

RESEARCH PAPER

Simon R Y L E (University of Split)  
sryle@ffst.hr

## POETICS OF MIASMA: NUCLEAR WASTE AND *ANTIGONE* IN THE ANTHROPOCENE

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This essay traces a poetics of miasma in Sophocles' *Antigone*. It reads Sophocles in overtly contemporary and ecocritical terms: specifically, in the context of nuclear waste. It argues that questions of nuclear waste cannot help but seep into the poetics of *miasma* central to the ethical and theological debates of the play. The geological traces left by nuclear waste constitute the ecological contamination that in some definitions differentiates the Anthropocene era, the first era in which mankind has had a recognisably geological effect. This essay traces the relation of Athenian civic space and miasma to Anthropocene pollution. There is a shift from a maternal conception of sacred burial space that Sophocles figures in *Antigone's* zealous love, to a recognisably modern notion of pollution initiated by the Greek *polis* that occurred contemporary to Sophocles' writing. This essay charts a genealogy of waste as it recapitulates this shift, exploring how the Greek conception of pollution remains with us today. An ecocritical reading of Sophocles' poetics locates in 5<sup>th</sup> century Athens the forbear of our contemporary waste management situation.

**Keywords:** Sophocles, *Antigone*, ecocriticism, ecology, literature, nuclear waste, pollution, toxicity, *miasma*, Anthropocene, poetics

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She belongs to me, she lawfully belongs to me, and yet at times it is as if I had cunningly crept into her confidence, as if I always had to look behind me for her; and yet it is the reverse, she is always in front of me – only as I lead her forward does she come into existence. (Kierkegaard 1987: 153)

### INTRODUCTION

A. R. Gurney's stage play *Another Antigone* (1987) takes place in a US university's Classics faculty. A talented Jewish student, Judy Miller, writes

a term paper that compares Sophocles' *Antigone* to the nuclear arms race. Her professor Henry Harper refuses to accept the paper because it is not on an assigned topic. In her intransigent commitment to her writing, Judy's idealistic rebellion against power recapitulates the struggles of *Antigone*, while the authoritarian inflexibility of Henry repeats aspects of Sophocles' Kreon. Gurney's contemporary characterisation retains some fidelity to Sophocles' dramaturgy, but never takes seriously Judy's concerns about the nuclear arms race. Henry has little sympathy for Judy's nuclear anxiety, remarking: "You have taken one of the world's great plays and reduced it to a juvenile polemic on current events" (Gurney 2000: 174). Yet Gurney, too, finds only minimal dramatic mileage in nuclear armament proliferation, the issue seeming to function solely as a plot device to exemplify late-1980s generational conflict. Rather than stay with nuclear issues, Gurney levels an accusation of anti-Semitism at Henry to maintain dramatic conflict. The spectre of racism silences an occluded ecological narrative. With Judy's need to graduate, her desire to write and produce a stage play, and Henry's struggles with the university administration, the nuclear question recedes rapidly from the foreground.

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At the risk of institutional scorn of the kind Henry levels at Judy, this paper returns the urgency and contagion of nuclear toxicity to *Antigone*. It reads Sophocles' play in overtly contemporary and ecocritical terms. It argues for a mode of ecopoetics that is attuned to the stylistic and epistemological intricacies of literary and mytho-poetic writing, and at the same time to urgent contemporary ecological questions. Such a mode of critical writing risks audacity; it comes from outside the long tradition of academic Classics, and, though more closely aligned with literary theory, also seeks to problematise the recurrent investments of European philosophy in the play. Like Judy, it troubles the boundaries held in place by official academic powers and institutions, reading at the limits, to borrow Maurice Blanchot's term: "The limit-experience is the response that man encounters when he has decided to put himself radically in question" (Blanchot 1993: 203). Yet, in a sense, this "limit-experience" is consistently activated when we return to the classics from the ill-at-ease, uncanny modern world in which we live. Pierre Menard, the fictional author of *Don Quixote* in Jorge Luis Borges' tale, produces an entirely original work, despite the fact that he recapitulates Cervantes' text word-for-word. The contextual difference that modernity comprises suffices to shift the semantics of Cervantes' every quixotic stylistic valence.

Perhaps, too, our situation of ecological catastrophe accelerates Borges' observation concerning modernity. For ecocritic Timothy Morton, reading interconnectivity between diverse historical, environmental and cultural

practices and materialities is a central quality of the epistemology that ecocriticism demands. For Morton, the fact that humans have brought vast ecological networks to the brink of cataclysm in recent years cannot but give rise to an impulse for a critical interconnectivity, which he terms “*the ecological thought*” (Morton 2010: 1). Yet, despite the contemporaneity of ecological cataclysm, Morton suggests that it is Percy Shelley who intimates the need for the ecological thought in his *Defence of Poetry*, perceiving that “We want the creative faculty to imagine that which we know” (Shelley 1994: 655). Interconnectivity does not respect historical nor disciplinary boundaries. Contemporary catastrophe locates new resonance in Shelley’s poetics. The ecological thought draws creative awareness of the web-like interconnectivity of cultural and environmental hybrids and networks of interconnected matter and mimesis, and supplies new spurs to action by reading scientific knowledge alongside philosophical, theoretical and aesthetic texts. It does so to enable us to grasp fully the epistemological forebears that have shaped our contemporary situation. As certain literary texts have been telling us all along (and in a manner massively accelerated during the Anthropocene), the old disciplinary separation of humanities and science no longer holds. Ideas are affirmed in space, and in turn give rise to new mental patterns. Hybrids proliferate and communicate across time. As Morton states: “Art is thought from the future” (Morton 2016: 1). Ecocriticism seeks to catch up with the worldliness of the literary that has long been occluded in traditional humanist criticism. Kierkegaard writes of *Antigone*: “[S]he is always in front of me” (Kierkegaard 1987: 153).

Henri Lefebvre’s “science of space” explores the active role “produced space” takes in political forms. By this he means space whose meaning and cultural function has been defined and materially bound, by human modification or buildings, to specific purposes. Produced space shapes knowledge and action, fixes patterns of behaviour, and affirms and disguises hegemonies and ideologies. Space is a form of writing in Lefebvre’s central thesis; we can only be what our spaces allow us to be, and our subjectivities are written into being by the spaces they occupy, live by, and expand into. This essay centres its concerns on the writing of space first occasioned by Athenian miasma, and the way the organisation and production of space constitutes a fundamental symbolic intervention both in social subjectivity, and in the wider ecologies in which humans make their home.<sup>1</sup> Reading the

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<sup>1</sup> Writing from outside the traditional study of the Classics, this essay seeks to develop and explore a poetics of space and pollution as detailed in Sophocles’ dramatic elements: the

excluded, off-limits spaces produced by Sophocles' miasma and nuclear waste alike, the essay traces our ecological moment as a phase in which Greek pollution goes global. The Anthropocene, in this sense, constitutes a late phase of Greek miasma, scaling Greek innovations in spatial organisation up to a world scale. Just as the Greek term for house, *oikos*, is the etymological source for "ecology," in the Anthropocene the miasma of the House of Labdakids takes on global significance. Tracing a genealogy of the spatial organisation between *Antigone* and the waste grounds of spent atomic fuel, this essay asks: what happens if we read Sophocles in the leukaemia-inducing glow cast by a nuclear power plant? And, as a deeper recursive twist of its method of historiographic pollution, it explores how *Antigone's* irradiating "splendour" (Lacan 1992: 243), as Jacques Lacan puts it, intervenes in our knowledge of fissile reactor technology.

## HISTORIOGRAPHIC CONTAMINATION

20 *Antigone* and nuclear waste, *Antigone as nuclear waste*: the idea is an audacity, an excessive sensibility to the ephemera of contemporaneity, a failure to properly and professionally segregate the Classical text from our historical era. Many talented critics, such as Daniel Cordle, N. A. J. Taylor and Andrew Hammond, have considered the literary texts and cultural arenas contemporary to nuclear technologies. They have examined the way the "late Cold War" of Reagan and Thatcher's proliferation of nuclear arsenals, and concerns about nuclear reactor technology have spawned numerous on-the-ground cultural interventions, including disaster movies (*War Games* [1983] and *Miracle Mile* [1988]), novels (Stephen King's *The Stand* [1978] and Raymond Briggs' *When the Wind Blows* [1982]), poetry collections (*Atomic Ghost* [1995] edited by John Bradley), and hit television shows (*Yes Minister* and *The Young Ones*). Attending to contemporary methodologies of recursive historiography, this essay attempts something different, and theoretically riskier.

Such is the awesome force wielded by contemporary nuclear powers, they reach (at least in our moment of reading) counter-chronologically back

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fabula, characterisation, diegetic space and denouement of the play. Some recent and more traditional approaches to the question of Sophocles' Greek poetics can be found in Rothaus 1990; Mueller 2011; Honig 2009; Goldhill 2014; and Markell 2003.

beyond their own era. In media archaeologist Wolfgang Ernst's critical methodology of "xenochronia" (Winthrop-Young 2015: 79), he attempts to perceive the recursive remapping of the present by those potentialities in the past that are suddenly and arbitrarily recast by new technologies. Counter to optimistic evolutionary or progressive models of technical advance, this mode of "horizontal" archaeology attempts to model the "deep time" transhistorical relations that Siegfried Zielinski describes, between diverse objects and discourses (*Deep Time of the Media*, 2006). This seeking of the new in the old has a traditional critical pedigree of its own. T. S. Eliot writes in "Tradition and the Individual Talent", "when a new work of art is created [...] something happens simultaneously to all the works of art that preceded it" (Eliot 1982: 37). Broadening this canonical re-jigging of the past by the present to include geopolitical energy-effects such as fissile reactor technology, media archaeology's methodology of xenochronia aims at a deeper understanding of technological history. As Zielinski explains: "do not seek the old in the new, but find something new in the old. If we are lucky and find it, we shall have to say goodbye to much that is familiar in a variety of respects" (Zielinski 2006: 3). The "deep time" by which Zielinski characterises this altered historiography exerts a major influence on my understanding of pollution. However, as I will explore, rather than transforming historical knowledge, the historiographic pollution of the present that I seek (via the recursive re-reading of a canonical text in the irradiating light of contemporary technology) does not transform historical knowledge, but aims at nothing less than an emergent ecopoetics of nuclear waste.

It may be, in asking so many discourses to speak together, that this essay "bites off" at the limit of the chewable. It does so because our world is currently choking on the traditional disciplinary segregations of professional discourse and industrial production. As with many other ecocritics, I believe the Anthropocene demands an urgent hybridity, and it is criticism's task to chart this difficult new way. The proper professional isolation of a "field" of discourse, as Morton has shown in his writing on *Antigone*, is based on – and furthers – the agricultural monocultures that undo complex ecological world systems, and thus are the genealogical forebears of ecological catastrophe (Morton 2016: 63). By delimiting a proper professional space of operations (a field), monocultural practice cultivates through disconnecting the complex multivalent relations of world systems: for example spraying pesticides to kill off unwanted life. Moreover, it sets up "dead zones" outside the field: profane and disregarded spaces such as the polluted rivers and groundwater that serve as dumping grounds for chemical run off from

industrial farming. What ecology began to recognise more than fifty years ago, with revolutionary texts such as Rachel Carson's *Silent Spring* (1962), is that the dead zones refuse to stay in place. All life is interconnected, and this has epistemological implications. As in agriculture, disciplinary fields can obscure or disregard transdisciplinary interconnections. This has an important bearing on the study of pollution. Pollution is as complex and multivalent as the world systems it interacts with; though enclosed fields may lead to the use of poisons, poisons themselves seep across borders and spatial limits. Responding to the urgency of our contemporary moment, in contrast to the demarcated field conventional to some literary criticism, I choose hybridity, multivalent interconnection, and ecology.

A similar complex of wonders and dangers attend modern energy production. In the years following the catastrophic nuclear accident at Chernobyl, Ukraine, in April 1986, it is estimated that nearly half of the 200,000 civil and military personnel involved in clean-up operations have suffered major long-term health problems (Borys 2016). A 2006 study by Cardis et al. predicts that by 2065 Chernobyl will have caused 41,000 cases of cancer across Europe. Charting the multivalent genealogies of pollution that run between Greek and Anthropocene thought, I see ambitious multidisciplinary, and the attendant abandonment of conventional disciplinary segregations, as a risk both necessary and consummate to our contemporary situation. Pushing to the limit Percy Shelley's sense of poets as "the mirrors of the gigantic shadows which futurity casts upon the present" (Shelley 1951: 1055), this essay enacts a befouling leakage of modern energy production on the reading process. Yet, rather than an entirely external imposition on *Antigone*, my xenochronic methodology of historiographic pollution is closely related to what the characters of Sophocles' play recurrently term *miasma* (pollution). This re-finding of the present in the past in order to rethink the present is just what recursive theory describes: Sophocles' pollution in my argument gives new sense to the rampant pollutions of modernity, if only we would recognise how those contemporary toxicities work upon and into our reading. Recursion allows us to trace a Greek genealogy of *miasma* active in our own waste management situation. If recursive historiographic pollution involves an audacious depurification inflicted on a text whose multiple filaments of meaning are already uncomfortably overdetermined, it is also true that "Stepping ahead to the very / Limits of audacity" (*Antigone* line 913) is one of the central themes of Sophocles' play. And if this exceeding of the limits can involve, as the Chorus puts it, striking "your foot against the throne of Justice" (lines 914–

915), it is also the case that the play's sullied primogenitive context – that of "paying" with inescapable impurity "for / Some torment of your/ Father's" (lines 916–917) – anticipates our own polluted ecologies. Sophocles' *miasma*, passed inextricably from generation to generation of the unfortunate Theban Labdakids, in this reading anticipates the environmental degradations that we are currently storing in the planet's oceans, rivers, lakes and forests for future generations, not to mention the nuclear waste whose half-life will linger for a hundred thousand years.

My historiographic pollution is an audacity, then, that is closely in tune with both our times and the situation of the play, forcing two diverse entities into a miasmatic yet productive discourse. In this era of unprecedented energy production, thinking Antigone's irradiation is productive, for in it there congeals with lucidity the dazzling light which for Kierkegaard and Lacan alike envelops Sophocles' "fierce" (Lacan 1992: 265) heroine. Radioactive miasma ties together so many of the disparate and unanswerable demands that the voices of the play, as well as subsequent philosophers and other prophetic souls across the last two centuries, have levelled at Sophocles' stubborn and chthonic protagonist. For example:

- Kreon's intuition that, like Socrates, she is a danger to the state, and must be buried: she is the chthonic power of the under-earth, whose fearsome determination – which in Hegel's famous words in *Aesthetics* render the play's characters "gripped and shattered by something intrinsic to their own being" (Hegel 1975: 1217–1218) – must be disposed deep in symbolic and actual entombment, lest she poison the populace;
- The Chorus' notion of the uncanny endeavours, marvellous and terrible (*deinon*), and ever innovating with the elemental forces of the world, of which *anthropos*, man, is endlessly capable;
- Kierkegaard's sense that, though we feel Antigone is ours, in fact we are hers; she plunges with her entire being into modernity, which leads her to linger forever in future time, despite all the evidence and the influential weight of the classical Hegelian reading that she clings to the primal, elemental and foundational ethical system of *oikos* (the family) and resists to her death the civic juridical impositions of Sophocles' modern Greece;
- Jean-Pierre Vernant and Pierre Vidal-Naquet's intuition that the hero, in Sophocles era, "has become, both for himself and for others, a problem" (Vernant and Vidal-Naquet 1990: 25). Previously the central source of cultural power, the hero has now been revealed, in tragedy, as

an embarrassing and atavistic residue from another age – a poisonous leftover that needs to be hidden away;

- Recurrent intimations of her impossible lucidity, such as Lacan’s intuition that her splendour burns like a thousand suns;
- Antigone’s own sense of her existence as a “half-life,” like that of an irradiating particle, suspended between her being and its atomic decay:

Neither living among those  
Who are alive, nor  
Dwelling as a corpse  
Among corpses, having  
No home with either  
The living or the dead. (lines 910–912)

As an exemplification of the immanent futurity that Kierkegaard describes, and also the poison locked within her being, gripped and shattered by forces greater than the state, Antigone’s half-life has a “splendour” that does not wane. If we position thinkers and philosophers as cultural Geiger counters, then, as George Steiner’s masterful description of her multiplying plurality across western history in *Antigones* (1979) shows, she is frequently the Greek question that will not go away. Perhaps one reason she lingers is because humanism, literary criticism and philosophy has for so long felt impelled to silence her proto-ecological worldliness. For Judith Butler, the recurrent rewriting of Antigone’s meaning across philosophy and culture indicates an ongoing imperative to silence her as a figure of the “scandalously impure” (Butler 2000: 5–6). Her cultural afterlife is the residue of a brilliant glory, and Butler argues that like the philosophical misdirections that follow, Kreon must silence her, disposing of her in the liminal underworld of the grave space. Her chthonic futurity – an importation of matter of the darkest and deepest underworld into the present – is a toxicity that threatens civic life (Theban and contemporary): an irradiating abject pollutant from which the populace must be protected. This is why Kreon buries her, and why philosophy has continued his burying of her proto-ecological worldliness in the name of civic containment across the centuries. However, *Antigone’s* poetics is one of miasma that refuses and sullies this silencing.

## THE ZONE OF OPACITY AND LOVE

...the tragic message, when understood, is precisely that there are zones of opacity and incommunicability in the words that men exchange. (Vernant and Vidal-Naquet 1990: 43)

Her punishment will consist of her being shut up or suspended in the zone between life and death. (Lacan 1992: 280)

Tragedy is only possible between two worlds. The underworld and overworld come together, and tragedy exploits the ambiguity of meaning at this space, the civic world confronting its buried, deathly origins. Thus argue Jean-Pierre Vernant and Pierre Vidal-Naquet, so that the concept of “betweenness” is repeatedly the topographic motif of central importance in the Greek tragedy that flourished for about a hundred years between the end of the 6<sup>th</sup> and the middle of the 4<sup>th</sup> centuries BC. This was the period between Greek law’s first differentiation of “intentional” and “excusable” crime in the 6<sup>th</sup> century BC, and the time of philosophy in the 4<sup>th</sup> century BC. It encompassed Socrates’ championing of the primacy of reason, Plato’s exclusion of the poets from his ideal Republic, and, a generation later, the codification of the tragic in the writing of Aristotle’s *Poetics*. Tragedy was a genre borne of upheaval, a mode of writing that positioned itself resolutely between the ancient heroic and epic epoch and the civic, *eudaimonic* (pursuing the good), philosophical and rational epoch. Its conflicts were bound to the shifts in discourse and meaning that made the subsequent historical eras either side of this social shift mutually incomprehensible to one another. Thus it “confronts heroic values and ancient religious representations with the new modes of thought that characterize the advent of law within the city-state” (Vernant and Vidal-Naquet 1990: 26).

Staging a conflict between old and new, Athenian tragedy is “resolutely” of the 5<sup>th</sup> century *polis*, and the new abstracted and universalised space of this brave new world. Yet it is also disillusioned or unsure about the uncertain ethical and spiritual values of the civic (as the execution of Socrates for teaching new notions of truth historically exemplifies). This emergence of the Greek *polis* was perhaps the fundamental moment in the foundations of European history, leading some to describe the recurrent rewritings and restagings of the play as “the history of the European conscience” (Segal

2003: 12). We might also argue that Greek tragedy, in confronting what Greece was in the process of becoming and developing in this cradle of heritage and many foundational European ideas, thus also confronts perhaps the only comparable period of massive upheaval in the history of the West: late modernity.

This is for ancient Athens the period in which emergent democratic and civic values become fixed. In Plato's *Crito*, Socrates argues that the primary allegiance is to the city, to the extent that he willingly goes to his death on the basis of the city's judgement. Tragedy describes the moment before this phase of unerring acceptance, and gives voice to the last instance of uncertainty before change solidifies into the abstracted universal hegemony of the subject-citizen. As Sophocles emphasises, this is also a period in which the role of women is subjected to increasing subservience. The end of tragedy thus marks the shift to a more patriarchal, masculine world, such as is cogently marked in the *Oresteia*, the dramatic trilogy of Aeschylus that follows the cursed House of Atreus with the transformation of the Furies, or *Erinyes*. This is important because in many respects the House of Atreus presents a parallel and mirrored worldview to the Theban House of the Labdakids, of which Oedipus' family, and Kreon's, in *Antigone*, comprise the tragic closure. In Aeschylus, the furious chthonic female gods, daughters of the primordial night, are transformed into the Eumenides (or "Kindly Ones") following their acceptance of the Olympian persuasion of Athena and, consequently, their reconciliation with Athens. These are the Furies to whom Antigone is connected in character and underworld toponomy, and who, not yet extinguished, lie in wait for Kreon and his entire family at *Antigone's* close.

*Vernant and Vidal-Naquet* argue that Greek tragedy can thus be seen primarily as a coming-to-terms with this historical change in social organisation. As in Aeschylus, in *Antigone* this period of historical "betweenness" manifests itself in a number of ways. One is the issue of language. As Charles Segal notes, Antigone and Kreon "use the same words to mean different things" (Segal 2003: 6): such as *philos* and *ekbthros*, "dear one" and "enemy," or *nomos*, "law," and *dikē* "justice" – each of these primal terms has a different set of references, indicating that their dispute spans and arises from the epochal shift that Greece is in the process of undergoing, so that "the function of the words used on stage is not so much to establish communication between the various characters as to indicate the blockages and barriers between them and the impermeability of their minds" (Vernant and Vidal-Naquet 1990: 42). There is no room for mediation or

negotiation because, though they may not realise it, Sophocles' antagonists are speaking different languages. And as Vernant and Vidal-Naquet detail, there is another linguistic ambiguity: the heroic characters speak a mostly Athenian contemporary prose, whereas the Chorus, in the most usual sense a representation of the average citizen, speaks a stylistically heightened poetry. The tragedy thus seems to defamiliarise its most familiar contemporary aspects, and draw out uncanny similarities in its most archaic elements.

As in Aeschylus, in Sophocles the earthly and ancient is associated with the hearth and the family (*oikos*) of which women were pre-eminent (some have claimed there was matrilineal organisation of families in early Greece). Consequently, the shift in cultural value undergone in this period was inflected with gender prerogatives and associations. As Segal notes, "The care for the dead was especially the prerogative of women" (Segal 2003: 5). Thus the fury of Antigone is closely associated with a tenderness in the primal *Erinyes* for familial love. Good and pragmatic administrator though he is, Kreon displays a relentless misogyny, which seems, as much as any factor, to lead him to stick firmly to his rash punishment. He accuses his son Haimon, in the argument that leads directly to Haimon's death, of "fighting on the woman's side" (line 800). It is "a filthy way to think" in Kreon's telling notion of pollution, "submitting to a woman!" (line 806). Here the idea of pollution induced by a woman's voice is vital: Kreon's next mention of pollution arises in his seemingly spontaneous devising of Antigone's punishment. It may well be that her gender, as much as her burial obsession, directly influences the manner of this punishment. She is that earthliness of the previous era that Kreon pushes away, so the earth is the logical place for her to go. Again and again, as in the contemporary emergent patriarchy, the decisive moments of his thought hinge on her gender: "while I'm alive a woman will not rule!" (line 574).

Thus tragedy comes when the epic underworld myths have ended, and the chthonic powers are on the wane.

Through the tragic spectacle the city questioned itself. Both the heroes and the choruses successively embodied now civic, now anti-civic values. In this way, tragedy introduced an interference between things that the city itself strove to keep separate, and that interference constituted one of the fundamental forms of tragic transgression (Vernant and Vidal-Naquet 1990: 320).

Tragedy is in this sense a feminised untimeliness, a last link with the underworld that is fully retreating from civic life, but also an attempt to

hold open channels of being – ethical, juridical, aesthetic, pedagogical – to a mysterious and ancient earth-being. Tragedy is a defamiliarising language, an untimely and miscommunicating meeting of historical eras. Tragedy is this memory and memorial, at once atavistic primal remainder and potential alternative path, charted in the refusal of contemporary Athens as unambiguously male modernity.

But tragic language, as Sophocles makes clear with *Antigone*, is also an expression of love. In Hegel's model of history, this conflict paved the way for the emergence of a new phase of *Geist*: tragedy marked the birth pangs of a new human. In Søren Kierkegaard's updating of Hegel, Antigone chooses her action and seizes control of her agency with her destiny. Vitally, she acts – and goes to her death – with love.

I will arrive as one loved by my father,  
Loved by you, mother, loved by you, my own  
Dear brother... (lines 959–961)

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Down into Hades she goes, into the tomb of her second death (her symbolic death in burial), untimely in advance of her actual death, and singing of love.

Kierkegaard is not ignorant of the fact that Antigone's death is closely associated with both the primal, furious feminine earth gods, and the curse of Thebes and the Labdakids. Oedipus' appointed role has been to act as the *pharmakos*, the poison whose impurity will cleanse the city, but into whose function his entire family, including Antigone and her brothers, seems relentlessly to have been sucked. For the Danish theologian "the family of Labdakos is the object of the indignation of the gods: Oedipus has killed the sphinx, liberated Thebes; Oedipus has murdered his father, married his mother; and Antigone is the fruit of this marriage" (Kierkegaard 1987: 154). As Kierkegaard specifies, the way she is connected to this curse is vital to Antigone's tragic situation:

If this is viewed as an isolated fact, as a collision between sisterly love and piety and an arbitrary human injunction, Antigone would cease to be a Greek tragedy; it would be an altogether modern tragic theme. What provides the tragic interest in the Greek sense is that Oedipus's sad fate resonates in the brother's unfortunate death, in the sister's conflict with a specific human injunction; it is, as it were, the afterpains, Oedipus's tragic fate, spreading out into each branch of his family (Kierkegaard 1987: 156).

Yet if she is bounded by a destiny that has her in its grips, she nevertheless wrestles control of it:

When Epaminondas was wounded in the battle at Mantinea, he let the arrow remain in the wound until he heard that the battle was won, for he knew that it was his death when it was pulled out. In the same way, our Antigone carries her secret in her heart like an arrow that life has continually plunged deeper and deeper, without depriving her of her life, for as long as it is in her heart she can live, but the instant it is taken out, she must die (Kierkegaard 1987: 164).

In this self-aware pause and assumption of her destiny she is modern, in Kierkegaard’s claim. This contingent fact of her being, and the corollary assumption of a destiny that we are powerless to evade, is also what the Slovenian philosopher Slavoj Žižek associates with *Antigone*:

From here, we can also elaborate a critique of the philosophy of finitude which predominates today. The idea is that, against the big metaphysical constructs, one should humbly accept our finitude as our ultimate horizon: there is no absolute Truth, all we can do is accept the contingency of our existence, the unsurpassable character of our being-thrown into a situation, the basic lack of any absolute point of reference, the playfulness of our predicament (Žižek 2006: 110).

If Žižek seeks to trouble this model of finitude and the “being-thrown” of existence with the revolutionary potential he associates with the comic, Kierkegaard rather lingers on love. Why? For the Danish thinker, the basis for her modernity, and her pause in the assumption of her destiny while she absorbs the full implications of her situation, is her love: “Antigone is in love, and I say it with pain – Antigone is head over heels in love.” (Kierkegaard 1987: 162).

Kierkegaard’s insight is vital, because within it lies the very basis for Antigone’s version of a futurity that is rooted in spatial resistance to the abstract universalising of space: the topographic realignments central to the emergent Athenian subject-citizenship. As Ulrika Carlsson writes of Kierkegaard’s view:

Love is this project of accepting a gift, cultivating a heritage, assuming another’s fate as one’s own. If freedom is the ailment, it is wilful surrender to her emotions and her ties to others that is the modern Antigone’s redemption (Carlsson 2013).

Love holds firm against the shift to the civic juridical model that Kreon comes to embody and enforce in the second half of the play. Her love gives anthropomorphic motif and narratological form to the historical

“betweenness” of the Greek *polis* at this moment. If civic space marks a newly universal discourse and totalitarian subjective formation, love is resistance. Love is a writing of a different language, a non-conformity, a deconstruction.

How does this work? Important here is Luce Irigaray’s sense of the “woman’s genealogy” emphasised in *Antigone*’s love. First, love as *Antigone* feels it and as she sacrifices herself to it, affirms the difference of the particular over the universal. A marital relation, in *Kreon*’s vulgar sense, is always replaceable, given the many “other furrows” (line 620) that his son could plough in place of this crazy woman. *Kreon* thus affirms the primal connection of earth and woman, but strips it of divinity in his clichéd barbarism, and also, vitally, universalises the relation of man to earth: any furrow will do for *Haimon*’s ploughshare. As *Timothy Morton* points out, an emergent view of man’s newly profane relation to the land is key to the play (*Morton* 2016: 63). For *Antigone*, unlike *Kreon*, the space of the womb, the female underworld that follows her lamenting series of enclosing spaces (“O tomb! O bridal bed chamber! O deep / Cave of a dwelling place ...” [lines 951–952]) is the very source of the particular:

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Were my husband dead, there could be another,  
And by that man another child, if one  
Were lost. But since my mother and my father  
Are hidden now in Hades, no more brothers  
Could ever be born ... (lines 972–976)

In a sense, *Antigone*’s reasoning is unsound – children are certainly not automatically replaceable, and marital relations are almost certainly uniquely irreplaceable. But her explanation indicates the ethical charge of *Sophocles*’ spatial aesthetics. *Antigone* echoes *Kreon*’s replaceability, but does so to contrary ends. Where *Kreon* universalises space and femininity as replaceable entities, visioning them each as the neutral ground upon which patriarchal civic constructions work, *Antigone* locates replaceability on the side of civic universality, to affirm the womb as the feminine underworld site carried onwards into the modern as the source of love. She uses his violence of abstracted replaceability precisely against civic abstraction. This means *Antigone* constitutes a newly ethical particularity – what *Irigaray* terms a “maternal genealogy,” but also very much a product of the *polis* – which both echoes and fully opposes *Kreon*’s patriarchal universalising. As *Cecilia Sjöholm* reads *Irigaray*’s feminism: “the drama of a maternal lineage whose defeat by patriarchy prevented the emergence of a true ethics of sexual difference” (*Sjöholm* qtd. in *Owen and Pazos Alonso* 2011: 25).

Likewise, Judith Butler emphasises the etymology of *Antigone* as *anti-gone* (anti-generalisation), and the particularity of the kinship as “the prepolitical opposition to politics [...] *the possibility of politics without ever entering into it*” (Butler 2000: 2). As Butler reminds us, she uses and transforms the civic politics that would silence her. Love as a prepolitical force in this feminist respecification of Kierkegaard’s reading lifts *Antigone* and the chthonic world out of the primal, primitive phase with which she and they are associated. Tragedy – her tragedy – is a resistance to the civic, and a reaction against its universalising spatial abstractions.

*Antigone*’s love transforms the womb-underworld into a particularising force for the future, making her opposition to the civic resonate in our ecological moment. It is profane space of the kind that Kreon initiates, which allows for toxic waste dumps. Nuclear waste is facilitated by abstracted civic space. But one must also consider a reading of the violence of her love. Consider Jacques Lacan’s provocative claim, that she is an uncommonly modern zealot. For Kierkegaard, *Antigone* was “she-who-is-to-come” (Meltzer 2011: 186). Though the Danish philosopher intends a resonance with Christ, Lacan contrasts her primal, feminine and somewhat zealous futurity with terrible flammability. Her love, for the French psychoanalyst, is that of the martyr or terrorist, and her unbearable brilliance would bring “universal conflagration” (Lacan 1992: 267) to the Earth, had she the political opportunity. Rather than terror, I would dwell on the “universal” burning that Lacan locates in her particularity. Despite its provocations and blind spots, Lacan’s pre-feminist defence of Kreon (as a bewildered but all-too-human figure) is prescient to our age of ecological catastrophe. This is due to the universal violence that Lacan perceives as arising from the particular.

The geological traces left by nuclear waste constitute the ecological contamination that in some definitions differentiates the Anthropocene era, the first era in which mankind has had a recognisably geological effect. Some propose that its beginning is marked by the radionucleotides that can be found in the soil produced by nuclear energy and nuclear weapons (Monastersky 2015). One of the central epistemological problems of the Anthropocene (the new geological epoch dominated by humankind’s transformations of the Earth’s climate, erosion patterns, extinctions, atmosphere and geology) is that particularity is simultaneously universal. This is a problem for us at the species level. Our DNA, evolved over millions of years of living in small pack-like or tribal organisations, means we are not “hard-wired” to deal with urgent geopolitical situations. Like *Antigone*,

32 we are good at loving locally, but in the Anthropocene this means that our love can become a mode of violent exclusion or othering. Jussi Parikka's *The Geology of Media* (2015) describes the global array of metal and chemical mining and synthesis necessary to contemporary media devices. But universal particulars go wider and deeper than media. Consider even the most banal of contemporary desires: the soothing hot chocolate that I prepare for my daughter at the end of the day as an expression of my love. This might bring together such diverse ethical and ecological issues as: the industrial harvesting of the glands of a sentient female mammal, involving her forced pregnancy, the violent separation of the mother and her offspring, as well as heavy administrations of antibiotics, hormones and steroids that, in turn, seep as devastating pollutants into groundwater and waterways (milk); forced labour, inhumane working conditions, exploitation of the very poorest of the global south, and the carbon emissions involved in global transport networks (cocoa beans); and the 100,000 year half-life of the irradiating waste matter of nuclear fission (electricity). In the Anthropocene, love itself is polluted. If the particularity of even the most modest desire or instance of love raises proliferating and often impossibly tangled ethical and ecological issues, the betweenness of Antigone's "prepolitical" futurity rehearses some of the questions we are only recently relearning how to ask. I do not suggest that Sophocles has answers to our problems – how could he? His gaze is resolutely turned upon Athens. Yet, as a "raw" material in the words of the Chorus (line 471), the conflagration of Antigone's love that would burn the world – thrust away from the city and buried with ignominy – constitutes an acute anticipation of the haunting epistemologies of our own nuclear waste management situation.

### **PHARMAKOS FOR 100,000 YEARS**

At many things – wonders  
 Terrors – we feel awe,  
 But at nothing more  
 Than at man. (*Antigone*, lines 377–378)

*Pharmakon* in Plato, as Derrida notes, is commonly translated as "remedy". In the famous passage from the *Phaedrus*, the god Theuth claims to Thamus, the King of Egypt, that writing will be a *phamarkon* to the minds of the people, making them remember better and know more. But this remedy,

answers Thamus, is really a drug that will render the men unable to think and remember without its magical and poisonous qualities. The artificial prosthetic support of writing, which will render the human organism dependent on or addicted to technology, in some sense "going against natural life" (Derrida 1981: 100) as Derrida states, makes the pharmaceutical a profoundly ambiguous and therefore suspicious category. In *Timaeus*, the dangerous and extreme treatment of purgation (*tes pharmakeutikes katharseos*) is described as best avoided, except under the most extreme conditions. The noxiousness of the medicine is such that Plato counsels against its poisonous aspect. Like writing, poisonous medicines, and artificial interventions into the harmony of human speech and disease, for Plato, repeatedly, "The *pharmakon* produces a play of appearances which enable it to pass for truth" (Derrida 1981: 103).

Closely etymologically related, but belonging to an earlier cultural phase, is Sophocles' *pharmakos*, the ritual human or animal scapegoating of a sacrificial figure, an embodiment of evil driven away to cleanse the city of pollution. As Todd Compton describes,

Sometimes the *pharmakos* crisis was real (such as a plague or famine), as at Massilia ("for the Massilians, as often as they were suffering from the plague ...") and Colophon ("either famine or plague or another harm"). Sometimes it was a periodic calendrical moment of crisis, as in the Attic Thargelia, when the city had to be cleansed before the first fruits of the harvest could be stored up (Compton 2006: 4).

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In Athens, the ceremony of *katharsis* developed an elaborate ritual of cleansing around the sacred figure to be expelled, known as *pharmakos katharma* ("that which is thrown away in cleansing: in plural, offscourings, refuse of a sacrifice" [Compton 2006: 4]). Often these cathartic *pharmakoi* were required to be of royal lineage, or to encapsulate purity (female *pharmakoi* were required, as is Antigone, to be virginal). This ambiguity – the purity required of the object of ritualistic defilement – is caught in Sophocles' telling of Oedipus' and Antigone's stories, so that the dangerous ambiguity of *pharmakon* that Derrida unpicks in Plato is also very much part of the tragic *pharmakos*. One need only consider the most famous of the *pharmakoi*, Antigone's father, who, as Compton describes, with

the murder of his father, creates ritual pollution. This causes a communal disaster, plague and famine. Oedipus the king sends to the Delphic oracle. Though there is no trial *per se* in the myth, there is a legal investigation, headed up by Oedipus himself, that eventually convicts him of the crime.

Oedipus expels himself voluntarily from Thebes (eventually). He is the king, the best, but he turns out to be a patricide, the worst, undergoes a peripety, and is expelled from the city. In Sophocles' *Oedipus at Colonus* he wishes for stoning; he is viewed as a sacrifice. He eventually receives hero cult, and like Androgeus, becomes a revenant (Compton 2006: 18).

If the sacrificial transposition of Oedipus plays out the expulsion of the *pharmakos* in narrative form, one should also note that Rene Girard has traced tragedy etymologically to *tragos*, meaning "goat songs," thus arguing that tragedy comprises a vastly more sophisticated and very late form of the religious practice of cathartic purging of the city (Girard 2005). Aristotle ascribes this language of bodily purgation, though perhaps not its theological dimension, to tragedy two generations after Sophocles. Yet, if Girard traces a reassuring reduction in primal violence in the era of tragedy (from actual to mimetic violence), it is with a profound ambiguity that the tragic era describes its own peace. As Lacan observes in his writing on *Antigone*, "The good cannot reign over all without an excess emerging whose fatal consequences are revealed to us in tragedy" (Lacan 1992: 259). By these terms – mythographic, etymological and psychoanalytic – the shift to the era of Aristotelian *eudaimonic* "happiness" is one of totalising and rational dominion over the citizenry, and as a result produces residues who do not fit in, and must be excluded from "the good" to keep it thus. The kind of residue Lacan has in mind is clarified in his reading of the Chorus' famous second "Ode to Man" as a proto-psychoanalytic discourse on neurosis: our "escape into impossible sickness" (Lacan 1992: 275), within which, in Lacan's slightly idiosyncratic translation, universal neurosis is the space of our escape and resistance to the repressive epoch of "the good".

Man, that wonderful and terrible thing, Heidegger's uncanny *deimos*, is also a residue of the natural world in the eyes of *Antigone*'s tragic Chorus:

an incomprehensible and baffling monster, both an agent and one acted upon, guilty and innocent, lucid and blind, whose industrious mind can dominate the whole of nature yet who is incapable of governing himself (Vernant and Vidal-Naquet 1990: 32)?

The human is an abject leftover, that which does not fit the Creation, who harries without end the world. Tragedy itself is a residue, too, insisting on the values of an early age, but Janus-faced as it ambivalently pulls this primal element resolutely towards futurity.

The answer that Oedipus offered to the Sphinx: "It is man!" – for Adorno and Horkheimer an early step on the dialectical path of "totalitarian"

Enlightenment scientism (Adorno and Horkheimer 1979: 6–7) – sustains and is accelerated by technical and social innovations. Reading Antiquity's struggles with political transition, then, we need to keep in mind the contemporary figure of residue that the Greek *polis* made possible: the 250,000 or so tonnes of radioactive waste that are rapidly accumulating as the spent uranium fuel from nuclear power plants around the world. Their poison will last through so many future historical eras that it asks profound or impossible questions of the timescales in which we think, and of our audacity to dabble so recklessly in futures so unimaginably distant. If we are the residue of the world, then this waste is resolutely, and quintessentially, an emblem and product of humanity's uncannily unrelenting energies. Does any substance better describe the *deinos* of Sophocles' Ode to Man for late modernity? And do any substances better define the dangerous power of the *pharmakon* for our era than the awesome radioactivity of plutonium and uranium? As the Energy Humanities have begun to explore, our global cultural practices and leisure hours centre increasingly on the consumption and deployment of energy. We are addicted to energy, paralysed in "energy slavery," as William Ophuls argues (Ophuls 1997: 11). Danish filmmaker Michael Madsen states in his documentary *Into Eternity: A Film for the Future* (2010) that energy is our "main currency". Nuclear power, the "energy of the future," is thus the most desired gift, and the most abject pollutant. As such, it shows how modernity brashly bridges subtle gaps in Greek etymology: nuclear radiation is our *pharmakon* and *pharmakos* in one substance, our sacred poison that we use and expel to keep desiring and consuming our desires. The "escape into sickness" of Lacan's translation might also describe the many radiation sicknesses (genetic deformations, blood cancers and leukaemias) of children living around Hiroshima, Nagasaki, Chernobyl, Fukushima, Sellafield, and Three Mile Island (Burton 2009; Janiak 2014). We escape from, and with, our neurotic modernity into consumerism on the backs of these proliferating atomic illnesses. If Sophocles' tragedy spoke with force to the violence of Athenian political change, the nuclear age needs tragedy like never before.

Yet perhaps tragedy is all-too-human for us – frail like the wavering pragmatic-administrator *tyrannos* Kreon in the face of Antigone's fanatic, unerring desire to be entombed. How long will those sicknesses linger? One hundred thousand years of half-life! The mind boggles at the immensity. In terms of a Kantian aesthetics of the sublime (intimations of vastness too great to hold in thought), nuclear waste has to constitute our only human-constructed temporal sublimity. What else have we made that lasts

even nearly as long, that will violently intervene in the processes of life, deforming DNA long after all other traces of modernity, our transitory contemporary project, have been lost? Until recently the temporal ambitions of man were mocked in verse: only an endless desert, "boundless and bare" remains where the great ruler Ozymandias once reigned with vast power in Shelley's well-known sonnet. But nuclear radiation has killed the Romantics for good. Now we electrify our desires by extracting force from the nuclear wastelands-to-come, and try not to think of the deathly "lone and level sands" of our creating: the irradiating half-life that stretches into unimaginable future aeons.

## POLLUTION AND WASTE MANAGEMENT

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The lexeme that Lacan singles out for special attention in his analysis of the play is *atē* (ruin or atrocity). Ruination fits his poststructuralist psychoanalytic agenda, which seeks to wrench egos from subjects, and imaginary structures from the symbolic realm. But from the perspective of the ancient, feminine and chthonic underworld that Antigone's love smuggles into the play, and from that of nuclear power, the key (closely related) term is *miasma* (pollution, contagion). In this sense Lacan's writing on the play is close to our concerns, without ever quite articulating what is of central importance. Sophocles' play contributes a vital moment in the cultural history of defilement.

It is perhaps telling that Julia Kristeva, in her now classic psychoanalytic study of abjection, *Powers of Horror* (1982), seems to avoid Sophocles' *Antigone*. She shifts swiftly in her study of the earliest taboos of contagion and defilement from Sophocles' *Oedipus in Colonus* and *Oedipus Rex*, to an analysis of Judaic laws of contagion in *Deuteronomy* and *Numbers*. This rapid jump from early Greek to early Hebrew texts enables Kristeva to evade a problematic binary in her thinking, and an over-simplification in her model of the abject, despite the complex theoretical edifice she deploys to sustain her claims. In Kristeva's sense, following Mary Douglas' influential *Purity and Danger* (1966), abjection is based on a primary exclusion or expulsion, the jettisoning from the body of excremental and menstrual matter: blood, saliva, nail clippings, urine (for this reason, she argues, neither tears nor sperm have polluting value). Decay, infection, disease, and corpses all stand in this schemata as equivalents to the excremental, as "the danger to identity that comes from without" (Kristeva

1982: 71). These are the substances and states that code areas of the body with an “archaic power of mastery” (Kristeva 1982: 72), and “illustrate the boundary between semiotic authority and symbolic law” (Kristeva 1982: 73). As Kristeva stresses throughout *Powers of Horror*:

Defilement is what is jettisoned from the “*symbolic system*.” It is what escapes social rationality, that logical order on which a social aggregate is based, which then [...] constitutes a *classification system* or *structure* (Kristeva 1982: 65).

We abject matter to regulate the borders of our symbolic universe, expelling and excluding the disgusting in order to consolidate identity. In Kristeva’s Freudian reading, the “mother phobia” and “murder of the father” are at the heart of this symbolic organisation, particularly the primal taboos against incest (such as those Lévi-Strauss locates as the basis for the structural organisation of primal society in *The Elementary Structures of Kinship*, 1969) and the death rituals of the earliest human tribal organisations. Sophocles (in *Oedipus in Colonus* and *Oedipus Rex*) serves Kristeva well in her demonstration, via Oedipus the *pharmakos* – or scapegoat – who is excluded to rid the *polis* of defilement, of the incest abjection by which social order is sustained. Perhaps one reason she skips from Oedipal incest to Hebraic law at this point in her argument is because the pollution, or miasma, of corpses in *Antigone* presents a far more complex problem than merely that of the expulsion of abjection. Kristeva argues that “the corpse represents fundamental pollution [...] to be excluded from God’s territory” (Kristeva 1982: 109), so that corpses are “accursed of God” (Deuteronomy 24.9); that “the human corpse is the font of impurity (Numbers 19.13)”; and “Burial is a means of purification” (Kristeva 1982: 109). In fact, the complex shift in social paradigms of space, underworld, divinity, law and waste that Sophocles works through with the burials of the play present an important challenge to the binary of Kristeva’s model, and is thus vital to contemporary understandings of waste.

For Lacan, too, the question of burial lies at the very heart of the play’s structures (its linguistics). As he puts it:

The unique value involved is essentially that of language. Outside of language it is inconceivable, and the being of him who has lived cannot be detached from all he bears with in the nature of good and evil, of destiny, of consequences for others and feelings for himself (Lacan 1992: 279).

The necessity of burial rituals for beings who use language, which Lacan stresses as one of *Homo sapiens*’ earliest defining features, leads to his suggestion that *Antigone* is a play that investigates the “zone between two

deaths". The first death is – conventionally – the death of the body in the real, which is necessarily followed by the death ritual, laying the symbolic existence of the deceased to rest. In an ingenious chiasmic doubling, Sophocles' play gives mirroring instances of two humans forced to linger in the "zone between two deaths": Polyneikes, to whose physical death Kreon refuses ritual internment, and Antigone, whose punishment for treasonous disloyalty to Thebes is her internment by the physical and ritualistic practices of the second death in advance of her actual death in reality. In this sense, Oedipus and Jocasta's two incestuous children at the centre of the play present an oppositional pairing of beings suspended in the zone between two deaths.

The fact that Kreon orders both aspects of this discomfiting pairing is closely connected to the betweenness that we have identified, indicating the vital shift in the meaning and pollution of the corpse that the play stages. Refusing burial to Polyneikes is intended precisely to deny him honour. As Kreon states:

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It has been proclaimed throughout the city  
That no one is permitted to honor him  
With burial or funeral gifts, or to wail  
For him with grief, that he must lie unburied,  
A corpse eaten by the birds and dogs and torn  
To pieces, shameful for anyone to see. (lines 230–235)

The deaths at their own hands by brothers Eteokles and Polyneikes, sons of Oedipus, was, as Kreon states, a "polluting murder" (line 193). But the pollution of the corpse does not mean, as Kreon sees, that it should be thrust from the state, or hidden away to protect the *polis* from its contagion. Rather, Polyneikes' body plays a pedagogical role, which is also his punishment: his polluting effect is kept close to the citizens' eyes, that the meaning of treason be understood. Contrary to the Hebrew emphasis on what the state needs of the body (to be expelled and buried), Sophocles' emphasis is continually on what the body needs from the state. Kreon's punishment is devised principally to hold back the sacred entrance to the earth desired by the dead. In this sense it is paradigmatic that Antigone's horror and first lament lingers on the body's exposure to the birds, who "Will spy and feed on [it] with their greedy joy" (line 38). As emissaries from the sky, the birds' horrific gaze and greedy hunger is a foil to the sacred underworld.

Presenting a case of exemplary and complete opposition to the corpse of even the most pious Israelite, that must, in Kristeva's paraphrase of

Deuteronomy, be "immediately buried so as not to pollute the divine earth" (Kristeva 1982: 109), the fact of Polyneikes' pollution is the reason he cannot be interred. This indicates a profound difference in the notion of the deity and the earth in the two pillars of European civilization – a duality that still plays out in our divided and uncertain relation to the underworld. Burial in the Old Testament functions to "cleanse the land" (Ezekiel 39.12). The earth is divine, but only the surface that faces the sky divinity YHWH. Defilement is hidden under the surface of the earth because in the Hebrew sense the underworld is a waste ground.

For the Greeks, however – at least until shortly before the tragic age of which Sophocles writes – the underworld was a precious repository of the most ancient and primal chthonic deities. As Antigone puts it, to bury her brother is a "holy crime" (line 90), because, though it disobeys the law of the city, it aims at a divine injunction of greater and more ancient precedence. She states, "I'm pleasing those I must please most" (line 106). So great is the imperative by which she feels herself bound to this pious duty, she is ready to die to ensure it is done: "For me it's noble to do / This thing, then die" (line 87–88). The honour, piety and nobility continually associated with burial throughout Sophocles' play means that Theban law precisely exemplifies the horrifying pagans (from the Hebrew perspective) who "remain among the graves" (Isaiah 64.4). To cover is to honour in Thebes, to allow the body of the deceased to rejoin the deities and shades of the underworld, rather than to expel. Refuting Kreon's claim of the divine imperative origin of his command, Antigone's claim speaks profoundly of the divinity in profundity of early Greek religion:

It was not Zeus who made that proclamation  
To me; nor was it Justice, who resides  
In the same house with the gods below the earth [...] (lines 495–497)

In this view, not only was Kreon's command disconnected from divine law, it also impiously sought to cut off Polyneikes' soul from the source of that divinity: the underworld, where in this creed Justice and Zeus reside. Antigone does not care about her own death because her sources of religious imperative are aware of her piety: "Hades and those below know whose the deed is" (line 593). She refuses to lie, suggesting an occluded genealogy of the Christian imperative to truth that Montaigne emphasises, in which God witnesses all dishonesty, though Antigone associates this omniscience with Hades instead. Though Kreon claims he has divinity on his side, he is reluctant to pollute the earth of Thebes with Polyneikes' body. His

primary loyalty is to Theban law, so when pressed by Teiresias he seems ready to abandon piety, and even Zeus, rather than sanction the pollution of the burial:

[...] even if the eagles of Zeus want  
To seize him and to carry him as food  
Up to the throne of their god! – not even then,  
From fear of pollution will I let this man  
Be given burial! (lines 1107–1111)

In *Antigone's* Thebes, the burial of pollution spreads defilement, contrary to the Israelite need to contain defilement by expulsion and burial. Rather than the hopeful "path by which Hellenism could meet with the Bible" (Kristeva 1982: 86) – with which Kristeva executes her jump from *Oedipus in Colonus* to Hebraic law, thus sustaining the exclusion of filth in her model of abjection – *Antigone* suggests that the underworld takes a fundamentally different role, and fundamentally different conceptions of pollution, in these two most historically significant civilizations of the book.

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Yet despite his concern for the law of Thebes, Kreon – also caught between worlds – seems to reverse his unshakable fear of polluting the Theban earth or underworld in his later decision to have Antigone buried alive:

I'll lead her out to some deserted place  
Where mortals do not go, and seal her up,  
Still living, in a tomb dug into the rock,  
With just enough to eat – for our expiation,  
So that the city as a whole avoids  
Pollution. (lines 833–838)

Where previously the treacherous element could not without defilement of the *polis's* soil be entombed, now the need to rid the city of the treasonous girl renders her entombment an evasion of pollution. Here an important textual crux rests upon the food that is left as a traditional offering to dead, which Antigone will be able to live on for a time in her tomb. It is not clear whether the expiation or atonement that Kreon locates for himself (or for the city) in this food is related to the city's evasion of pollution, perhaps because of the potential gap opened between the action of entombment and Antigone's eventual death. In one reading, it is claimed that the food avoids the potential pollution of such a horrific and unconventional execution. However, I do not find this reading fully convincing, not least because it is unclear how the temporary stay of certain death granted by the food

alters the material reality of the projected eventual death by entombment (in this more logical reading the atonement comes with, not because of, Antigone's burial). In fact, Sophocles is careful to keep this ambiguity in Kreon's subsequent mention of her banishment. Immediately before she is led away he proclaims:

[...] leave  
 Her there alone, deserted, where she can choose  
 Either to die, or in that sort of house  
 To go on living, in the tomb – as for us,  
 We're pure as far as that girl is concerned. (lines 945–949)

Again the question of purity follows from Antigone's entombment and her supposed agency. But it is not clear if this purity is guaranteed by her expulsion or Kreon's evasive emphasis on it being her choice whether to live or die in the tomb – as if she will have endless food supplies. Her entombment is part of what brings purity to Thebes, but it is not clear if the ambiguity around her death is necessary to this purity. What is clear is that getting her underground is vital, so it is no surprise to see Kreon's scornful rejection of her piety at this moment, despite his earlier admission that he values the soil of Thebes over Zeus: "she can pray to Hades, / The only god whom she reveres" (lines 838–839). It is as if her archaic femininity forces him into ever new secular expressions of polity, such as rejecting the eagles of Zeus over the city (lines 1107–1108). Just as Socrates would be executed, (another example of the increasingly intolerant, totalitarian and patriarchal Athens), Antigone is a danger to the state, and must be disposed of. Her primal, chthonic obsession with burial no doubt inspires Kreon's off-the-cuff sentencing. Sophocles' attunement to the historical transition Athens was then undergoing was prescient: Antigone represents the feminine power of the earth, whose fearsome splendour must be buried lest she corrupt the populace.

This is why a genealogy of pollution in the modern sense begins with Kreon. Kreon's ideological flip-flopping in the play emphasises the transition between types of space of which the tragic era was so conscious. The transition to civic abstracted space, and the waning of the cryptic and sacred chthonic powers – as Henri Lefebvre describes in his master work, *The Production of Space* (1991) – come as staggered harbingers of the outset of modernity. If the play marks an uncomprehending meeting of historically opposed codes and sacred structures and languages in the epochal shift of the tragic era (from primal, oral, female and chthonic deities to written,

patriarchal and sky gods), one of the vital changes is the meaning of the underworld. The new logic of space that Kreon reveals in sentencing Antigone is one in which the underworld is – finally – fully stripped of its sacral function. *Miasma* is transformed to waste management. It is now a question of getting rid of the pollutant – trashing her in a lesser, non-civic, place. In this phase, no space outside the city is different or sacred: all is universalised and abstracted, partitioned to and defined by its civic function, measurable only by the terms of the polis. In this modern phase of spatial understanding, which remains with us today, anywhere outside the city-limits is a potential waste ground. Kreon's desire to rid the city of Antigone is thus structurally different to Israelite corpse revulsion, and this is why her live burial is so pellucid. It is precisely arranged by Sophocles to indicate not a primal throwback to expulsion of the abject corpse (as in Hebraic Law), but rather a new moment in which the state is the only source of the juridical-ethical imperative. Antigone's toxicity comes from her living being, and her love. Kreon finds imperative not in the eye of Heaven, nor the sacred Earth of Hades, but in the civic body. Earth is stripped of its sacred function in this transition. Purity, and the evasion of pollution, in this incipient modernity is now a matter of dumping the toxic substance somewhere outside civic space.

The pragmatic administrator-tyrant Kreon extinguishes belief in divinity even as he speaks of it: oppressing zealots, creating martyrs, and paving the way for quintessentially modern conceptions of profane space, such as New York's former rubbish dump, 2,200-acre Fresh Kills Landfill on Staten Island, which is the largest man made structure in the universe. Timothy Morton writes of the ontology of contemporary waste disposal:

For some time we may have thought that the U-bend in the toilet was a convenient curvature of ontological space that took whatever we flush down it into a totally different dimension called *Away*, leaving things clean over here (Morton 2013: 32).

In a voluminous and recursive lineage that stretches from the profane space of Kreon's Thebes, the toilet's U-bend works a mystical transition of waste to an imaginary space called "*Away*." It is precisely this phantasmatic arrangement of modern waste space that is troubled by what Morton terms "the ecological thought":

Now we know better: instead of the mythical land *Away*, we know the waste goes to the Pacific Ocean or the wastewater treatment facility. Knowledge of the hyperobject Earth, and of the hyperobject biosphere, presents us with

viscous surfaces from which nothing can be forcibly peeled. There is no *Away* on this surface, no here and no there (Morton 2013: 32).

In Lacanian terminology, the ecological thought thinks the return of the Real. In this sense, the fame of Fresh Kills, and the contemplative horror it induces, is quintessentially modern. Fresh Kills comes into view as *Away* fades. It means looking into the mirror of our own desires, the abjection that facilitates modernity. Consider also the electronic waste dumps of former wetland Agbogbloshie in Ghana, and multiple other sites around the world (in Karachi, Pakistan; Guiya, China; and Lagos, Nigeria), where decomposing smart phones and laptops seep poisons like lead, mercury, arsenic, dioxins, furans, and brominated flame retardants into soil and water where wildfowl once lived, and thousands of child labourers scavenge amongst the toxic waste (Greenpeace 2009). These spaces are the most contemporary articulation of the emergent and uncannily liminal toponymy that Sophocles first dramatises. In the zones between love and opacity, the biggest human spaces ever created, modernity consigns its defilements. It shapes itself around *Away*, but as *Antigone* and the concept of the Anthropocene likewise recognise, *Away* is here.

## RESURGENCE

No form of discard management facility is required to last longer than that of high-grade nuclear waste. Choosing, planning and building a suitable facility<sup>2</sup> involves a complex matrix of geological questions concerning plate tectonics, potential quakes and tremors, projected stability of rock porousness and erosion, the anticipated passage of a future ice age, and potential changes to water tables and aquifer flows (Lemons and Malone 1991; Russell 2013). Regarding more imminent political issues concerning local populations, the transportation of waste, and issues of national health and security are also paramount, though at a certain distance of futurity scientific projection fades into the speculative, and beyond that into an abyss

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<sup>2</sup> Such as the proposed long-term high-grade deep nuclear waste storage facilities of Yucca Mountain, set on a 175 square kilometre site owned by the US Department of Energy in The Great Basin of Nevada – which seems to have stalled since its Federal funding ended in 2011, and the ongoing construction of the Onkalo spent nuclear fuel repository near the Olkiluoto Nuclear Power Plant in Western Finland.

of impossible futurity. Consider the spent nuclear fuel repository Onkalo. Construction of the underground access tunnels commenced in 2004 with excavation of the granite bedrock, and completion of the repository area, which is to be set 520 metres underground, is scheduled for 2020. The disposal of spent waste by enclosing steel canisters in copper capsules in holes packed with bentonite clay is set to continue to about 2120 (Posiva 2014). Even the projected life of the facility as an active repository is far greater than most engineering projects.

44 Nuclear waste is a principle object by which humanity has made itself a geological mover. Seeking to uphold the hygienic segregation of high-grade nuclear waste far into unknown futures is a newly conscious and mediated phase of our ongoing Anthropocenic interventions: with it we are writing into "deep time". As experts at both Yucca Mountain and Onkalo have separately determined, nuclear waste storage also broaches complex linguistic factors. In a malformed lesson in the arbitrary relation between the sign and signified of structuralist linguistics, it is unclear to these experts how they are to leave signs warning of the danger of the storage facilities they are building that will be comprehensible to humans (and potentially other intelligent beings) one hundred thousand years from now, who will likely communicate with linguistic structures drastically different to anything that we can currently determine. Language is well and truly detached from matter by the deep time of nuclear waste. Because the vast scale of waste zones such as Fresh Kills constitutes a potent exemplar of the Anthropocene, many geologists involved with nuclear waste have urged us to begin to think differently about timeframes that have detached themselves from a human scale. Richard Irvine states we must "be open to deep time," and Stewart Brand that we need to inhabit "a longer now" (Ialenti 2016). Yet thinking and signifying remain minimally separated. If we think ourselves into a long now, we remain impossibly divided from whomever will live in the epoch we project. Yet, at Yucca Mountain and Onkalo, for the first time linguists must inscribe signification into the "deep time" of geological formations. As Morton pithily states of the Anthropocene moment: "The future is unthinkable. Yet here we are, thinking it" (Morton 2016: 1).

Yet much doubt remains. Are we really, these nuclear repositories might ask, thinking "it"? At the site of our ecological spatial-temporal revolution, thinking struggles to keep up. The technocrats and administrators of waste envisage "deep time" as no other construction projects or philosophers ever have before. This new vision of time is celebrated by one anthropologist conducting fieldwork at Onkalo as giving vital new ecological perspectives

(Ialenti 2014), although the uncertainties are myriad. Director Michael Madsen's semantic probing of the Onkalo project's experts in his documentary film about the repository *Into Eternity: A Film for the Future* (2010) makes for some uncomfortable moments. Conceptual impasses hinder comprehension of the full implication of the timescale with which they are working. The viewer can have little epistemological confidence, however sturdy the repository may be. With this paucity of precedent or cultural guidance concerning such distant futures, it is little wonder that these scientists struggle to understand the full implications of their task. Things and thoughts lose solidity in the aeons of projected time. Brian Thill writes of Yucca Mountain, "At such a remove from us, it no longer even makes sense to describe these undesirable objects as waste" (Thill 2015: 55). With nuclear contamination, the strict segregation whose lineage Kreon initiates begins to come apart. This fragmenting of our previous ways of organisation is the ecological thought in action.

Henri Lefebvre's analysis of the politics of space demonstrates that our organisation of space gives rise to political systems and social interactivities that in turn generate particular intersections with ecology and the material world. Space is linguistic in this telling, a proto-symbolic patterning that we fit ourselves to, and expand into. We are herded into intimately held behaviours, identities and subjectivities by the spaces that we produce. Kreon's profaning of the underworld and Morton's mythic space "*Away*" likewise constitute and expose a socially productive organisation of space. *Away* allows us to live economic models dependent on voluminous waste. In tracing a genealogy of miasma, this essay identifies Kreon's punishment of Antigone as allegorising a watershed moment in the relation of space and pollution, with our own moment of nuclear waste perhaps the final phase of Kreon's space. It is in this sense that Antigone, who resists Kreon, suggests a futurity with which the Anthropocene is only just catching up. Antigone, as chthonic remnant, was always-already a phantom of a future-to-come: as Kierkegaard states, "I always had to look behind me for her; and yet [...] she is always in front of me." Lefebvre makes plain that to transform our world we need a new way of thinking space: a living topography that does not legislate and legitimate the defilement of "*Away*" spaces; a topography that recognises, like Antigone, that *Away* is here.

The "common sense" localism of space-oriented protests, such as those of Gezi Park in Istanbul, Zuccotti Park in New York, and Tahir Square in Cairo, has recently been critiqued by Nick Srnicek and Alex Williams as embodying an impotent "folk politics" insufficient to the massive scale of contemporary

capitalist geopolitics (Srnicek and Williams 2015). They argue that the scale of Anthropocene geopolitics renders Kierkegaardian love no longer relevant. Certainly issues of scale are vital to contemporary world-ecological destruction. Yet *Antigone* helps us perceive how contingent and localised space – and the love that it entails – must take a central place in strategy and activism. During the oil pipeline protests at Standing Rock, North and South Dakota, a resurgent love for particular spaces in recent activism has sought to resist and combat business interests and ecological destructions, modelled – albeit distantly – on Kreon’s universalised profane space. These protests have been met with severe state-sponsored brutality (Frank 2017). The alternative space that *Antigone*’s love holds open could only be perceived as violence by Kreon’s Capitalocene logic of totalising utility. By blocking pipelines at Standing Rock, folk politics and love for particular spaces intervene on scales greater than those protestors need to comprehend. Love refuses the scaling up facilitated by pipeline distribution. Just as *Antigone* resists civic universalism, these protestors perceive that some places should remain unexploited by the capitalising extraction of neoliberal geopolitics.

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Moreover, because the accelerated resource mobilisation and associated species extinction of the last fifty years is materially unsustainable, a vital question remains concerning the period of recovery that will follow our Anthropocene destruction of the web of life. Hideaways or “refugia” in Donna Haraway and Anna Tsing’s terminology, describe those sites “from which diverse species assemblages (with or without people) can be reconstituted after major events (like desertification, or clear cutting, or, or, ...)” (Haraway 2015: 159). In the spatial insights these deeper timescales provide, the fight for contingent space – places of refugia – becomes crucial to the future of planetary recovery. In this sense, the Anthropocene marks both the end product of the Greek transformation of sacred Earth that Sophocles depicts via Kreon, and the dissolution of the Theban/Athenian model of miasma. Now our struggle must be to fight for alternative and wild places that are not beholden to capitalist deterritorialisation, in the name of a future resurgence of the web of life. And nothing quite underscores the contemporary significance of local refugia like nuclear power. The concentrated force of deep time miasma contained within nuclear reactor technology, and the potential for one industrial site to contaminate an entire continent (as the Chernobyl disaster did in April 1986), means that the contingent spaces – and loves – of “folk politics” are vitally relevant in the nuclear age. Against the scalar logic of “Bright Green” environmentalism and global political summits such as the Paris Agreement adopted in

2015 (which led directly to the recently-commenced 20.3 billion GBP construction of Hinkley Point C nuclear power station in Somerset, UK), *Antigone*'s resistance to civic universalism in the name of alternative space foreshadows our contemporary task.

It is here, at this well-meaning and terrifying contemporary step towards accelerated nuclear toxicity, that my two readings of *Antigone*'s character come together. She embodies both the forerunner of a new spatial love, and the most abject pollutant, twisting these two versions of her character into an impure hybrid. She suggests, in my reading, both a futurity beyond the horizon of nuclear contamination, and the very embodiment of atomic defilement. This productive ambiguity, which pushes at the limits of our own spatial *doxa*, is due to the fact that *Antigone* is the *pharmakos* (abject impurity) that refutes the universalist spatial organisation of the wasteland as site of *pharmakon* (remedy, poison). Administrator and waste management expert Kreon understands her power. As Lacan has it, she wants to tear down the oppressive institutions and universalised spaces of civic politics. She refuses politics on Kreon's terms, recognising, as Fred Moten and Stefano Harney state, “that house the sheriff was building is in the heart of a fallout zone” (Moten and Harney 2013: 18).

*Antigone* must be thrust away, because she does not believe in “*Away*.” Hers is a subversive particularity that challenges the hegemony of the universal's partitioning of waste spaces at its outset, and in this way still speaks to those seeking to undo the web of civic Capital that is dependent upon defining and excluding miasma. In this sense her tragedy is a harbinger of the legislation by which environmental activists are now routinely prosecuted as terrorists, and the juridical powers deployed in order to consolidate Kreon's forebears' contemporary regime of universal space (Potter 2011). *Antigone* descends into the underworld zone between-two-deaths in order to rejuvenate space. She is the pollutant that contaminates the concept of containment. She is the particularity of topographic love that constitutes proto-ecological thought.

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