of consciousness emerge:

Maybe Papatuanuku is simply stretching a little the way she does every hundred years or so, waking up, waking us up. We integrate this understanding of earth stretching, bit by broken bit inside of our selves. Our way of looking at the world, our response to the earth, our way of being on the earth, altered. We are being stretched, expanded, awakening. (88)

This language mirrors Barad's idea that the world is not static but performative, "worlding" itself through continual reconfiguration. The city, the land, and the people are all part of an ongoing process of worlding, where matter, emotion, and meaning are intertwined.

The above-mentioned passages also evoke Stacey Alaimo's notion of *transcorporeality*. In *Bodily Natures* (2010), Alaimo defines *transcorporeality* as the recognition that human bodies are not discrete, bounded entities but are materially interwoven with the more-than-human world. It is a way of understanding subjectivity as ecologically situated and permeable, where the human is always enmeshed with the more-than-human (Alaimo 2, 11, 28). Gallagher's narrator experiences a profound dissolution of boundaries between body and environment: the clouds and sunsets no longer appear as distant phenomena but move through her, revealing the permeability of human existence within the atmospheric and geological flows of the earth. Later, when Papatuanuku "stretches" and humans feel that expansion within themselves, Gallagher portrays a shared material process linking human and planetary bodies. Through Alaimo's ecosophical framework, this imagery becomes an affirmation of mutual embodiment, an acknowledgment that the earth's movements and human perception are inseparable aspects of a single, dynamic ecology.

In chapter "The Whaea", the narrator also provides technical information, perhaps building on geological data from *GEONET* reports or articles published in *The New Zealand Herald* or the *New Zealand Journal of Geology and Geophysics* between 2011 and 2012. She explains that "acceleration in the February 2011 earthquake occurs mainly in a vertical direction" and adds that "[s]eismic waves rebounding off the hard basalt of the Cashmere Hills back into the city, contribute to the immense ground acceleration" (Gallagher 12). Even though the passage includes technical terms such as "acceleration," "seismic waves," "hard basalt", the use of the present tense animates these facts, turning scientific data into ongoing action. Gallagher draws reader into the moment of the earthquake rather than recounting it from a safe temporal distance. Indeed, the quake is not a finished event but a continuing experience that still reverberates through the narrator's memory and body.

Across its thirty-nine short chapters, *Earthquakes and Butterflies* introduces a mosaic of voices that collectively witness the 2011 Christchurch earthquake and its aftermath. Each chapter shifts focalization, revealing how diverse characters – Māori people, migrants, rescuers, survivors – experience chaos, trauma, and transformation. The story begins with Hone, killed while rescuing another man, and continues through his mother Kara, a Māori woman whose spiritual vision reads the seismic event as part of Earth Mother Papatūānuku's transformative process; Hemi, Kara's surviving son and a geologist, who bridges scientific observation with spiritual insight, helping others amid devastation; Pieter, an elderly Dutch grocer mourning his wife Kay and caring for his mother Helena; and Tess, a young woman trapped beneath rubble and finally rescued by Hemi. Each chapter deals with individual experiences of terror, loss, survival, and resilience. By the end, these intertwined perspectives chart a collective journey from fragmentation to renewal, suggesting that both people and land undergo a shared process of healing and transformation. Pieter's viewpoint introduces a migrant's estrangement: while he crosses the city, the street becomes "strangely familiar, unfamiliar" (21). Tess's entrapment under rubble, narrated with a close interior monologue, "Like a small bird in

the roots of an old willow, nobody will come" (39), plunges the reader into claustrophobic temporality, where seconds dilate into hours. The multiplicity of voices creates a polyphony of consciousness, where the earthquake itself reflects the earth's consciousness, a distributed agency that speaks through tremors, wind, birds, and insects.

In "Te Whaea" the narrator reflects the clash between geological time and human time, describing the fluid nature of Earth Mother Papatūānuku: "for some brief periods of time she gives the appearance of solidity" (12). This topic is more directly addressed in chapter four, "Piki":

Because our lifetimes are short we are surprised. We expect the earth to be stable beneath our feet for the seventy or eighty years that we are in our bodies. If we lived one thousand years, our expectation of the moving and opening and closing of the earth would be different. (18)

This passage highlights one of the novel's central meditations, which is the profound disjunction between human and geological time. Through the narrator's voice, Gallagher contrasts the fleeting span of human life with the immense temporal scale of the earth's movements. Human beings, confined to lifetimes of "seventy or eighty years," mistake temporary stillness for permanence and stability, projecting their desire for order onto a planet that is inherently dynamic. The earthquakes shatter that illusion, revealing that what appears solid and enduring is, in fact, always in motion. By imagining a thousand-year perspective, the narrator invites readers to adopt an expanded temporal consciousness, one that reads earthquakes, eruptions, and tectonic shifts not as disasters but as natural rhythms of Papatūānuku's living body. This reorientation challenges anthropocentric assumptions about control and permanence, aligning instead with Indigenous and ecological worldviews that recognize the earth's vitality and continual becoming. In collapsing the human timescale into the geological, Gallagher exposes human fragility while also gesturing toward humility and reconnection, an awareness that our brief lives unfold within a far older, ongoing pulse of planetary time, as emerges in the following excerpt:

All the flowers are out. The trees are a vibrant green. The colour in the flowers is extraordinary. The earth quaking has awakened every living thing. There are insects everywhere, and birds flying in and out and around the holes. (22)

Chapter ten, "Karoro", opens with technical details concerning the phenomenon of "ground acceleration" (38), and later narrates Hemi's rescue of a young Chinese woman, Tess, from under the ruins a collapsed building. The mention of seismic data such as "MM VII", "1.8 g", "2.2 g", and "MM X *plus*" seems to reflect Hemi's scientific approach to the earthquake. However, as the narration proceeds, the reader realises that Hemi's expertise in geology and seismology needs to be complemented with an ecospiritual capacity of 'feeling with the earth' to turn his knowledge, competences and skills into a concrete rescue action. Indeed, Hemi is drawn to the spot where Tess is imprisoned by a *karoro* (seagull), a "guardian bird" (41) that repeatedly flies over the pile of rocks before sitting on its top and digging at the dust and rock, driving Hemi to imitate its behaviour. While removing the rubble, Hemi can hear Tess' thoughts in his head, and realises that "the karoro can hear the same thoughts he can hear" (41). In this Māori passage, the narrator builds on beliefs to represent transcorporeal communication and call for a deeper understanding of the interconnection of the human and nonhuman worlds. Gallagher's aim is not simply to portray a miraculous rescue but to redefine knowledge and perception beyond Western rationalism. While Hemi's scientific training equips him to interpret seismic data, it is his attunement to nonhuman signs – the bird's movements, the vibration of the rocks, the resonance of another's consciousness – that enables him to act effectively.

Hemi's mother Kara is the character who first perceives a connection between the earthquake and the emergence of a transformative process involving the environment and human consciousness. Her deceased son Hone, who reappears on earth in the shape of a white heron, reveals to her that "Change is coming through, heralded by the earthquakes" (50).

In Gallagher's narrative, the earthquake is not merely destructive but regenerative. The recurrent motif of *whenua*, a Māori term meaning both "land" and "placenta", articulates the interdependence of death and rebirth. After the earthquake, flowers bloom with "extraordinary colour," and birds reappear "in flocks" where once there were only a few (22, 80). This proliferation of life mirrors ecological

observations that post-disaster environments often host new successional growth due to soil aeration and decreased pollution. The narrator portrays the transformation of the Christchurch landscape as both a geological and spiritual revelation, namely a visible manifestation of Papatūānuku's "many guises" (76). The liquefaction imagery reflects Earth Mother's fluid nature. The mud bubbling up from beneath the surface becomes a potent symbol of its dynamic nature: she is not inert matter but a shifting, generative force capable of both destruction and renewal. Gallagher's language transforms seismic activity into a kind of cosmic birthing process, in which the earth's hidden depths rise into visibility, exposing the vitality that lies beneath human constructions. The splitting of Rapanui Rock marks a turning point in this revelation. Once a phallic formation, it is reshaped by the quake into a form reminiscent of the female sexual organs, signalling what the narrator calls "the time of Whaea o Te Ao, the Mother of the World" (67). This metamorphosis from masculine to feminine symbolises a shift in consciousness, namely a move from domination and rigidity to fluidity, care, and interdependence. By interpreting these physical changes as part of Papatūānuku's expression, Gallagher invites readers to recognise the earth's agency and sacredness. When she warns that Mother Earth should never be "taken for granted" (76), she is calling for humility and reverence toward a living planet whose rhythms far exceed human time and control.

The character Hemi is representative of a renewed, relational, and ethical connection to Earth Mother triggered by the seismic catastrophe. His vision for the rebuild of Christchurch moves beyond reconstruction in a material or economic sense and becomes a call for ecological sustainability, ecocultural restoration, and a new ethics of care. Talking with his mother, Tess, and the journalists, he expresses his idea of 'changing course' in these terms:

Clean up the polluted rivers, estuaries, harbours, and ocean beaches. Stop putting shit into our waterways, so fish and ducks can live in there again. Clean the polluted skies. Stop taking coal, oil and gas out of the bowels of the earth and burning them so their gases rise up into the sky. No fracking, no oil exploration, no oil drilling. Monitor cattle farting. Be moderate in the numbers of stock we keep. Regenerate native forests and swamp lands so birds and fish can dwell safely here. Care for farms and gardens without poisoning the earth. Don't build above six stories high. Build safe buildings in wood and steel. None of this is hard. It is a shift in our way of doing. (132-133)

The advent of the time of "Whaea o Te Ao, the Mother of the World" represents a new era where hubris, greed, violence, exploitation, and extractivism – attitudes and practices associated with the masculine – may give way to a maternal, balanced, and restorative relationship between human beings and their environment.

From a sociopsychological perspective, the novel deals with the depth and persistence of trauma and the process of individual and collective recovery. In chapter "Puare", for example, the narrator compares herself to a tree to express her inner wounds: "Old trees hold memories of the earthquakes inside their rings. I feel like an old tree holding memories of the earthquakes inside my rings. There is a hole in me as big as the sky" (52). In the same chapter, we see Kara planting flowers and herbs to pay homage to the people who took care of her and her beloved ones. The emptiness of the soul, born of loss and pain, is linked through analogy to a hole in the ground, one that can still generate life, contributing both to the regeneration of Papatūānuku and to one's own spiritual renewal. In Chapter "Tara", the narrator enumerates the physical and psychological consequences of disaster, among which are "shingles, rickets, skin infections, back pain, joint pain, mania, psychosis, neuralgia, flu, pneumonia, anxiety, lung infection, heart failure, delusions, hallucinations, strokes, indigestion, kidney and liver failure, premature cancers" (66). She maintains that in some cases people's commitment to external rebuild makes them forget their "internal brokenness" and "the need for […] internal rebuild" (66). However, Gallagher foregrounds collective resilience and solidarity in the face of geological disaster. In chapter "Aroha" (Love), "the entire community [that] bands together, holds itself together" (84) even though its material reality is torn apart, almost disintegrated.

Earthquakes and Butterflies is not merely a novel about a natural disaster; it is a theological dialogue between two epistemologies. The coexistence of Christian and Māori cosmologies is one of the novel's most distinctive features. The Virgin Mary's miraculous appearance on the cathedral turret after the quake recalls Marian apparitions in Catholic tradition, where the divine intervenes through signs of compassion in times of distress. Yet in Gallagher's text this apparition is reinterpreted through a Māori lens: the Virgin's image rotates during the quake, as if responding to Papatūānuku's

movement. Kara kneels before her, praying for her son and for the dead, while acknowledging that "the earth not [is] flat, stable […] but a living breathing ocean of an earth" (72). Christianity offers compassion, forgiveness, and the figure of the suffering mother, while Māori cosmology provides continuity between life and death, human and nonhuman, offering the figure of an ever-transforming Earth Mother. The intersection of these perspectives generates a form of biocentric spirituality, in which the divine is immanent in natural processes. In this context, Christchurch becomes both *Eden lost* and *Eden renewed*, a space where theology and environmental ontology converge.

The Māori chant in chapter "Mana" transforms lament into protest: "Listen Listen / Listen to me / you rascals / who trample / the mana of the people / the mana of the earth / the mana of nature / enough of the treacherous killing / of our grandchildren / destruction of our islands / our Pacific Ocean" (102). Here the earthquake becomes both symptom and agent of retribution: the Earth's uprising mirrors the historical violence inflicted upon indigenous people, and the slow violence that has afflicted and is still afflicting Indigenous lands and oceans.

Considering the representation of nonhuman *otherness* in the novel, birds are portrayed as sacred guardians, messengers, and transmigrated souls moving between the timeless, celestial realm and the middle realm (earth), sometimes marking atmospheric changes – rainbows, rain, sun – with their passage. The *piwakawaka* (black fantail), the *kōtuku* (white heron), and the blue heron, for example, appear at the time of transition between life and death, and in ceremonial moments. When two fantails fly over Kara and her dying son Hone, they signal the passage of his spirit. Later, the *kōtuku* kara sees on Mount Kahukura reappears during Hone's funeral, reinforcing the motif of transformation and reincarnation.

Chapters "Purerehua" (Moth, Butterfly), "Ahi Ka" (Fires Burning), "Tangaroa", "Muwharu" (Caterpillar) and "Wairua Atua" (Butterfly) extend the animal symbolism to the realm of insects. In "Purerehua", Kara and Pieter observe monarch butterflies return to the same sunny spot where they usually gather at the time of the autumn equinox, by the river, despite the devastation caused by the earthquake. Monarch butterflies landing upon the branches of Christchurch's trees and fluttering in the air symbolise not only resilience and life renewal, but also metamorphosis. The narrator herself builds on insect imagery to describe her inner transformation. In chapter "Ahi Ka", she compares herself to a "tiny caterpillar wandering around on a sleeping, living, breathing giantess" (112) to express her feeling of vulnerability before Earth Mother's immensity and power, while in "Tangaroa", she describes the earthquake survivors as "butterflies newly born out of the cocoon [with] a look of terror, of awe, of wonder" (136). In "Muwharu", she narrates a dream in which she metamorphosizes into a butterfly: on the one hand, the breaking of the pupa's cocoon evokes the cracks caused by the 2011 earthquake, a disaster that tore apart her homeplace; on the other, the breaking represents the starting point for the formation of a new self and a new relationship with *otherness*; it is a sort of ecosophical epiphany. In "Wairua Atua", the "shape of the magnitude and intensity of the earthquakes" (149) is compared to the shape of her new 'butterfly body'; moreover, the narrator sees the *GeoNet* map of the 22 February 2011 earthquake's intensity as a butterfly wing dotted with yellow, orange, and red spots, reading a seismic intensity map as a resiliency map, marked by black tearings but also colourful areas where warm colours symbolise the pulse of life.

Gallagher's prose style alternates between documentary precision and lyricism. In several passages, the syntax – which is predominantly paratactic – mirrors the oscillation and shattering of seismic movement, with verbs, substantives, and adjectives accumulating and colliding, like in these two excerpts from chapter "Wai": "We yell, run, freeze, cry, scream, or stand and grab the nearest post, doorpost, pole, something that we hope and pray won't dance apart" (15); "Inside the gap everything shudders wildly, up and down, side to side, heaving, rocking, jumping, roaring, cracking, breaking open" (15). The abundance of *-ing* forms reflects the narrator's testimonial writing and her description of the earthquake as an ongoing event. Morphologically, Gallagher favours nouns and adjectives over verbs, generating a language of being rather than doing. Punctuation is expressive, featuring multiple commas and ellipses that mimic the rhythm of aftershocks. The narrative's intermittent use of Māori words – without translation in some cases – resists assimilation, asserting linguistic sovereignty and inviting readers into an intercultural hermeneutic space. The italics of the prefatory sections, where the narrator speaks in a meditative tone, function as "textual seismographs", registering fluctuations between personal and cosmic registers.

From a paratextual perspective, the photographs inserted throughout the book, which represent statues of the Virgin Mary, angels, shattered cathedrals, landslides, Māori sacred objects, graffiti, and butterflies, extend the text's memorial function. Each photograph interrupts the text like an aftershock, reminding readers that representation cannot erase material loss. Yet the final image of butterflies in flight transforms memory into metamorphosis. The act of writing thus parallels the ecological process of regeneration: both are forms of healing that do not deny rupture but incorporate it into a new pattern of life.

Gallagher's figurative language oscillates between the geological and the sacred, the scientific and the mythic. The recurrent personification of the earth as "she" or "her" transforms tectonic processes into acts of Earth regeneration. As already observed, the metaphor of liquidity that permeates the novel undermines Western notions of stability and control, aligning instead with the Māori epistemology of cyclic transformation. Similarly, the "pavement cracked open like a huge dragon-like *taniwha*" (22) fuses seismic rupture with mythological imagery: the *taniwha*, a water spirit, becomes a symbol of the unleashed subterranean energies. Personifications humanise and deify geological entities and processes, encouraging readers to view the earth as a sentient organism rather than an object. In *Vibrant Matter*. *A Political Ecology of Things* (2010), political theorist Jane Bennett argues against the traditional view of matter as inert and lifeless, proposing instead a vital materialism, namely a worldview in which all matter, organic and inorganic, possesses agency and vitality. In the Preface to her work, she explains that this philosophy seeks to "dissipate the boundaries between life and matter, human and nonhuman, organic and inorganic" and to awaken an "aesthetic-affective openness to material vitality" (Bennett x). In Gallagher's novel, Papatūanuku is "vibrant matter" – soil, water, stone, trees and animals – capable of feeling pain, breathing, speaking, and transforming. Its vitality exceeds human comprehension but remains intertwined with human existence. Gallagher dramatizes Bennett's philosophical insight: that matter itself acts, feels, and creates, and that human survival depends on our ability to perceive the earth's movements as the dynamic pulse of a living, communicative world. By saturating her prose with verbs of connection such as "talking," "stretching," "weaving," "listening," "opening", she dissolves the juxtaposition between agency and passivity, which often characterises ecophobic thinking. Her characters do not control the world; instead, they participate in its becoming. This aligns with Bennett's claim that agency is not possession but participation to worlding as a "confederation" (32, 45, 94) of human and nonhuman bodies.

In this ecosophical, ecotheological context, similes often serve to translate the incomprehensible scale of the disaster into familiar sensorial frames or cultural frames. Buildings "sway backwards and forwards like the limbs of a tree in a storm" (12); the earth becomes "a sea… a roaring, moving beast intelligible only in our most terrifying dreams" (40). Such comparisons restore continuity between human and nonhuman realms. The use of alliteration and rhythmic sequences such as "roaring, rocking, cracking, breaking open" (15) reproduce the auditory and physical experience of seismic motion. The punctuation amplifies the sense of fragmentation: short clauses, ellipses, and paratactic sequences mimic the jerky temporality of trauma. Coherently, syntax alternates between lyrical hypotaxis in the reflective sections and disjointed parataxis in the scenes of immediate danger, illustrating the breakdown and subsequent reordering of perception.

In conclusion, through its synthesis of myth, scientific information, and testimonial writing, *Earthquakes and Butterflies* constructs an ecological theology of catastrophe. Drawing on Michel Foucault, Italian philosopher Andra Tagliapietra maintains that "catastrophes play a decisive role in [an ontology of the present] because they mobilize and produce a 'we'" (27, my trans.). He also observes that "in the etymology of catastrophe as an event resonates the Greek verb *strépho*, which among its many meanings includes 'to turn the helm,' that is, to change course, or 'to turn one's gaze,' 'to rotate the pupils,' thus changing one's view or perspective" (29, my trans.). This is the notion of catastrophe that lies at the core of Gallagher's novel. In her vision, the 2011 Christchurch earthquake represents not only a traumatic event but also a moment of awakening, a reminder of the Earth's vitality and the human capacity for empathy, and a trigger for the development of a deeper ecosophical thinking. The novel's polyphonic structure dissolves the boundaries between disciplines and beliefs: geology speaks through myth, Christianity through compassion, Māori spirituality through the living landscape. The earth is both wound and womb, destroyer and healer. Gallagher's characters embody the oscillation between terror and grace, moving humbly "among [the] tearings in

the fabric of the universe" (30). The butterflies that return to the same sunny spot despite the upheaval encapsulate the novel's ultimate message: survival through transformation.

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